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Colorado's Nurse and Nurse Aide Workforce:
A Portrait

*Key findings from three surveys of
Colorado nurses and nurse aides*

September 2011

Informing Policy. Advancing Health.

Acknowledgments

This Colorado Health Institute (CHI) report is based on findings from surveys of Colorado registered nurses, licensed practical nurses and certified nurse aides. Contributing staff members included:

- ◆ Jacqueline Colby, health professions workforce program manager
- ◆ Athena Dodd, research analyst
- ◆ Rebecca Crepin, senior data analyst
- ◆ Amy Downs, senior director for policy and analysis
- ◆ Sherry Freeland Walker, communications director
- ◆ Tasia Sinn, research associate

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Foreword

The ability of Colorado's health care workforce to meet future patient needs will depend on a number of shifting factors that will influence the size and characteristics of the workforce itself and affect the demand for health care services. The growing number of individuals over 65 years of age and the addition of individuals newly insured under health care reform are two factors likely to increase the need for health care services.

At the same time, the supply of primary care providers is expected to lag in relation to demand. Increased retirement rates among current practitioners, limited professional interest in primary care and restricted capacity to train new health care professionals are posing challenges to workforce expansion. National experts have examined these factors, but states, localities and institutions must do much of the planning and implementation. The Colorado Health Institute (CHI) has collected data on the health care workforce in Colorado that can help inform these crucial planning efforts.

This report provides a portrait of one broad segment of Colorado's health care workforce in Colorado: Certified nurse aides (CNAs), licensed practical nurses (LPNs) and registered nurses (RNs). It synthesizes findings from three surveys that CHI conducted between 2006 and 2008. The portrait is designed to inform policymakers about the issues that shape Colorado's current nursing and allied workforce and to help them develop informed workforce plans and policies for the future. Issues addressed in this report include:

- ◆ Expectations for employment growth;
- ◆ Demographic and employment characteristics of the current nurse and nurse aide workforce;
- ◆ Basic education and training experiences;
- ◆ Job satisfaction factors and future career plans; and
- ◆ Rural-urban differences.

Key Findings

- ◆ Employment opportunities for Colorado's CNA, LPN and RN occupations are expected to grow 27, 20 and 37 percent, respectively, by 2020. It remains to be seen if there will be a sufficient number of new professionals to meet demand.
- ◆ Colorado LPNs and RNs are predominantly female, older and less ethnically diverse than the state's overall working population. CNAs better reflect the state's population in terms of age and racial/ethnic diversity.
- ◆ One-third to one-half of Colorado nurses and nurse aides grew up in a rural area. LPNs and RNs who were reared in rural areas were more than twice as likely to practice in rural areas compared to their counterparts who grew up in urban areas. Overall, CNAs, LPNs and RNs practiced primarily in urban areas.

- ◆ Most Colorado CNAs and LPNs received their training in state, whereas most RNs were trained elsewhere.
- ◆ LPNs and RNs rated their clinical experience lowest in areas related to long-term care, including providing care to people with mental impairments, physical disabilities and behavioral health problems. This is particularly problematic considering that nearly half of LPNs work in long-term care facilities. Colorado's changing demographics indicate a significant increase in the demand for long-term care services as the population ages.
- ◆ Some licensed CNAs, LPNs and RNs reported they were not working in their field at the time of the surveys. Retention was low among LPNs and RNs, especially older RNs. Both groups of nurses cited insufficient wages and inconvenient hours as key reasons for not working as a nurse. Other top factors varied by occupation: family reasons among CNAs, job stress and lack of respect for LPNs, and job stress and retirement among RNs.
- ◆ Up to one-quarter of Colorado nurses and CNAs said they planned to leave their current position or their profession in the next one to five years. LPNs and RNs most frequently pointed to insufficient wages, too much stress and lack of respect.
- ◆ One-third to one-half of CNAs, LPNs and RNs expressed interest in seeking further education. The most common reasons for not pursuing additional education were cost, lack of time or interest, or satisfaction with current work and education.

Overview of Certified Nurse Aides and Nurses

The nursing profession includes several categories of nurses and nursing-related practitioners. By training and degree of responsibility, RNs are at the most advanced level of the profession, followed by LPNs. This report also includes CNAs, who operate at the paraprofessional level to help nurses provide patient care.

CNAs are at the entry level in terms of education, scope of practice and demonstrated clinical competencies. Their training programs are typically one semester in length and include at least 75 hours of classroom instruction. Training includes skill development in hands-on bedside care, such as feeding, bathing, dressing and transferring patients.¹ CNAs work under the supervision of an LPN, RN, physician assistant or physician.

Like CNAs, LPNs provide bedside care, but they are also trained and licensed to perform higher-level nursing functions under the supervision of RNs, physician assistants or physicians. Those functions include assessing vital signs, dressing wounds and administering medications. LPN training programs usually last one year and are offered at technical or vocational schools and community colleges. RN students who end their program early may choose an LPN exit option in some programs.²

RNs provide direct care to patients. They assess patients' health status; develop, implement and administer nursing care plans; and maintain patient health records.³ RNs have specialized training in critical thinking and the clinical competencies necessary to assess and treat acute and chronic health conditions. These nurses have a multitude of career options, including nursing leadership and

management roles, community- and school-based health care and independent practice, as well as employment in other professional settings.

The RN occupation is distinctive in that three different education pathways may qualify graduates for licensure: a three-year diploma program, a two- to three-year associate degree in nursing (ADN) or a four-year bachelor of science in nursing (BSN). Nationwide, associate-degree programs are the most common initial RN nursing degree, held by 45 percent of all registered nurses. More than one-third of RNs have a bachelor or higher as their first degree, and one in five completes a diploma program. Over the last 20 years, RN education has shifted away from diplomas and toward associate- and bachelor-degree programs.⁴ Colorado has no RN diploma programs.⁵

Approximately 8 percent of RNs have completed additional master's or doctoral-level education. RNs with appropriate master's degrees may be recognized by their state board as advanced practice nurses (APNs or APRNs) in one of four specialties: nurse practitioner, clinical nurse specialist, certified nurse midwife or certified registered nurse anesthetist.⁶ Depending on their state's practice laws, APNs may work independently or in collaboration with physicians to diagnose and manage common diseases, perform minor procedures, order diagnostic tests and prescribe medications.

The Board of Nursing sets license requirements and practice regulations for nurse aides and nurses. The Colorado Nurse Aide Practice Act and the Colorado Nurse Practice Act contain nursing-related regulations. Licenses and certifications must be renewed every two years.

NATIONAL NURSE AIDE AND NURSE WORKFORCE STATISTICS

Professional and practical nurses work in a wide range of clinical settings and make up the largest profession in the health care sector – RNs alone hold almost four times as many jobs as physicians.⁷ Table 1 shows the basic employment characteristics of CNAs, LPNs and RNs. RNs are the largest occupation within nursing and work most commonly in hospitals, whereas CNAs and LPNs are more likely to work in skilled nursing facilities.

Table 1. Employment and projected growth for nurse aides and nurses in the U.S., 2008-18

| | CNA | LPN | RN |
|---------------------------------------|---|---|---|
| U.S. employment (2008) | 1,470,000 | 754,000 | 2,619,000 |
| Common practice settings | <ul style="list-style-type: none"> • Skilled nursing facilities • Hospitals | <ul style="list-style-type: none"> • Skilled nursing facilities • Hospitals • Physician offices • Home health care agencies | <ul style="list-style-type: none"> • Hospitals • Physician offices • Home health care agencies • Skilled nursing facilities |
| Median annual earnings (2008) | \$23, 837 | \$39,030 | \$62,450 |
| Projected employment growth (2008-18) | 276,000 (19%) | 155,600 (21%) | 581,500 (22%) |

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor

NOTE: CNAs include orderlies and attendants; hourly wages converted to annual earnings assuming 2,080 hours per year.

