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# A Profile of Colorado's Advanced Practice Nurse Workforce

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*Key Findings from the 2010  
Advanced Practice Nurse Survey*

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## Introduction

Recent issues have converged nationally and in Colorado that challenge the ability of the health care workforce to meet future demand for primary care. While demand is difficult to pinpoint, the increasing portion of the population aged 65 and older and their associated higher disease burden are changes expected to pressure the health care system and its workforce. Analysis conducted by the Colorado Health Institute (CHI) estimates state and federal health reform will extend some form of coverage to 540,000 of the 800,000 Coloradans currently without health insurance.<sup>1</sup> Even where the supply of primary care physicians is sufficient, uneven geographic distribution may cause shortages on a local level, particularly in rural areas.

Advanced practice nurses (APNs), specifically nurse practitioners, are one type of non-physician clinician providing quality primary care.<sup>2</sup> APNs are licensed registered nurses prepared at the graduate degree level as a clinical specialist, nurse anesthetist, nurse-midwife or nurse practitioner. Those involved in primary care are expected to play an increasingly important role in nurse-managed health clinics and patient-centered medical homes.<sup>3</sup> A lack, however, of detailed and reliable information about APNs and other non-physician primary care clinicians limits robust primary care workforce planning in Colorado.

In 2010, CHI surveyed Colorado's registered advanced practice nurses to gain information on their role as health care providers. This report discusses Colorado's APN workforce, including:

- Demographic, employment and education characteristics
- Specialty distribution between primary and other specialty care
- Work settings
- Key challenges in rural areas of Colorado
- Barriers to expanded practice
- Retention and supply issues.

By collecting and analyzing survey data and engaging in policy analysis on advanced practice nursing, CHI provides policymakers, planners and advocates with evidence needed to make informed decisions about the state's health care workforce.

## Summary of Key Survey Findings

This section summarizes key findings from the APN workforce survey. Detailed findings start on page 9.

### **I. APNs and nurse practitioners (NPs) in particular are important providers of primary care in Colorado.**

This importance is based on their involvement in primary care, time spent in direct patient care, education, presence in varied work settings as primary care providers (including acute care settings) and in rural areas. APNs specializing in primary care:

- Tend to be younger than other types of APNs
- Are more likely to be educated within the last 10 years
- Are relatively satisfied with their careers.

The fact that new graduates make up a large portion of APNs in primary care suggests that this is an area of growth. CHI survey findings indicate that APNs are poised to fill some of the workforce gaps produced by the mal-distribution of primary care physicians and anticipated increases in demand for services from the newly insured.

## **2. The size of the future APN workforce in Colorado will be limited by retirements, short career spans and competition with non-APN careers.**

A large portion of Colorado APNs were aged 55 or older at the time of the survey. Retirement was one of the most common factors reported by registered APNs who were not working as an APN. Of those who cited retirement, the majority were younger than age 65. These factors support the notion that retirements will continue to affect this workforce in the coming years.

Advanced practice nursing and primary care similarly compete with other health and nursing-related positions. Working in another health-related position was the most common reason given for not working as an APN. The increased popularity of the acute care specialty among nurse practitioners is a national trend observed in a subset of Colorado nurse practitioners. This finding may also affect the replacement of primary care nurse practitioners over time.

APNs complete their APN education at a relatively mature age, and their career is fairly short. These factors are likely to delay the replacement of APNs near retirement and suggest a need to identify opportunities to promote entry into APN programs at earlier ages. Efforts to maintain or grow the APN workforce will coincide with a forecasted shortage of nursing faculty that will affect the nursing profession as a whole.<sup>4</sup>

## **3. Most APNs specializing in primary care reported having many but not all privileges related to practicing near their full scope.**

A majority of primary care APNs in Colorado had National Provider Identifier (NPI) numbers (which identify providers for the purpose of making insurance claims, tracking prescriptions and conducting other health care transactions) and the authority to prescribe drugs and controlled substances. Few, however, had privileges allowing them to admit patients into a hospital, a privilege that is determined at the institutional level. The ability to bill independently and receive reimbursement that is reflective of an APN's experience was not widespread. These factors would be most likely to affect APNs who are working in APN-only practices.

## **4. Rural NPs encounter different challenges than their urban counterparts.<sup>5</sup>**

Rural NPs were more likely to report having more of the issues listed in the survey than their urban counterparts, including having enough qualified physician specialists available for referrals, affording the cost of liability insurance and the inability of patients to afford needed care. They were also less likely to be educated at the highest levels of the profession. Yet, rural nurse practitioners were more likely to specialize in primary care and to spend the majority of their time in direct patient care than their urban counterparts.

Rural nurse practitioners were also more likely to have plans to leave their current APN position and to give education or family as reasons. While survey results suggest that rural NPs contribute to the delivery of primary care more than those in urban areas, they face a variety of challenges that constrain their ability to provide care.

## **5. Clinical nurse specialists (CNSs) face unique challenges.**

Many Colorado clinical nurse specialists are not employed in positions requiring their APN training. Key informants reported that the expansion of nurse practitioners into acute care may erode opportunities available to clinical nurse specialists. The employment patterns for clinical nurse specialists question whether their role in providing direct patient care is being shifted to nurse practitioners.

## **Overview of Advanced Practice Nursing and National Context**

APNs are licensed registered nurses (RNs) who have completed a nationally accredited graduate APN degree, passed a national certification examination and been recognized by their state board as an APN in any of four commonly recognized roles:

- Nurse practitioner (NP)
- Clinical nurse specialists (CNS)
- Certified registered nurse anesthetist (CRNA)
- Certified nurse midwife (CNM).

Some APNs may be prepared in more than one role and CNS-NP is the most common combination. Depending on the specific practice laws in their state, APNs work with varying degrees of independence. While some states require formal collaboration between APNs and physicians, other states permit them to diagnose and manage common diseases, order diagnostic tests, perform minor procedures and prescribe medications without the supervision or consultation of a physician.

Although the individual APN roles have histories of varying length, the whole of advanced practice nursing is a relatively new phenomenon that was defined starting only in the 1980s.<sup>6</sup> Since then, the national population of APNs has experienced considerable growth—around 28 percent between 2000 and 2008.<sup>7</sup> The latest national survey of registered nurses conducted in 2008 by the federal Health Resources and Services Administration (HRSA) estimated that nearly 177,000 RNs were board-recognized advanced practice nurses. By comparison, the federal Bureau of Labor Statistics reported that 661,000 doctors and 75,000 physician assistants were employed in 2008.<sup>8</sup>

### **APN ROLES IN THE UNITED STATES**

Nurse practitioner is the most common APN role, accounting for the majority of APNs in the United States. They are trained to work across all populations and provide expert direct care in the form of health assessments, prevention, diagnosis and management of common acute and chronic illnesses, including prescribing medications. Approximately two-thirds of APNs nationally holding the title of “nurse practitioner” reported they principally deliver primary or ambulatory care. NPs specializing in acute care (generally provided in hospital settings) have an increasing presence.<sup>9</sup>

Clinical nurse specialists have a wide range of specialties. They provide direct care to patients with complex health problems and improve patient care and nursing practice through best-practice research.

The CNS role is broad and was created as a way to keep pace with expanding clinical knowledge and system complexity and to retain nurses with advanced education and clinical expertise at the bedside.<sup>10</sup>

Nurse anesthetists and nurse midwives are the most established of the APN roles, as well as the most specialized. CRNAs provide a range of care for patients undergoing anesthesia, including:

- Administering anesthesia
- Monitoring patients
- Providing airway management
- Managing emergence and recovery from anesthesia
- Providing post-anesthesia follow-up.

Under federal law, the administration of anesthesia does not require prescriptive authority as it is considered a service provided on request.<sup>11</sup>

Certified nurse midwives are distinct from other types of midwives because they are trained in both nursing and midwifery disciplines. CNMs have advanced health assessment and intervention skills focused on childbearing and women's health. CNMs deliver babies and provide direct care before, during and following childbirth and may co-manage high-risk pregnancies with a physician. Unlike non-nurse midwives, CNMs also provide primary care for women in the form of gynecologic care and family planning. Most CNMs report hospitals as their primary practice setting.<sup>12</sup>

## EDUCATION TRENDS

In 2009, nationally, almost 350 institutions offered graduate-level NP programs, and nearly 200 offered graduate-level CNS programs.<sup>13</sup> By comparison, 34 schools offered master's-level majors in nurse-midwifery (17 at the doctor of nursing practice [DNP]-level). The Council on Accreditation of Nurse Anesthesia Educational Programs lists programs at 111 schools. The programs are predominately master's-level but 11 schools have entry-level doctoral programs.<sup>14</sup> Approximately 9,200 master's- and post-master's-level NP majors and 1,000 CNS majors graduated or completed their studies that year. The fastest-growing APN-related master's programs between 2008 and 2009 were nurse-midwifery and nurse anesthesia.<sup>15</sup>

In 2004, the American Association of Colleges of Nursing (AACN) issued a position statement recommending that the DNP become the standard for basic APN education by 2015.<sup>16</sup> As of 2009, 76 DNP programs offered a nurse practitioner major, compared to three DNP programs of any type in 2004. In 2009, 72 percent of schools with APN programs were planning or already offering a DNP program and enrollment.<sup>17</sup> The number of APN majors enrolled in DNP programs (approximately 2,700), is still far lower than the number of APN majors enrolled in master's-level programs (34,000).<sup>18</sup>

## POLICY CONTEXT

Scope-of-practice limitations are a central issue affecting APN practice, including collaborative practice agreements, prescriptive authority requirements and lack of hospital-admitting privileges. The Institute of Medicine's (IOM's) recent *Future of Nursing* report highlighted the potential of nursing to transform the health care system. One key recommendation was that nurses should be allowed to practice to the full extent of their education and training.<sup>19</sup> The scope of practice that determines APNs' legal authority

to provide specific services is determined at the state level through nurse practice acts authorized by each state's board of nursing, which may share authority with the board of medicine or pharmacy or both. This system, along with the varying involvement of the boards of medicine and pharmacy in each state, has resulted in considerable variation between states in how APNs may practice.<sup>20</sup> As of 2000, states having favorable practice environments for NPs and CNMs generally had more of these practitioners per capita.<sup>21</sup> Institutions may have further limits on the scope of practice of APNs.