The federal Bureau of Labor Statistics predicts high employment opportunity growth in all three fields by 2018. Job growth among CNAs and the nursing profession as a whole stems largely from a rapidly aging population, which will increase demand for acute and long-term care services. An increased emphasis on preventive care and disease management will also factor into job growth for RNs. Nationally, the bureau projects approximately 20 percent growth in employment opportunities for registered nurses, LPNs and CNAs between 2008 and 2018.⁸

Forecasts of the timing and extent of an RN shortage vary, but recent national supply and demand analyses indicate “a shortfall of RNs developing around 2018 and growing to about 260,000 by 2025.”⁹ While consistent data are unavailable for CNAs, the federal Bureau of Health Professions forecasts a shortage in that profession as well, particularly in long-term care settings, due to high turnover related to low job satisfaction.¹⁰ Opinions are mixed on whether a shortage of LPNs is likely.¹¹

Although national shortages are predicted for RNs, the recent recession appears to have caused a temporary reduction in the number of RN vacancies. The American Hospital Association found in a recent survey that hospitals have cut nursing positions as their revenues have decreased.¹² Furthermore, retention may be higher than usual. Some nurses who were planning to leave the workforce have opted to remain on the job because of concerns about the economic climate and a loss of post-retirement income. Other nurses have increased their hours to supplement their household income after spouses lost their jobs.¹³

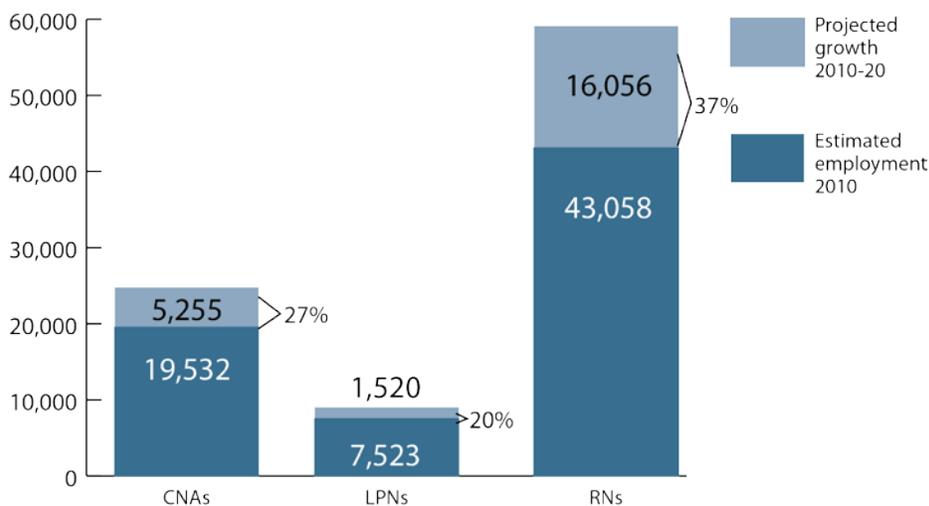
National workforce experts believe this situation is temporary and recommend continued planning to ensure an adequate supply and distribution of nurses for the future.¹⁴ They point to the aging of the baby boomers (and the nursing workforce itself) and projected expansions in insurance coverage as a result of national health care reform legislation. Recognizing these challenges, the Robert Wood Johnson Foundation, in partnership with the Institute of Medicine, established the Initiative on the Future of Nursing.

The study committee in late 2010 recommended policy changes that will require action from a range of stakeholders. The recommendations include building partnerships with the nursing community, improving data collection and information infrastructure, promoting high levels of education and training, and allowing nurses to practice to the full extent of their training. These recommendations provide a backdrop for examining the characteristics of Colorado’s nurse and nurse aide workforce.¹⁵

Colorado Nurses and Nurse Aides

Colorado’s nursing workforce resembles the national picture but with higher predicted growth in job opportunities for RNs in estimates for 2020. The Colorado Department of Labor and Employment predicts a 37 percent increase in RN employment by 2020, considerably higher than the earlier estimate of 22 percent expected nationally (see Graph 1).

Graph 1. Employment and projected growth in demand for nurse aides and nurses in Colorado, 2010-20



SOURCE: Colorado Department of Labor and Employment, LMI Gateway
 NOTE: CNAs include orderlies and attendants.

WHO ARE COLORADO’S NURSE AIDES AND NURSES?: SURVEY FINDINGS

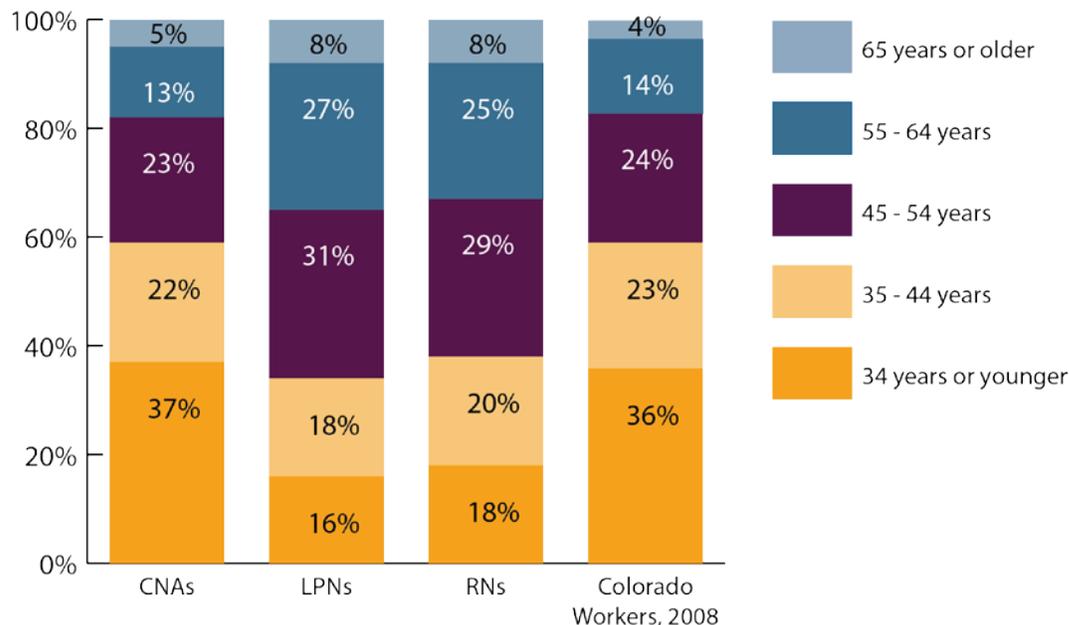
Between 2006 and 2008, CHI surveyed Colorado CNAs, LPNs and RNs. Response rates ranged from 35 percent for CNAs to 51 percent for RNs. Because of the ways in which the surveys were conducted,

results for LPNs and RNs reflect all licensed LPNs and RNs in Colorado. Results from the CNA survey apply to survey respondents only.

The three surveys collected demographic characteristics that reveal similarities and differences between members of these occupations. Overall, the majority of Colorado’s nurses are white, non-Hispanic, female and older than the general Colorado workforce. CNAs closely resemble the Colorado workforce in terms of age and race/ethnicity.

- ◆ Approximately 90 percent of LPNs, RNs and responding CNAs were women.
- ◆ One-third of LPNs and RNs were at or near retirement age (55 years of age or older), compared to 18 percent of CNA respondents (Graph 2).

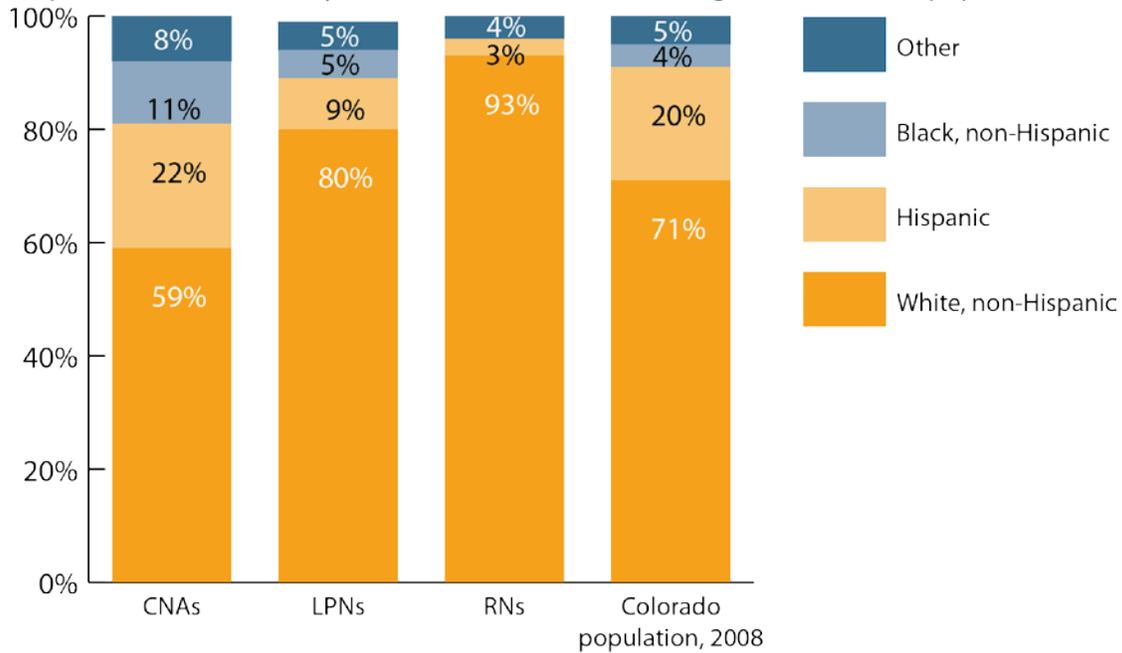
Graph 2. Age distribution of nurse aides, nurses compared to Colorado workers



SOURCES: 2006 Colorado Certified Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute, using data from the U.S. Census Bureau.