Practical concerns may obstruct the ability of APNs to practice independently within their scope of practice or as part of an interdisciplinary collaborative care team. Reimbursement levels, the ability to bill directly for services and other privileges affect the extent to which APNs can practice independently and receive credit for their work. Reimbursement parity with physicians acknowledges the value of APN services and blurs the distinction between medical and nursing practice, while the extent to which APNs are reimbursed at lower rates increases their cost-effectiveness.

## **Colorado Context**

Seven schools in Colorado offer graduate degree programs with APN majors. All seven schools have at least one nurse practitioner major, and one school offers majors for CNMs and CNSs. Five of the schools offer DNP programs.

To become a registered APN in Colorado, applicants must be a licensed registered nurse in good standing, have a graduate degree in nursing from an accredited program and have passed a national certification exam. APNs in Colorado are credentialed by the state Board of Nursing through inclusion in the Advanced Practice Registry.<sup>22</sup> Registration as an APN in Colorado allows them to practice independently, including diagnosing, testing, treating, ordering durable medical equipment, documenting current health status and signing documents that give advance directives for end-of-life care. Colorado is among approximately 20 other states that also allow APNs to practice independently.<sup>23</sup>

Colorado statute has increasingly expanded the scope of practice for APNs while raising the requirements to practice as an APN. Prior to 2008, either completion of a nationally accredited education program or national certification was required. The graduate degree was made standard in 2008 and the national certification requirement was added in 2010. At each stage of change, previously recognized APNs did not have to meet the new requirements as long as they stayed actively registered. With regard to CRNAs, at the end of 2010 Colorado became the 16th state to opt out of the Centers for Medicare and Medicaid Services (CMS) requirement for physician supervision. Unlike other "opt-out" states, only rural and critical access hospitals were exempted from the requirement in Colorado.

Colorado APNs have had the option to obtain prescriptive authority since 1996. This authority allows APNs to prescribe medicines without the authorization of a physician. Prescriptive authority is not required for the administration of anesthesia care and is limited to patients appropriate to an APN's specific scope of practice. APNs seeking prescriptive authority in Colorado must also be educated in the use of controlled substances and prescription drugs, hold professional liability insurance and maintain their national certification as appropriate.



Prior to July 1, 2010, APNs having prescriptive authority were required to have a collaborative agreement with a physician for consultation and referral. After that date, the process to obtain prescriptive authority was revised to allow APNs to prescribe without a collaborative agreement with a physician and to increase the amount of required experience. Prescriptive authority in Colorado now requires a 1,800-hour, preceptorship with a physician to achieve “provisional prescriptive authority.” This status then allows APNs five years to accumulate the additional required 1,800 hours of *mentored* experience and develop the articulated plan necessary to attain full authority. According to the Colorado Department of Regulatory Agencies, as of March 8, 2011, 2,370 APNs held either provisional or full prescriptive authority.

## The 2010 Survey of Colorado APNs

Of the 51,934 actively licensed RNs in Colorado in 2010, 4,000 were included in Colorado’s Registry of Advanced Practice Nurses.<sup>24</sup> In September 2010, CHI used this registry to randomly select a stratified sample of 1,000 APNs. In November 2010, survey questionnaires were mailed to APNs in the sample. Accounting for undeliverable mail, 975 APNs were presumed to have received the survey. The survey response rate was 59 percent.

The survey data were weighted for gender and geography to correct for non-response bias related to these factors. As such, data in this report are as representative as possible of the APN population in Colorado. Detailed information on the survey methods will be made available in a public use file, accessible from the CHI website (<http://www.coloradohealthinstitute.org/Workforce>).

### FINDINGS: WORKING APNS

This section provides an overview of demographic and employment characteristics of working APNs, while following sections focus on APNs in primary care and in rural areas specifically.

**Profile of Colorado APNs**

4,000	Advanced practice nurses registered to practice in Colorado
3,106	Registered APNs working as APNs in Colorado
68%	Of working APNs were registered as nurse practitioners in Colorado
71%	Of working nurse practitioners specialize in primary care

**Colorado’s working APNs:**

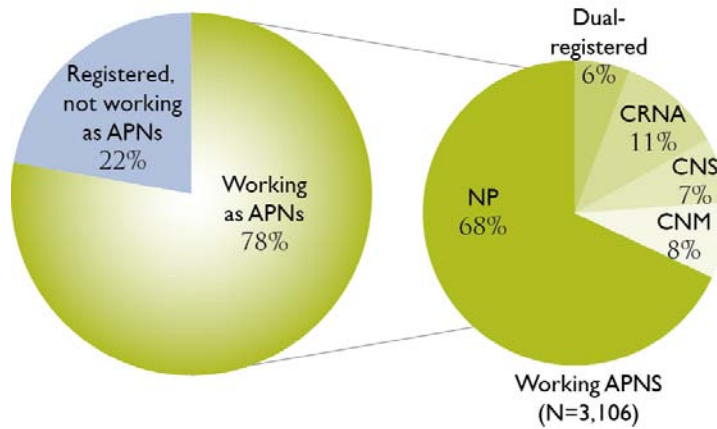
44%	Aged 55 years or older
11%	Practiced in rural area in their principal APN position
78%	Had completed a graduate-level nursing degree
28%	Had fewer than five years of experience as an APN

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute

At the time of the survey, an estimated 3,106 registered advanced practice nurses in Colorado reported working as APNs (Figure 1).<sup>25</sup> The majority reported that they were registered as nurse practitioners (68%). Clinical nurse specialists made up a higher proportion of *registered* APNs (12%) than of *working* APNs (7%). According to key informants, this may be related to CNSs’ usefulness as nurse educators, a role that does not require their APN-level clinical skills. Unless otherwise noted, subsequent results for

APNs pertain specifically to *working* APNs. In instances where the APN registration categories are presented separately, APNs registered in more than one category (dual-registered) were not included.