Racial, ethnic, cultural and linguistic diversity among health care providers is believed to lead to improved health care delivery and better health outcomes through better communication between patient and provider and more culturally sensitive care. Greater diversity in the workforce also contributes to cultural competency overall.¹⁶ By race/ethnicity, CNAs were the most diverse group (Graph 3). RNs were the least diverse group, with Hispanics composing only 3 percent of RNs despite making up 20 percent of Colorado’s population.

Graph 3. Race and ethnicity of nurse aides, nurses and the general Colorado population



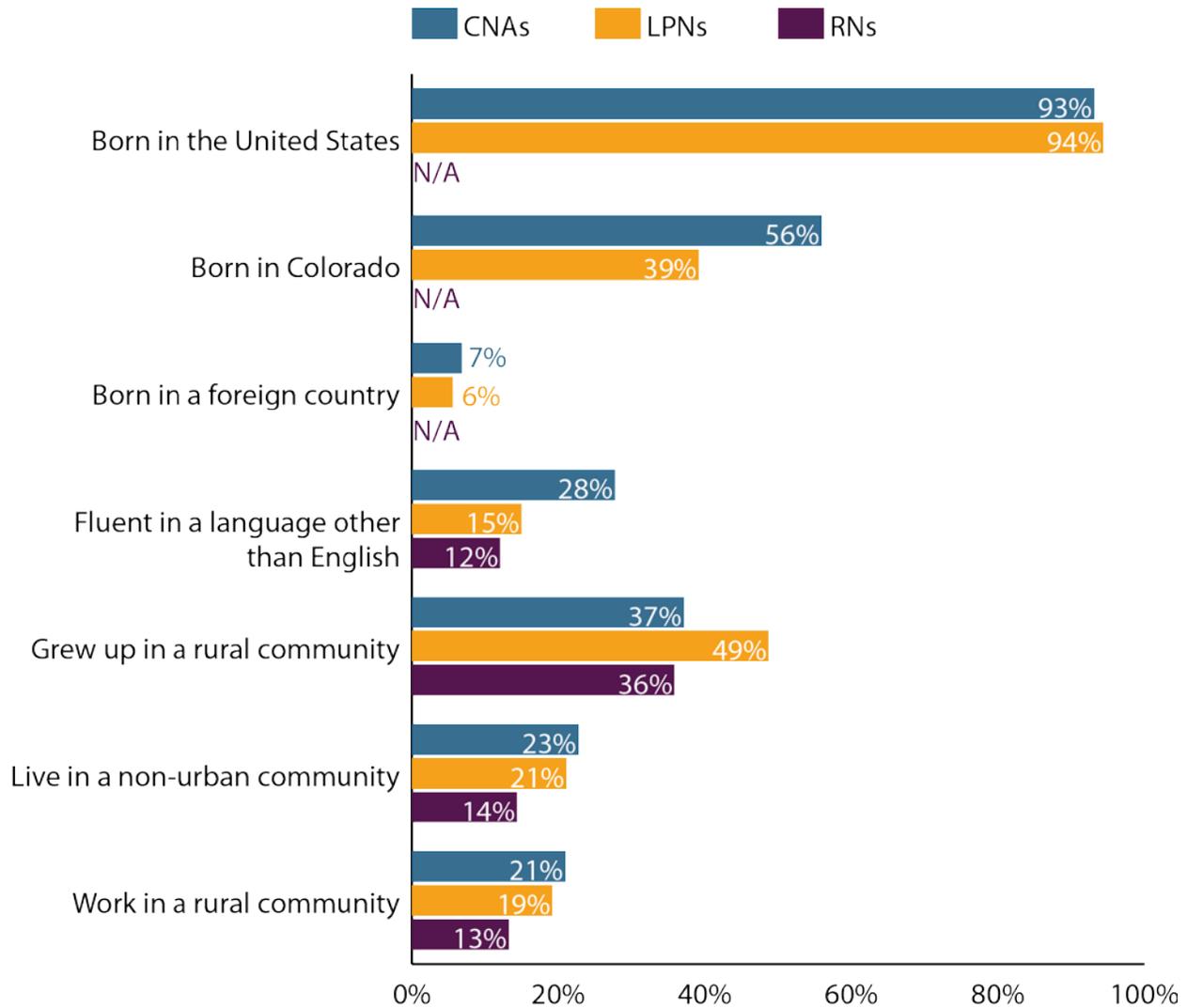
SOURCES: 2006 Colorado Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute, using data from the U.S. Census Bureau.

NOTE: CNA respondents could select all that apply; percentages presented are proportional to sum to 100%.

Colorado’s nursing workforce is highly mobile and draws heavily from out-of-state individuals, those born in rural communities and, to a limited extent, people born outside the United States (Graph 4).

- ◆ Colorado natives made up a larger proportion of CNA respondents than LPNs.
- ◆ Foreign-born nurse aides and nurses composed a small segment of Colorado’s nursing workforce.
- ◆ One-third to one-half of nurse aides and nurses reported growing up in a rural community, even though only 16 percent of Colorado’s population is rural.¹⁷
- ◆ RNs worked in a rural community at a lower rate than LPNs or CNA survey respondents.
- ◆ CNA respondents were more likely than LPNs or RNs to be fluent in a language other than English.

Graph 4. Background characteristics of Colorado nurse aides and nurses



SOURCES: 2006 Colorado Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

Preparation for nursing practice

Educational preparation shapes the potential effectiveness, engagement, confidence and ability of nurse aides and nurses to advance in their careers. Education and training histories were collected for CNAs and RNs (Table 2). Because nurse aides represent an entry-level occupation, few have completed education beyond high school, while the number of RNs with bachelor's-level training continues to increase.

Table 2. Training and education completed by Colorado CNAs and RNs

| Education | CNA: All education completed | RN: Type of basic RN program |
|-------------------|------------------------------|------------------------------|
| CNA program | 100% | n/a |
| High school/GED | 93% | n/a |
| LPN/LVN/LPT* | 2% | n/a |
| Nursing diploma | n/a | 16% |
| Associate degree | 10% | 34% |
| Bachelor's degree | 7% | 49% |
| Master's degree | n/a | 1% |
| Doctorate | n/a | 1% |
| Other | 12% | n/a |

SOURCES: 2006 Colorado Nurse Aide Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

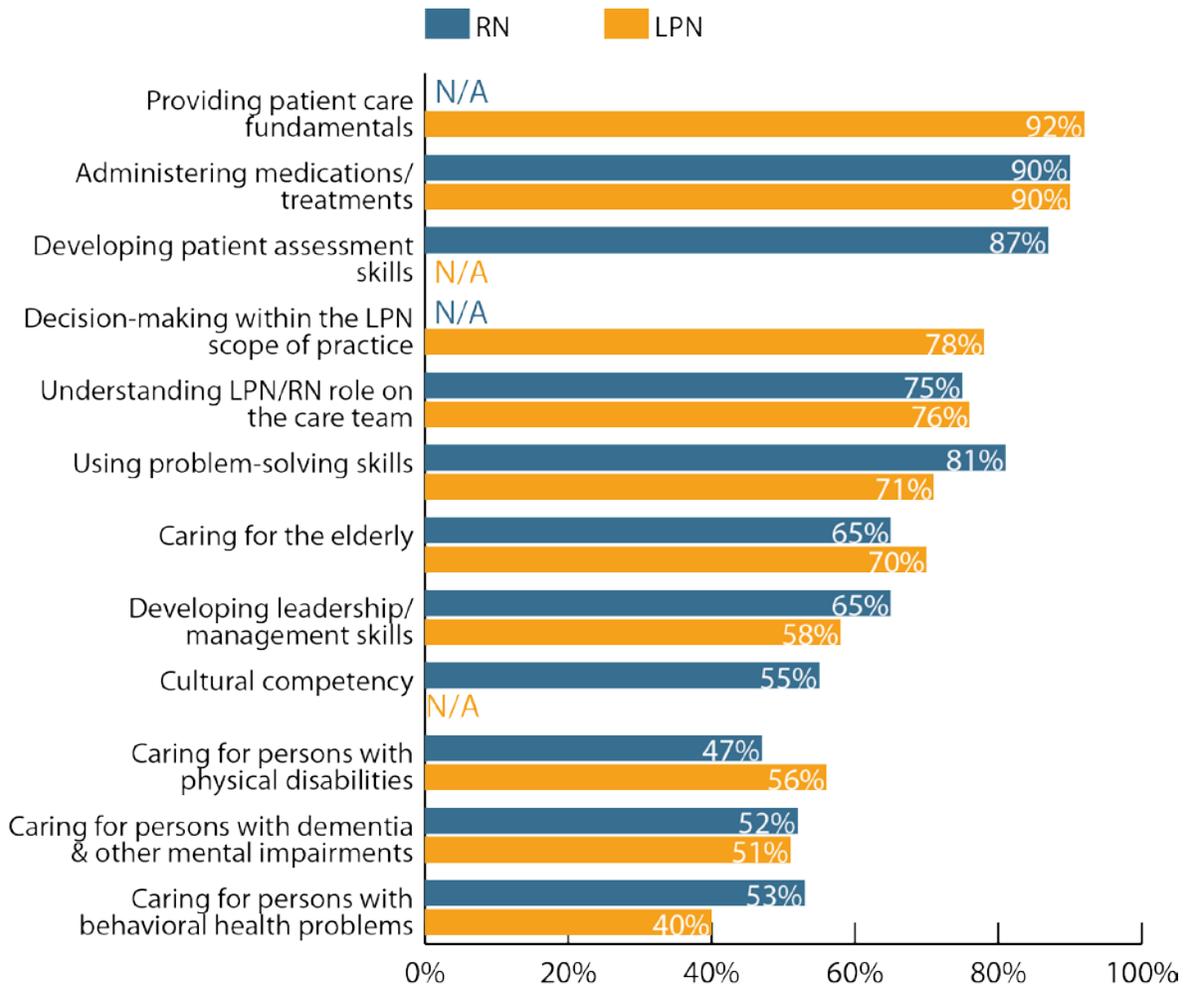
NOTE: Total percentage exceeds 100% because CNA respondents reported all training and education received. All CNAs were assumed to have completed a CNA program.