Figure 1. Registered, working APNs in Colorado, by registration category



SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q14, Q24

### Demographic characteristics

Colorado APNs are demographically similar to the RN workforce from which they are drawn. Colorado APNs were predominately female, white and mature in age (Table 1). Many working APNs were at or approaching retirement age. Only 39 percent of NPs, however, were 55 years or older compared to 54 percent of CNMs and 52 percent of CNSs. CRNAs were the one registration type not dominated by women, a pattern that has been observed nationally.<sup>26</sup> CRNAs were also the category with the most racial-ethnic diversity.

Table 1. Demographic characteristics of working APNs in Colorado

Characteristic	NP	CNS	CRNA	CNM	Dual-registered	All APNs
Aged 55 years or older	39%	52%	47%	54%	60%	44%
Female	91%	93%	58%	100%	96%	89%
White, non-Hispanic	94%	99%	86%	99%	99%	94%

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q4, Q5, Q7, Q14, Q24

### Employment characteristics

The survey results indicate that 76 percent of APNs were working full time in 2010. The median earnings range of this group in 2009 was \$80,001 to \$90,000. CRNAs had the highest earnings, with a median earnings range of more than \$100,000 in 2009.

Other observations about basic employment characteristics of working APNs include the following:

- Working in more than one APN position 15%
- Median time spent in direct care 70%

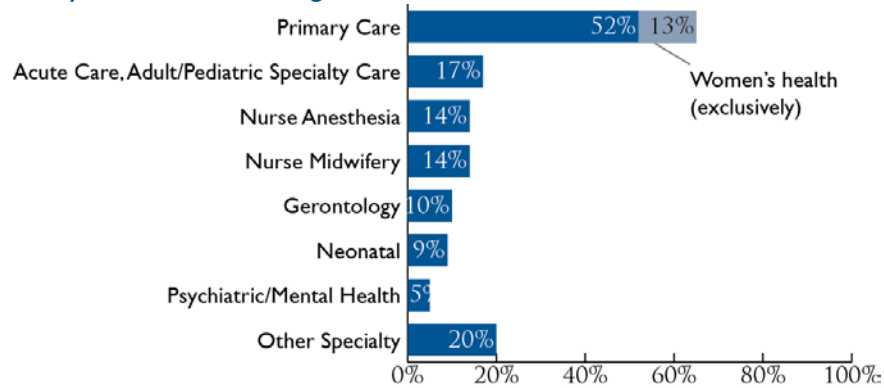
- Median years of APN experience 11 years
- Fewer than 5 years of APN experience 28%
- Very satisfied in their career<sup>27</sup> 80%

In contrast to APNs overall, only 56 percent of CNSs rated themselves as very satisfied.

### Specialty areas and work settings

Primary care, consisting of pediatrics, adult or family practice and, optionally, women’s health, was by far the most common type of specialty reported by advanced practice nurses (Figure 2). Nurse anesthetists and nurse midwives were concentrated in their respective specialties (including women’s health in the case of nurse midwives).

Figure 2. Specialty areas of all working APNs in Colorado

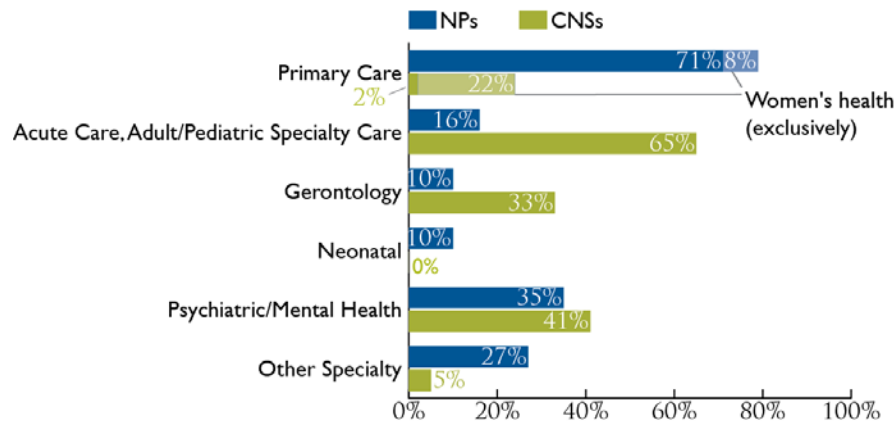


NOTE: The total of all specialties sums to more than 100% because each respondent could select more than one specialty.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q15, Q24

In contrast, nurse practitioners and clinical nurse specialists reported having a range of specialties (Figure 3). Primary care was the most common specialization among nurse practitioners, and this group comprised almost all APNs specializing in primary care (92%, not including 5% from dual-registered NPs). Acute care, pediatric/adult specialty care and mental health were the most common specializations for clinical nurse specialists. Despite the acute and specialty care emphasis among clinical nurse specialists, the population of nurse practitioners was large enough that NPs comprised almost three times as many of the APNs with specialties in acute or adult/child specialty care (63%) as did CNSs (24%).