*LPN/LVN/LPT= licensed practical nurse, licensed vocational nurse, licensed psychiatric technician.

Prior to entering their basic RN training, one-third of RNs reported earning at least a baccalaureate degree. In the most recent generation of RN graduates (those who completed their training between 2002 and 2008), this number had grown to almost one-half. Approximately 6 percent had training as a practical nurse as their highest level of training before training to become an RN. Among LPNs, 46 percent had previous CNA experience before beginning LPN training. Although many of Colorado's nurse aides and nurses completed their training in Colorado (88% of CNAs, 62% of LPNs and 43% of RNs), a significant proportion of LPNs and RNs completed their nurse training out of state.

Opinions on educational preparedness indicate how nurse aides and nurses feel about their preparation to function in their jobs. Adequate preparation is associated with career satisfaction and retention. LPNs and RNs were asked to rate their classroom instruction during their basic nurse education program (Graph 5). Training related to caring for people commonly encountered in long-term care settings, especially individuals with dementia, mental impairments, disabilities or behavioral problems, received the lowest ratings. Given Colorado's aging population, it will be increasingly important to provide training that enables practical and professional nurses to care for these patients with confidence.

Graph 5. Rating of adequacy of classroom instruction in LPN and RN training programs



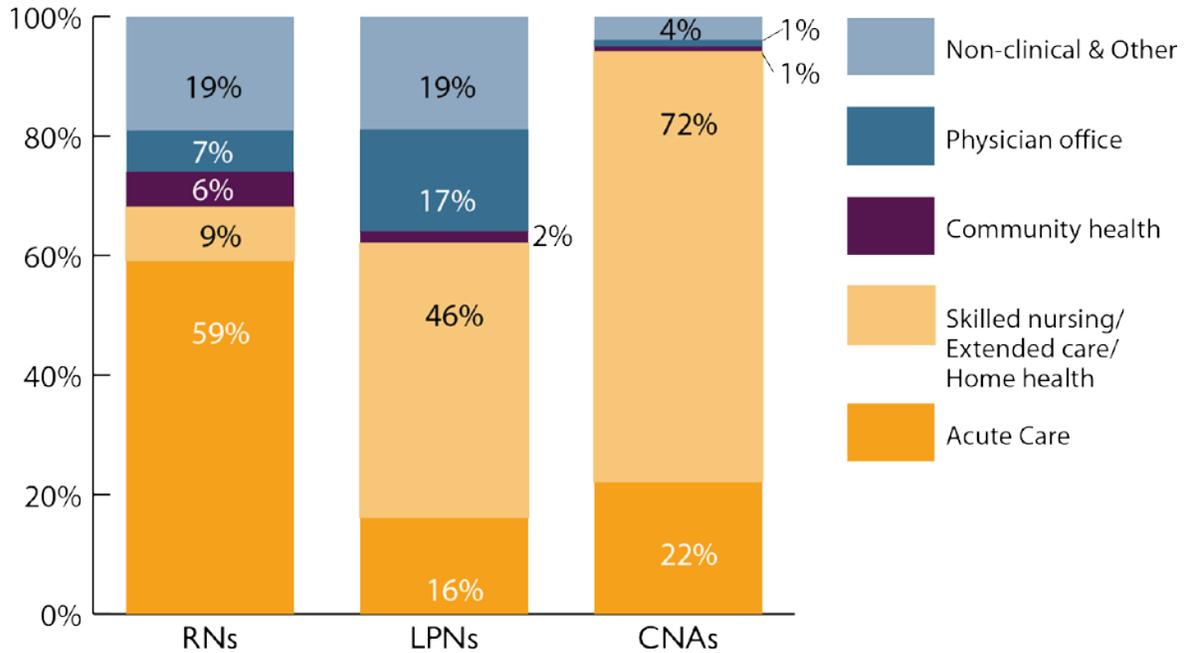
SOURCES: 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Includes LPNs who rated these reasons four or five ('Most Adequate') on a five-point scale, and RNs who rated these reasons four or five ('Excellent') on a five-point scale. Not all questions were asked of both occupations.

Primary clinical setting

The different nursing occupations are associated with specific health care settings. More CNA survey respondents and licensed LPNs worked in long-term care settings such as nursing homes, extended care and assisted-living facilities, and home health care than in other clinical settings. More than half of Colorado RNs worked in an acute care setting (Graph 6).

Graph 6. Primary work setting of Colorado nurse aides and nurses



SOURCES: 2006 Colorado Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

Nurses and nurse aides not working in a clinical setting

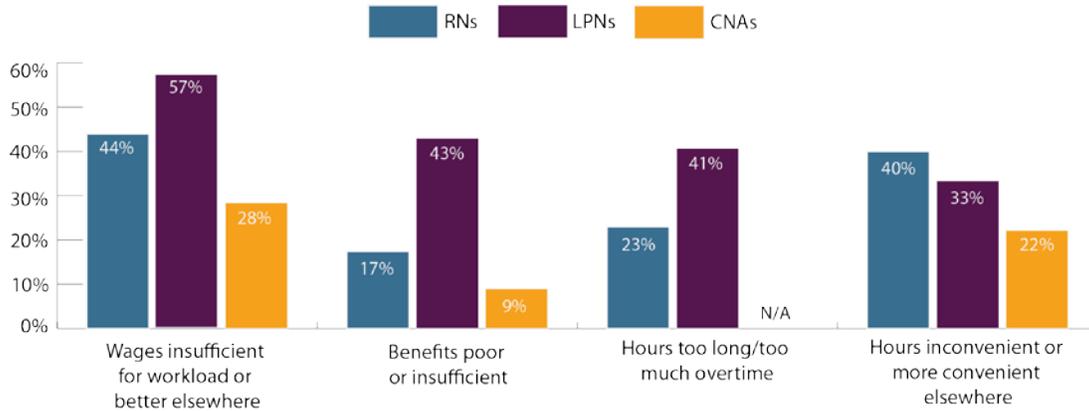
A fairly large number of LPNs and CNA respondents were not working in a clinical position in Colorado at the time of the surveys, meaning the actual workforce is smaller than the total number of individuals licensed in these categories.

- ◆ Licensed CNA respondents not working as CNAs 25%
- ◆ Licensed LPNs not employed in a clinical position 31%
- ◆ Licensed RNs not employed in a position requiring an active license 17%

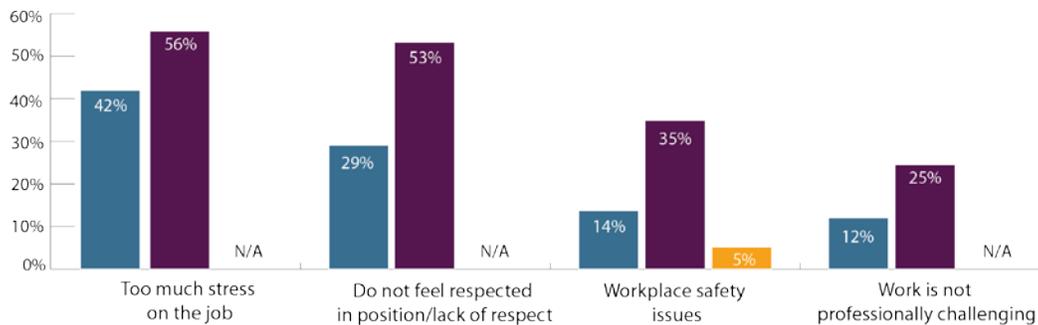
The most common reasons Colorado nurses and nurse aides gave for not working in positions requiring licensure or certification were insufficient wages and inconvenient hours (Graph 7). Other top factors varied between the three occupations: family reasons among CNA respondents, job stress and lack of respect for LPNs, and job stress and retirement among RNs. Overall, LPNs ranked almost all of the factors higher than RNs or CNAs.