Figure 3. Specialty areas of working NPs and CNSs in Colorado

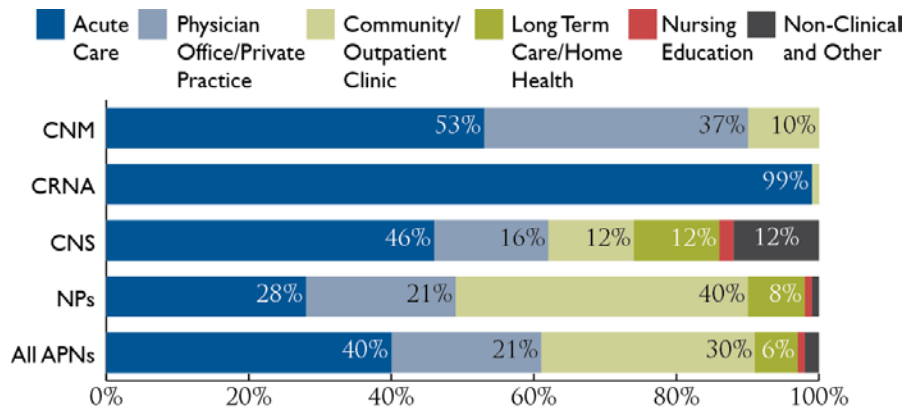


NOTE: The total of all specialties sums to more than 100% because each respondent could select more than one specialty.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q14, Q15, Q24

With the exception of nurse anesthetists, advanced practice nurses worked in a variety of settings, most commonly acute care, followed by community or outpatient clinics and private physician offices (Figure 4). Many APNs specialized in primary care despite working in an acute care setting. Of APNs specializing in primary care, 22 percent worked in an acute care setting.

Figure 4. Work settings of working APNs in Colorado, by registration category



NOTE: Percents may not sum to 100% due to rounding error.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q14, Q24, Q32

### Job and career retention factors

Of APNs currently working in Colorado, 11 percent expressed plans to leave their principal APN position in the next year. The most common reasons cited as “very important” were:

- Insufficient wages 40%
- Lack of professional challenge 24%
- Lack of respect for APNs by physicians and employers 24%

While not among the top three factors, retirement was a “very important” factor for 16 percent of APNs with plans to leave their position.

Among the 22 percent of registered APNs who were not working as an APN, the most common contributing factors were:

- Employment in a health-related position not using APN training 42%
- Retirement 32%
- Lack of respect from physicians and employers 26%

Among non-working APNs who listed retirement as a contributing factor, 57 percent were younger than 65. Other contributing factors were not captured by the survey, with 67 percent citing other reasons not listed among survey choices.

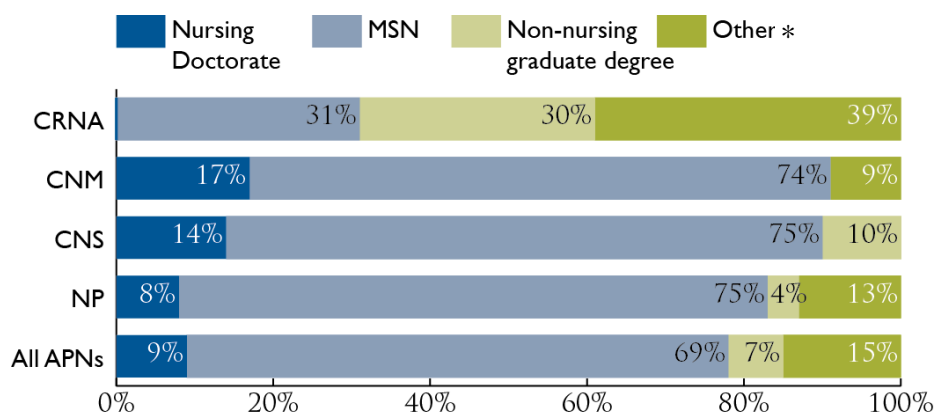
### Education and certification

To become registered as an advanced practice nurse in Colorado, individuals must complete an appropriate graduate degree. Some APNs, however, may have substituted certification for graduate degree education under earlier requirements. Overall, 78 percent of APNs and 83 percent of nurse practitioners held a nursing-related graduate degree as their highest level of education (Figure 5). Colorado CNMs had a higher level of graduate nursing education (91%) than CNMs nationally (56%).<sup>28</sup>

CRNAs were most likely to hold non-nursing graduate degrees, and education outside of an MSN or nursing-related doctorate. The former reflects the extent to which CRNA programs are more likely to be associated with medical or allied health science academic units, in contrast to the other APN tracks.

AACN has targeted doctoral-level training, specifically the doctor of nursing practice degree, to become the standard for APN education by 2015. At the time of the survey, only 9 percent of Colorado APNs held a nursing-related doctorate, which indicates that this target is a work in progress in Colorado, much as it is nationally.

Figure 5. Highest education level of working APNs in Colorado



NOTE: Percents may not sum to 100% due to rounding.

\* 'Other' includes all baccalaureate degrees, graduate and non-graduate level certification and diplomas.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q13, Q14, Q24

Serious concern exists about the ability of the diminishing pool of nursing faculty to meet the educational needs of the nursing profession overall. APNs require a high level of investment from the nursing education system, but they also participate as educators. Among APNs in the survey, 9 percent were faculty members in various levels of nursing programs. An additional 26 percent of working APNs expressed interest in becoming nursing faculty. To the extent that nursing education programs in Colorado are willing to expand the capacity of the system, there appears to be interest in teaching opportunities.

Sixty-three percent of working APNs in Colorado obtained their APN training in-state, compared to 46 percent of working Colorado RNs. This indicates that investments in training APNs in Colorado are likely to benefit the state's workforce. Upon completion of their APN program, 40 percent of APNs were over age 35. This relatively late career entry suggests that APNs may have a short window for developing in their career compared to other professions.

In addition to a graduate degree, current Colorado requirements for APN registration include national certification. Some APNs may have substituted education programs for certification under earlier requirements. Nearly all Colorado APNs hold national certification (98%). CNSs had the lowest rate of national certification (83%).

#### **FINDINGS: APNs IN PRIMARY CARE**

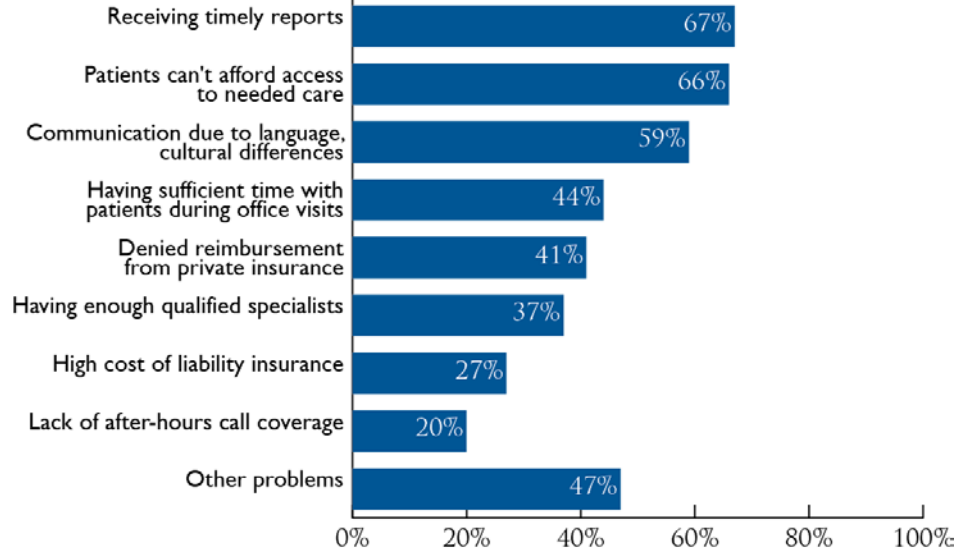
Over half of working APNs reported specializing in pediatric, adult or family primary care (52%, N=1612), and almost all of these APNs were nurse practitioners (92%, not including an additional 5% from dual-registered APNs). APNs in primary care:

- Were younger than 55 years of age 60%
- Graduated in 2001 or after 48%
- Held a nursing-related doctorate 12%
- Were very satisfied with their APN career 87%
- Spent more than half of their time in direct patient care 77%

#### **Current challenges**

The survey asked APNs to rate a variety of issues related to providing quality care. The most common issues were receiving timely reports from other providers, the inability of patients to afford needed care, and communicating with patients who speak a different language or come from a different cultural background (Figure 6). Notably, 47 percent cited issues not listed among survey choices.

Figure 6. Issues related to the ability to provide high-quality care among working APNs in Colorado who specialize in primary care



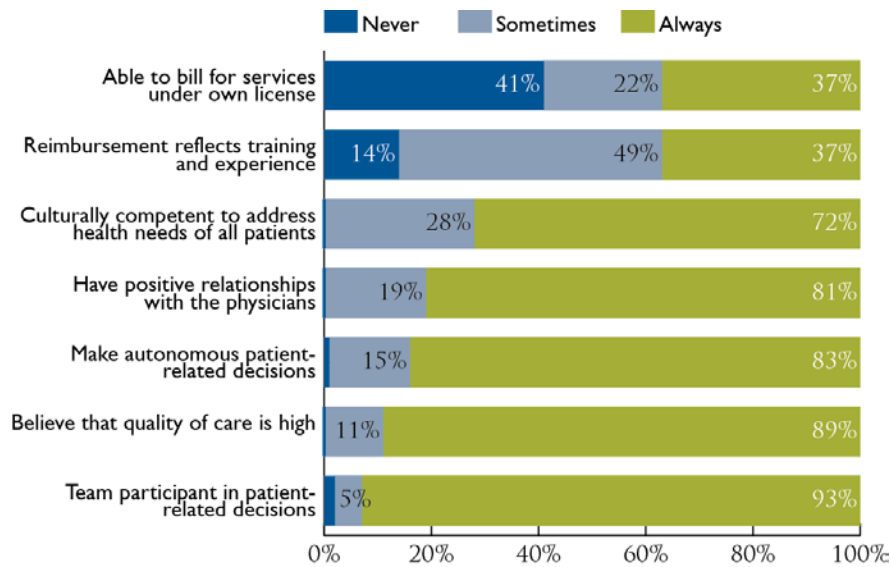
NOTE: Percentages reflect ratings of “somewhat a problem” or “a significant problem”