Graph 7. Rating of factors related to not working in CNA position or in clinical role as LPN or RN in Colorado

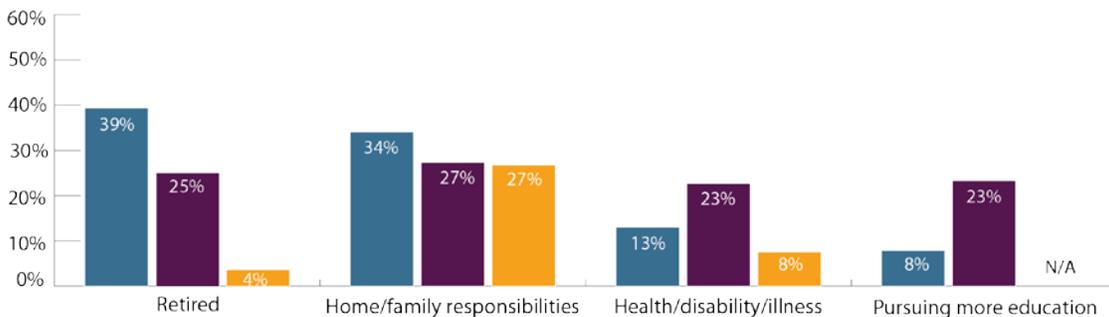
When nurses and nurse aides explained why they did not work in their profession, basic employment factors...



...and subjective characteristics of the job were more important...



...than personal factors.



SOURCES: 2006 Colorado Certified Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Percentages include CNAs who were not working in a CNA position and who selected item as a reason (respondents instructed to choose "all that apply"), LPNs not working in a clinical role who rated these reasons four or five ('Very Important') on a five-point scale, and RNs not working in a position requiring an active RN license who rated these reasons four or five ('Strongly Agree') on a five-point scale. Not all questions were asked of all occupations.

Compensation

Earning potential among CNAs, LPNs and RNs in Colorado reflects the amount of responsibility and training required for each role (Table 3). Even among RNs, those with a master's degree or doctorate earned more than RNs with other degrees, probably because they are more likely to be working as advanced practice nurses. Annual earnings varied across health care settings.

Table 3. Earnings of full-time Colorado nurse aides and nurses

| Salary | Percent |
|-----------------------|------------|
| CNAs | |
| Less than \$10,000 | 7% |
| \$10,000 - \$19,999 | 32% |
| \$20,000 - \$29,999 | 46% |
| \$30,000 - \$39,999 | 12% |
| \$40,000 or more | 4% |
| LPNs | |
| Less than \$31,201 | 6% |
| \$31,201 - \$41,600 | 46% |
| \$41,601 - \$52,000 | 40% |
| \$52,001 or more | 9% |
| RNs | |
| Less than \$35,001 | 5% |
| \$35,001 to \$50,000 | 23% |
| \$50,001 to \$75,000 | 48% |
| \$75,001 to \$100,000 | 19% |
| \$100,001 or more | 6% |

SOURCES: 2006 Colorado Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Full time was defined as 30 hours or more per week; values may total more than 100% due to rounding.

Table 4. Earnings of Colorado full-time nurse aides and nurses, by common practice settings

| | Hospital/ acute care | Nursing home/long -term care | Home health agency | Physician office |
|--------------------------|-------------------------|------------------------------------|--------------------------|---------------------|
| CNA annual salary | | | | |
| Less than \$10,000 | 3% | 7% | 6% | 0% |
| \$10,000 - \$19,999 | 27% | 34% | 34% | 40% |
| \$20,000 - \$29,999 | 52% | 47% | 41% | 56% |
| \$30,000 - \$39,999 | 17% | 9% | 10% | 0% |
| \$40,000 or more | 3% | 3% | 8% | 4% |
| LPN annual salary | | | | |
| Less than \$31,201 | 10% | 2% | 4% | 16% |
| \$31,201 - \$41,600 | 47% | 34% | 53% | 56% |
| \$41,601 - \$52,000 | 43% | 51% | 35% | 22% |
| \$52,001 or more | 0% | 12% | 8% | 6% |
| RN annual salary | | | | |
| Less than \$35,001 | 2% | 12% | 0% | 12% |
| \$35,001 to \$50,000 | 24% | 23% | 21% | 22% |
| \$50,001 to \$75,000 | 50% | 31% | 64% | 42% |
| \$75,001 to \$100,000 | 18% | 26% | 15% | 22% |
| \$100,001 or more | 7% | 7% | 0% | 3% |

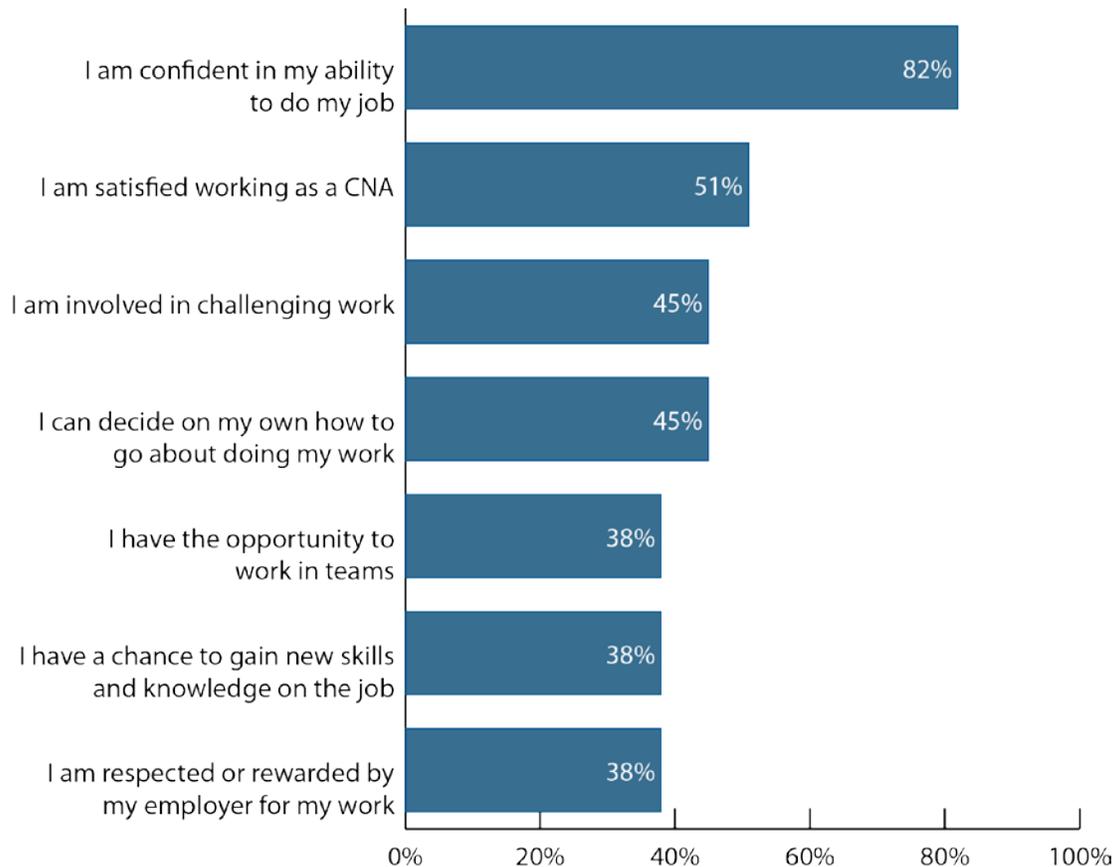
SOURCES: 2006 Colorado CNA Workforce Survey, 2008 Colorado LPN Workforce Survey, 2008 Colorado RN Workforce Survey, Colorado Health Institute

NOTE: Full time was defined as 30 hours or more per week. Values may total more than 100% due to rounding.

Job satisfaction

The surveys asked about different factors to measure job satisfaction for CNAs and RNs. Less than 40 percent of Colorado nurse aide respondents felt respected or rewarded for their work or that they had a chance to gain new skills or knowledge on the job or work as a team member (Graph 8).

Graph 8. Colorado CNA job satisfaction factors at their primary workplace

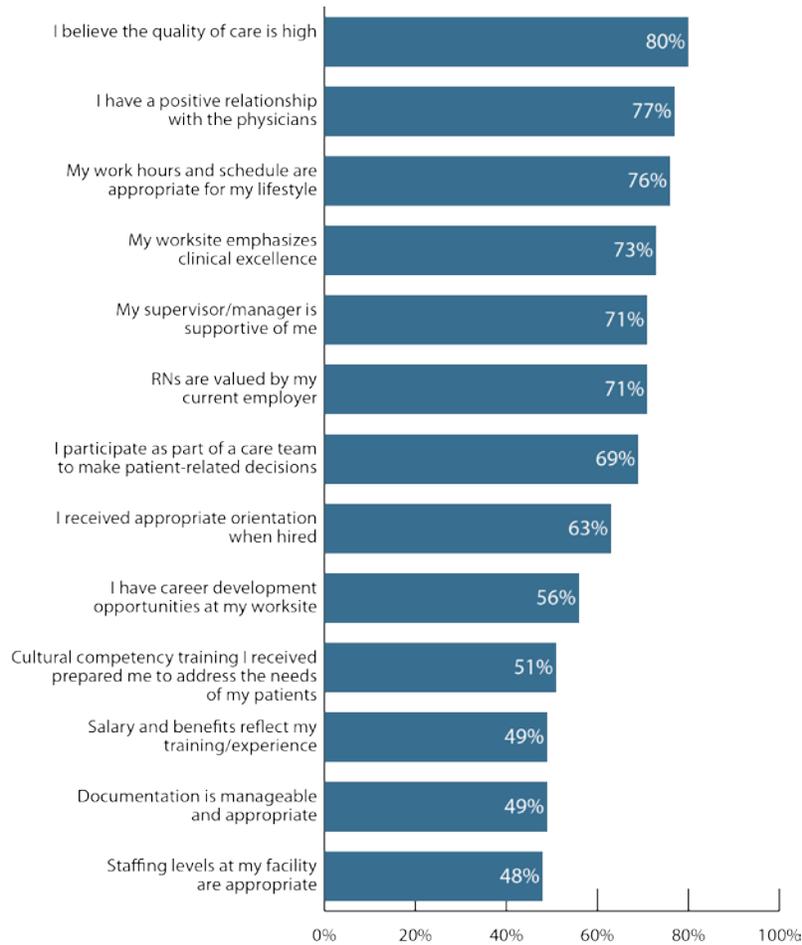


SOURCE: 2006 Colorado Certified Nurse Aide Workforce Survey, Colorado Health Institute

NOTE: Percentage of CNA respondents who rated these reasons four or five ('Agree') on a five-point scale.

Among Colorado RNs, the lowest-rated factors were appropriate staffing levels, manageable documentation and compensation levels that reflect experience (Graph 9).

Graph 9. Colorado RN job satisfaction factors in their primary workplace



SOURCES: 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute
 NOTE: Percentage of RNs who rated these reasons four or five ('Strongly Agree') on a five-point scale.

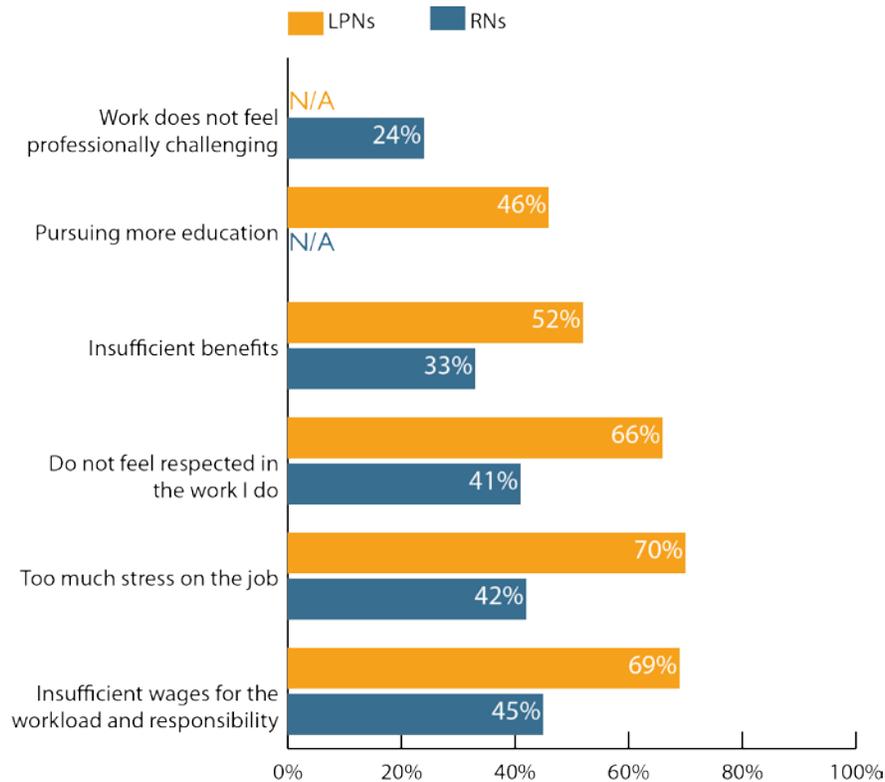
Potential for turnover

A large proportion of Colorado nurse aides and nurses reported plans to leave their position or career over the next one to five years. Job satisfaction may be only one of multiple factors for planning to leave.

- ◆ CNAs who plan to leave the CNA *profession* in the next five years 26%
- ◆ LPNs who plan to leave their nursing *position* in the next year 24%
- ◆ RNs who plan to leave their nursing *position* in the next year 13%

LPNs and RNs cited similar factors when asked why they plan to leave their current position (Graph 10).

Graph 10. Top factors among Colorado LPNs and RNs who plan to leave their position in the next year



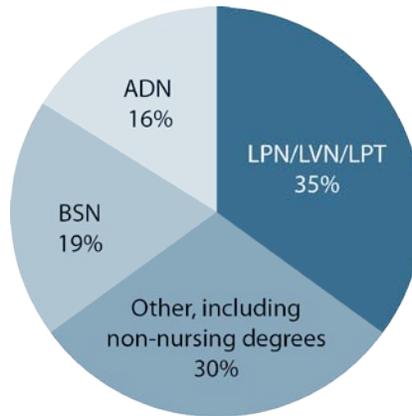
SOURCES: 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Percentage of LPNs planning to leave their place of employment in the next year who rated these reasons four or five ('Very Important') on a five-point scale and RNs planning to leave their position in the next year who rated these reasons four or five ('Strongly Agree') on a five-point scale. Not all questions were asked of both occupations.

Future education plans

Some nurse aides and nurses expressed interest in furthering their education. At the time of the survey, approximately one-half of CNAs reported being enrolled in further education or planning to do so in the next year. Likewise, 15 percent of LPNs were enrolled in a nursing program and more than one-third had plans to pursue RN education. CNAs cited various programs in which they were interested or enrolled (Graph 11).

Graph 11. Types of further education programs sought by Colorado CNAs enrolled in or seeking education within the next year

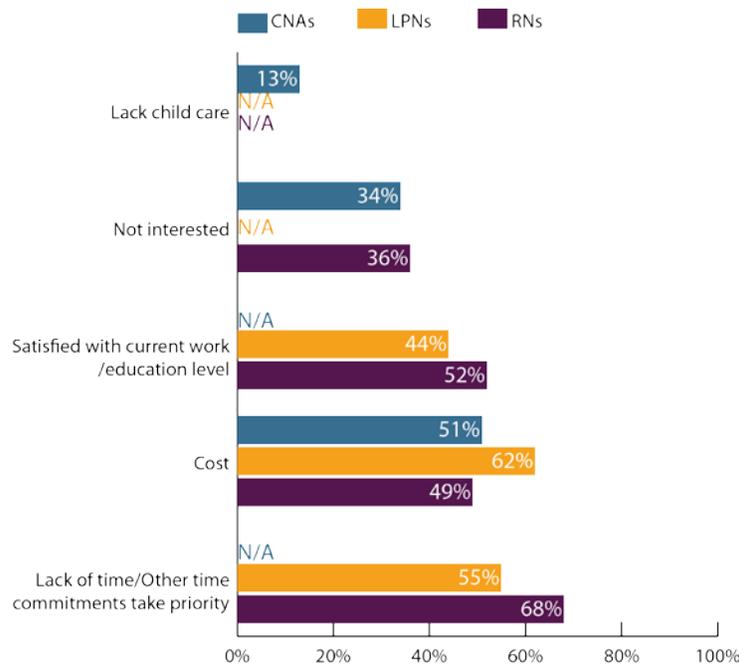


SOURCE: 2006 Colorado Certified Nurse Aide Workforce Survey, Colorado Health Institute

Many RNs had completed another nursing degree since graduating from their basic RN education program. Only 4 percent were enrolled in further education.