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q15, Q24, Q35

According to the IOM *Future of Nursing* report, health care access may be improved by eliminating scope-of-practice restrictions that limit nurses’ ability to practice to the full extent of their education and training. State regulations largely determine nursing scope of practice. Institutional policies, administrative practices and team dynamics, however, may limit APNs’ ability to practice independently within their scope of practice or as part of a collaborative interdisciplinary team.

The Patient Protection and Affordable Care Act<sup>29</sup> supports the establishment of nurse-managed health clinics. To be practicable, APNs must have the ability to be recognized and reimbursed by insurance companies. Among factors affecting nursing practice that respondents were questioned on, the ability to bill for services under their own license and to be appropriately reimbursed were the most problematic factors for APNs specializing in primary care (Figure 7). These findings support anecdotal reports that APNs struggle to be recognized and reimbursed by insurance companies when not operating under a physician.

Figure 7. Factors affecting nursing practice of working APNs in Colorado who specialize in primary care

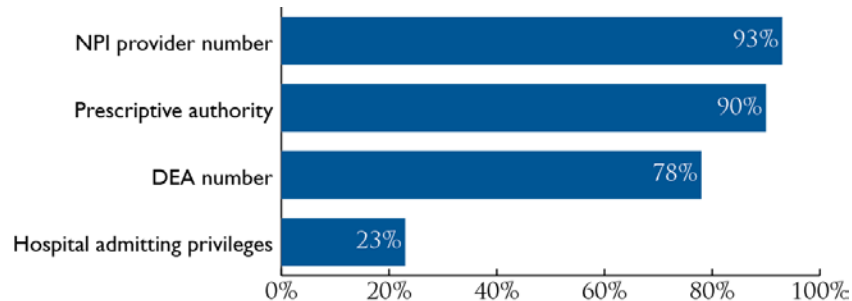


NOTE: Percents may not sum to 100% due to rounding error.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q15, Q24, Q34

APNs specializing in primary care were likely to report having prescriptive authority and a DEA number, but only a minority had hospital-admitting privileges (Figure 8). Almost all primary care APNs had an NPI provider number.

Figure 8. Privileges related to scope of practice of working APNs in Colorado who specialize in primary care



NOTE: Prescriptive authority includes both provisional and full prescriptive authority.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q15, Q17, Q21, Q24, Q38, Q41

### FINDINGS: NURSE PRACTITIONERS PRACTICING IN RURAL AREAS

While an estimated 16 percent of Coloradans live in rural areas,<sup>30</sup> 11 percent of working APNs practice in a rural area in their principal APN position, including 11 percent of NPs and 21 percent of CRNAs. Concentrating on rural NPs as having the greatest potential to provide primary care in these typically underserved areas, rural NPs were more likely to report:<sup>31</sup>

	Rural NPs	Urban NPs
Specializing in primary care	82%	67%
Spending more than half of their time in direct patient care	75%	69%



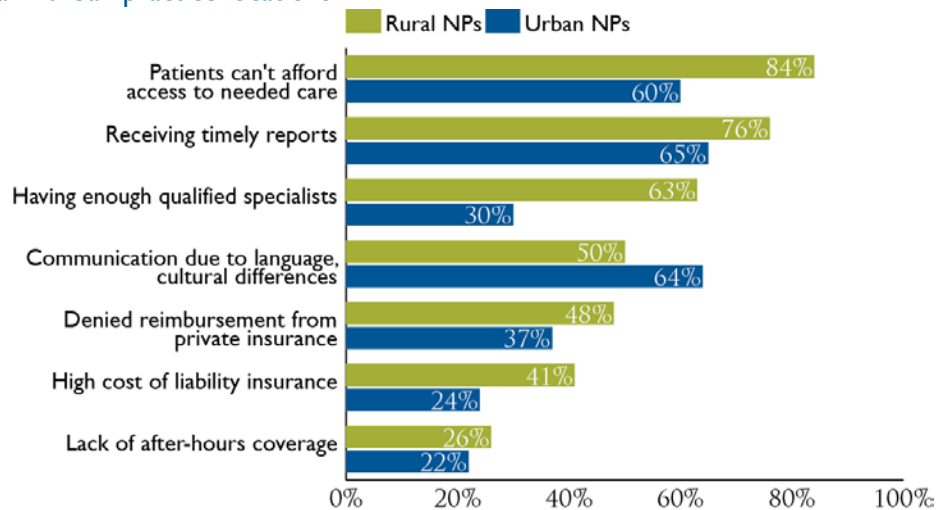
- Plans to leave their principal APN position in 12 months 25% 12%

Rural NPs also were less likely to report holding a nursing doctorate (1% versus 11% of urban NPs). Not only is the potential for turnover high among rural NPs in Colorado, but this group gave somewhat different reasons for planning to leave their APN position than APNs overall. The most common reasons were insufficient wages, lack of respect from physicians and employers, pursuing additional education and family responsibilities. Retention programs for rural nurse practitioners should attempt to address these unique needs.