CNAs, LPNs and RNs who were not seeking further nursing education gave similar reasons for not doing so, including time commitments and cost (Graph 12). All three groups also cited lack of interest in more nursing education or being satisfied with their current work or education.

Graph 12. Top factors influencing nurse aides and nurses who were not seeking further education



SOURCES: 2006 Colorado Certified Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Percentages reflect CNAs not seeking further education within the next year who marked 'yes,' LPNs not enrolled in an educational or certification program who rated these reasons four or five ('Very Important') on a five-point scale, and RNs not enrolled in a degree program who rated these reasons four or five ('Strongly Agree') on a five-point scale. Not all questions were asked of all occupations.

Interest in becoming nursing faculty

A few RNs were faculty members in a nursing program (3%), although a higher percentage expressed interest in becoming nursing faculty (17%). RNs who were interested or undecided rated the following incentives as most important to them in pursuing a nursing faculty position:

- ◆ Flexibility to balance studies with work
- ◆ Employer tuition assistance
- ◆ Increased scholarship opportunities.

The top barriers to pursuing a nurse faculty position were identified as:

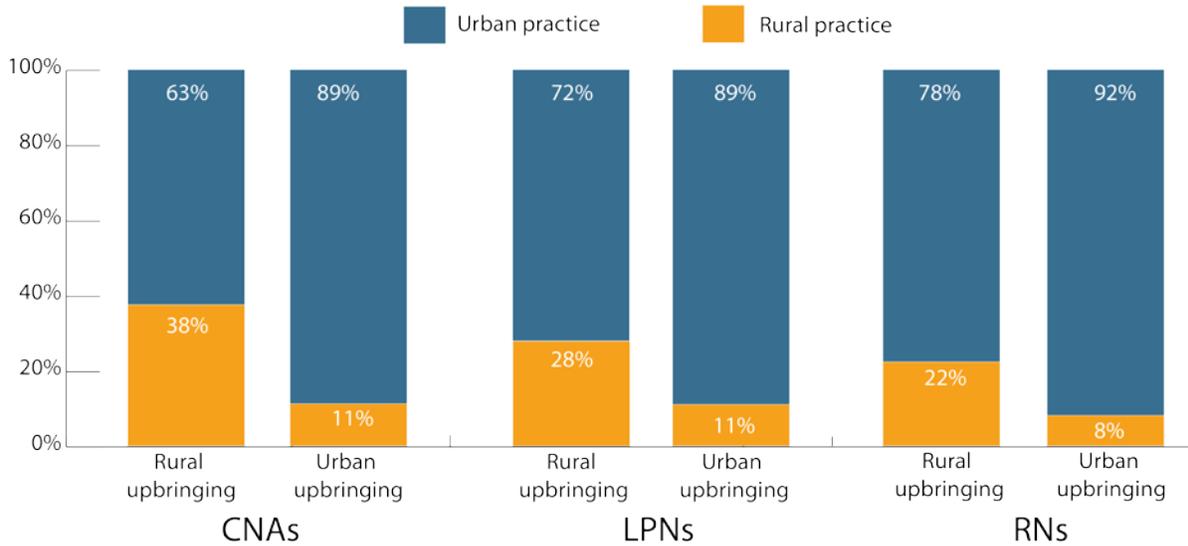
- ◆ Lack of financial incentives
- ◆ The amount of time required
- ◆ Loss of income while in school.

Rural and urban differences

Of Colorado's 64 counties, 47 are considered rural or frontier. Most of these rural counties are medically underserved, at least in part due to a lack of providers.¹⁸ Consequently, one objective of workforce planners is to attract more providers to rural areas.

Among Colorado nurse aides and nurses, survey results suggested an association between growing up in and practicing in a rural area (Graph 13). CNAs, LPNs and RNs who grew up in rural areas were more than twice as likely to practice in rural areas than their counterparts who grew up in urban areas. The overall pattern, however, was that CNAs, LPNs and RNs predominately practiced in urban areas, no matter where they were brought up.

Graph 13. Relationship of practicing in rural area with having rural background, Colorado nurse aides and nurses



SOURCE: 2006 Colorado Certified Nurse Aide Workforce Survey, 2007-08 Colorado Licensed Practical Nurse Workforce Survey and 2008 Colorado Registered Nurse Workforce Survey, Colorado Health Institute

NOTE: Values may total more than 100% due to rounding.

RNs working in rural areas tended to be older than RNs working in urban areas, whereas the reverse was true for LPNs. No differences were detected in the age distribution of rural and urban CNAs.

- ◆ Rural RNs aged 55 or older 32%
- ◆ Urban RNs aged 55 or older 27%
- ◆ Rural LPNs aged 55 or older 20%
- ◆ Urban LPNs aged 55 or older 32%

Because more rural RNs are close to retirement, statewide shortages may surface earlier in these communities than in urban areas of Colorado. Earnings of Colorado CNAs, LPNs and RNs working in rural areas were lower than their non-rural counterparts, but it was not clear to what extent this reflected cost-of-living differences.

Policy Options

Projections of strong growth in employment demand for CNAs, LPNs and RNs in Colorado are causing concern about whether the supply of nurses and nurse aides will be sufficient to meet future demand. In particular, the population of LPNs and RNs is closer to retirement age than the state's working population, especially among rural RNs. Basic options for growing the supply of Colorado's nursing workforce include:

- ◆ Expanding access to nursing education programs;
- ◆ Developing a nursing career ladder;
- ◆ Implementing proven delivery models that use the existing workforce more efficiently;
- ◆ Improving retention of current nurses; and,
- ◆ Continuing to attract nurses trained out of state.

Collecting timely workforce data and documenting and evaluating the relative effectiveness of the different programs will also be important to inform future strategies.

Expanding access to nursing education

Expected increased retirement among nurses and nursing faculty and the national-level push to increase RNs' overall education level will likely require expanding the capacity of nursing education programs. Expanding access to Colorado nursing education programs is at the heart of many strategies to strengthen the nursing workforce in the state.

Results from CHI's 2009-10 survey of Colorado nursing education programs suggest that nursing faculty vacancies and a shortage of clinical instructors limit the availability of student slots and the ability of programs to provide adequate training in certain areas.¹⁹ The Colorado Nursing Faculty Supply and Demand study reported that Colorado is experiencing a shortage of nurse faculty that is at least on par with national estimates and expected retirements are likely to increase faculty attrition further.²⁰ By the 2014-15 academic year, both pre- and post-baccalaureate nursing education programs can expect that at least 25 percent of their current faculty will have retired, rising to almost half of current faculty by the 2019-20 academic year.

Findings indicate that Colorado needs new strategies to eliminate economic and non-economic barriers to faculty education, recruitment and retention so that it is financially feasible and professionally attractive for individuals to serve in a faculty role. The state and the Colorado Center for Nursing Excellence provide loan forgiveness, training and other programs that support the development of nurse faculty and clinical instructors.

Developing a nursing career ladder

Developing a career ladder within nursing may have potential to strengthen the existing pipeline of nurses. Increased earnings and growing demand for more advanced nursing degrees naturally motivate some progression through the nursing occupations. This is felt even within the ranks of RNs now that demand is increasing for BSN-educated registered nurses. The pool of LPNs appears to pull from former CNAs; likewise, the pool of RNs comes to some extent from LPNs. Initiatives aimed at strengthening a nursing career ladder should reduce barriers to seeking further education and career development.

Careful expansion of LPN-to-ADN and ADN-to-BSN programs and articulation between existing programs is one way of encouraging professional progression. For example, the programs at Mesa State College are articulated to enable students to progress smoothly through the various levels of nursing training. Students who have completed an entry-level LPN certification program and licensure and who have entered the workforce are permitted to enter the associate degree program in nursing within three years without reapplying.²¹ Expansions to LPN programs should be approached judiciously. There is no consistent evidence of a current shortage in the supply of LPNs, and LPNs may well come from a pool of potential workers that overlaps with that for RNs.²²

Before investing in programs to support professional growth among CNAs, it is important to have a deeper understanding of this group, as well as other entry-level clinical technicians, with regard to their motivation and potential to meet the curricular demands and challenges of practical and professional nursing programs.

Past actions have raised training recommendations and expanded professional opportunities for CNAs. The Colorado Department of Regulatory Agency's Office of Policy, Research and Regulatory Reform issued recommendations in its 2008 sunset review of the Colorado Nurse Aide Practice Act that include more training hours for CNAs to better prepare them for the workplace and continued education. Since 2005, the Board of Nursing has offered CNAs the opportunity to expand their scope of practice to include limited authority to administer routine medications by completing additional medication aide training.²³ While early indications are that few CNAs are participating, this kind of program has the potential to encourage and prepare CNAs for further career development.