### Current challenges

In general, rural NPs tended to report the surveyed issues with more frequency than their urban counterparts, with the biggest differences arising with respect to having qualified specialists to refer patients to and in the cost of liability insurance (Figure 9). Urban NPs were more likely to have issues communicating with patients of different cultural backgrounds.

Figure 9. Issues related to the ability to provide high-quality care among working NPs in Colorado, by rural and urban practice locations



NOTE: Percentages reflect ratings of “somewhat a problem” or “a significant problem.” Due to the modest sample size (N=211 for rural NPs), even the largest differences are trends in most cases and not statistically significant.

SOURCE: 2010 Colorado Advanced Practice Nurse Workforce Survey, Colorado Health Institute, Q14, Q24, Q28, Q35

Nurse practitioners working in rural areas tended to report having a DEA number more frequently than those not practicing in a rural area (87% versus 69%). In instances where APNs were the only provider available, likely in rural areas, DEA numbers would be less likely to create a barrier for patients needing prescriptions for controlled substances.

### CONCLUSION

Overall findings from this survey indicate that APNs are an important source of care in Colorado, particularly for primary care. As demand for services increases, nurse practitioners are well-positioned to fill service gaps in varied settings and in rural areas. Workforce planning efforts should take into

account upcoming retirements in this population (as well as among nursing faculty in general) and the tendency of APNs to come to the profession later in their careers and to work in other health-related careers. The biggest barriers for APNs in primary care (predominately nurse practitioners) to practicing fully are the ability to bill independently and be reimbursed commensurate with their training and experience.

On the other hand, new graduates make up a large portion of APNs in primary care, suggesting that this is an area of growth. Rural nurse practitioners are at least as important in providing primary care and direct patient care as their urban counterparts, but they face special challenges, namely the potential for high turnover, lack of qualified specialists available for referrals, the inability of patients to afford needed care, and the cost of liability insurance.

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<sup>1</sup> Colorado Health Institute (CHI). (2009). *Uninsured Coloradans: Who will be newly covered under health care reform? Who will remain uninsured?* Available at: <http://www.coloradohealthinstitute.org/Publications/2011/01/COHS-Newly-Insured.aspx>.

<sup>2</sup> CHI. (2009). *Collaborative Scopes of Care: Final report of findings*. Available at: <http://www.coloradohealthinstitute.org/Publications/2009/01/Collaborative-Scopes-of-Care-Study.aspx>.

<sup>3</sup> Patient-centered medical homes emphasize a team-based approach, comprehensive and continuous care, coordination of care and medications, preventive care and health education.

<sup>4</sup> CHI. (In Progress). *2009-10 Colorado Nursing Faculty Supply and Demand Study: Survey findings*.

<sup>5</sup> Due to small sample sizes, statistical tests were not significant.

<sup>6</sup> Keeling, A. (2009). "A brief history of advanced practice nursing in the United States." *Advanced Practice Nursing: An integrative approach*, 4<sup>th</sup> ed. Eds. Hamric AB, et al. St. Louis, Missouri: Saunders Elsevier.

<sup>7</sup> Health Resources and Services Administration (HRSA). (2010). *The Registered Nurse Population: Findings from the 2008 National Sample Survey of Registered Nurses*. (Retrieved March 1, 2011, from: <http://bhpr.hrsa.gov/healthworkforce/rnsurvey/2008/>).

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<sup>8</sup> Bureau of Labor Statistics (BLS). (2010). *Occupational Outlook Handbook, 2010-11 Edition*. "Physician Assistants." (Retrieved March 1, 2011, from: <http://www.bls.gov/oco/ocos081.htm>).

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<sup>9</sup> HRSA. (2010).

<sup>10</sup> Sparacino, P, and C Cartwright. (2009). "The clinical nurse specialist." *Advanced Practice Nursing: An integrative approach*, 4<sup>th</sup> ed. Eds. Hamric AB, et al. St. Louis, Missouri: Saunders Elsevier.

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<sup>12</sup> HRSA. (2010).

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- <sup>13</sup> American Association of Colleges of Nursing (AACN). (2010). *2009-2010 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*. Washington, DC: AACN.
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- <sup>25</sup> Defined as employed in a position requiring registration as an APN in Colorado.
- <sup>26</sup> HRSA. (2010).
- <sup>27</sup> APNs were considered very satisfied if they rated their career satisfaction in the highest three levels on a 10-point scale.
- <sup>28</sup> HRSA. (2010).
- <sup>29</sup> The Patient Protection and Affordable Care Act (ACA) is the 2010 federal health care reform law that expands Medicaid eligibility and includes a variety of provisions to address uninsured populations who are not eligible for publicly financed health insurance.
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