Maximizing efficiency

Implementation of team-based models of care, for instance, as part of medical homes, may improve efficiency of care delivery and ask team members to practice to their full capability. Some workforce planners and the Institute of Medicine in its report on the future of nursing advocate removing scope-of-practice barriers to permit nurses, particularly advanced practice nurses, to practice to the full extent of their education and training. It is also important that nurse education and training programs keep pace with overall trends.

Improving retention

Policies to retain experienced CNAs, LPNs and RNs in Colorado should take into account job satisfaction factors. Nurses and nurse aides face a multitude of career options outside of clinical practice, and many older nurses have retirement as an option. Attention to the factors older nurses and nurse aides identify as important could keep them in the workforce longer.

Attention to the needs of a multi-generational workforce suggests a need for flexibility in workplace policies overall. Drawing on evidence linking nurse involvement in decision-making to job satisfaction, the state Task Force on Nurse Workforce and Patient Care recommended changes captured in Senate Bill 08-188. The bill establishes the Staff Nurse Pilot Project, a program to identify ways staff nurses can participate in hospital decisions about patient care.²⁴

Attracting workers from out of state

Colorado attracts a nursing workforce that is often trained out of state, especially RNs. The three CHI surveys identified where nurses and nurse aides grew up and where they received their training. It did not identify the point at which out-of-state nurses and nurse aides came to Colorado and what factors attracted them, so little is known about this phenomenon. Efforts have not explicitly emphasized attracting out-of-state workers.

Collecting timely data

One strategy to inform health workforce policy development is to collect accurate and timely data on Colorado's health care workforce and nursing faculty. The Colorado Health Professional Workforce Collaborative is a group of more than 30 organizations whose vision is to develop public policy recommendations based on reliable data to ensure that Colorado has an adequate supply of health care professionals to meet Coloradans' needs.²⁵

One policy initiative developed by the Collaborative is to collect more data through the Department of Regulatory Agencies' licensing application and renewal process for Colorado health care professionals. For nurses, these additional data could draw on the standardized minimum dataset defined by the Forum of State Nursing Workforce centers and include demographic and practice-related information.²⁶ This proposal has the potential to give policymakers and other decision-makers an accurate and timely picture of Colorado's health professional workforce as it evolves, helping them address nursing shortages in Colorado successfully.

Endnotes

- ¹ U.S. Department of Labor, Bureau of Labor Statistics (BLS). (2010). *Occupational Outlook Handbook, 2010-11 Edition*, "Nursing and psychiatric aides." (Retrieved November 24, 2010, from: <http://www.bls.gov/oco/ocos327.htm>).
- ² Colorado Center for Nursing Excellence (CNE). (2003). "Pathways to a Nursing Career: A Consumer Guide to Nursing Education in Colorado."
- ³ BLS. (2010). *Occupational Outlook Handbook, 2010-11 Edition*, "Registered Nurses." (Retrieved December 17, 2010, from: <http://www.bls.gov/oco/ocos083.htm>).
- ⁴ U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA). (2010). *The Registered Nurse population: Findings from the 2008 National Sample Survey of Registered Nurses*. (Retrieved November 24, 2010, from: <http://bhpr.hrsa.gov/healthworkforce/rnsurvey2008.html>).
- ⁵ Colorado Department of Regulatory Agencies (DORA) Board of Nursing. (2010). "Professional Nurse Education." (Retrieved December 17, 2010, from: <http://www.dora.state.co.us/nursing/education/RN.html>).
- ⁶ BLS. (2010). *Occupational Outlook Handbook, 2010-11 Edition*, "Registered Nurses."
- ⁷ BLS. (2010). *Occupational Outlook Handbook, 2010-11 Edition*, "Physicians and Surgeons." (Retrieved December 13, 2010, from: <http://www.bls.gov/oco/ocos074.htm#empty>).
- ⁸ BLS. (2010). *Occupational Outlook Handbook, 2010-11 Edition*, "Registered Nurses."
- ⁹ BLS. (2009). "Employment Projections, Occupations with the Largest Job Growth." (Retrieved January 28, 2011, from: http://www.bls.gov/emp/ep_table_104.htm).
- ¹⁰ Buerhaus, P, et al. (2009). "The Recent Surge in Nurse Employment: Causes and Implications." *Health Affairs* online 28(4): (w657-68). (Retrieved August 1, 2011, from <http://www.healthstaff.org/documents/surgeinnurseemployment.pdf>).
- ¹¹ HRSA, Bureau of Health Professions. (2004). "Nursing Aides, Home Health Aides and Related Health Care Occupations – National and Local Workforce Shortages and Associated Data Needs." (Retrieved August 1, 2011, from: <http://bhpr.hrsa.gov/healthworkforce/reports/rnhomeaides.pdf>).
- ¹² HRSA. (2004). "Supply, Demand and Use of Licensed Practical Nurses." (Retrieved August 1, 2011, from: <http://bhpr.hrsa.gov/healthworkforce/reports/supplydemanduselpn.pdf>).
- ¹³ Evans, K. (2009). "Fewer openings in nursing field." *The Wall Street Journal*. (Retrieved November 22, 2010, from: <http://online.wsj.com/article/SB123958748163712537.html>).
- ¹⁴ Buerhaus. (2009).
- ¹⁵ Buerhaus. (2009).
- ¹⁶ Institute of Medicine (IOM). (2010). *The Future of Nursing: Leading Change, Advancing Health*. (Retrieved December 17, 2010, from: <http://www.iom.edu/Reports/2010/The-Future-of-Nursing-Leading-Change-Advancing-Health.aspx>).
- ¹⁷ Cohen, JJ, et al. (2002). "The case for diversity in the health care workforce." *Health Affairs* 21(5):90-102. (Retrieved August 22, 2011, from: <http://content.healthaffairs.org/content/21/5/90.full.html>).
- ¹⁸ Brach, C, and I Fraserirector. (2000). "Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model." *Medical Care Research and Review* 57, Supplement 1:181-217. (Retrieved August 22, 2011, from: <http://brando.med.uiuc.edu/FacultyDev/ClinicalEnviron/CulturalCompetence/CCModelToReduceDisparitiesBrach.pdf>).
- ¹⁹ U.S. Census Bureau. (2003). *Colorado: 2000 Population and Housing Unit Counts*. (Retrieved February 3, 2011, from: <http://www.census.gov/prod/cen2000/phc-3-7.pdf>).
- ²⁰ Colorado Rural Health Center. (2003). *Issue Paper: Creating a Rural Healthcare Workforce*. (Retrieved December 17, 2010, from: <http://www.coruralhealth.org/resources/documents/workforce2003.pdf>).
- ²¹ Colorado Health Institute (CHI). (2009). *2009 Colorado Nursing Education Program Survey*. Available at: <http://www.coloradohealthinstitute.org/Presentations/2009/2009-Colorado-Nursing-Education-Program-Survey.aspx>.
- ²² CHI. (2011). *2009-10 Colorado Nursing Faculty Supply and Demand Study*; Survey findings. Available at: <http://www.coloradohealthinstitute.org/Publications/2011/05/Nurse-Faculty.aspx>.

-
- ²¹ Mesa State College. (2010). "Nursing Education Career Ladder." (Retrieved August 22, 2011, from: <http://www.coloradomesa.edu/healthsciences/ladder.html>).
- ²² HRSA. (2004). *Supply, Demand and Use of Licensed Practical Nurses*.
- ²³ Colorado Department of Regulatory Agencies (DORA), Office of Policy, Research and Regulatory Reform. (2008). *2008 Sunset Review: Nurse Aide Certification Program*. (Retrieved October 29, 2009, from: <http://www.dora.state.co.us/opr/archive/2008NurseAides.pdf>).
- ²⁴ Senate Bill 08-188 Pilot Program Implementation Committee. (2009). "Senate Bill 08-188 Pilot Program Implementation Committee Research Plan: The value of nurse involvement in decision making." (Retrieved December 17, 2010, from: http://69.164.205.103/documents/ResearchPlan_Public.pdf).
- ²⁵ Colorado Health Professions Workforce Policy Collaborative. (2009). *Addressing Colorado's Primary Care Provider Shortage: Recommendations from the Colorado Health Professions Workforce Policy Collaborative*. (Retrieved December 20, 2010, from: <http://www.coruralhealth.org/programs/collaborative/documents/PolicyAgenda2010.pdf>).
- ²⁶ The Forum of State Nursing Workforce Centers. (2009). Minimum Datasets Public Announcement. (Retrieved November 5, 2009, from: <http://www.nursingworkforcecenters.org/#>).