



# **COLORADO HEALTH WORKFORCE DEVELOPMENT STRATEGY, 2014**

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
PRIMARY CARE OFFICE**

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## Introduction

The goal of the Colorado State Health Workforce Development Strategy is to improve the health status of all Coloradans by developing the health workforce, emphasizing the primary care access needs of vulnerable, low-income and geographically isolated communities. This state strategy does not supplant any existing primary care workforce development plans and their associated recommendations. Rather, this state strategy provides structure and process through which all existing primary care workforce planning efforts may find thoughtful consideration and application.

Where data suggest shortages of primary care providers in Colorado (i.e. health professional shortage designation, medically underserved area or population designation, retirement, specialty preferences etc.), the maldistribution of the primary care workforce poses an even greater threat to health care access<sup>i</sup>. In rural, frontier and urban underserved communities, the primary care workforce, including physical, mental and oral health care providers, does not meet the current need. Although Colorado has taken strides to ameliorate the maldistribution of the primary care workforce, particularly in the Federally Qualified Health Care Center (FQHC) setting, the inability to enact meaningful policy and create lasting solutions to the uneven geographic distribution and projected shortages of the primary care workforce will only serve to exacerbate the health disparities that persist in many communities across the state.

In 2010, the Colorado Primary Care Office (PCO) served as a facilitator and author for a state primary care workforce plan funded in accordance with *Affordable Care Act State Health Care Workforce Development Planning Grants (HRSA-10-284)*. The intent of the planning grant at that time was to collaboratively identify approaches to state health workforce development that would lead to a 10 percent to 25 percent increase in Colorado's primary care workforce over a 10-year period. With the prospect of imminent congressionally authorized implementation funding, the *Colorado Health Workforce Development Strategy* was completed in six months and affirmed by a cadre of organizations directly engaged in state health workforce development (see page 15).

Congress did not authorize implementation funding and the strategy remains unimplemented. However, the *Colorado Health Workforce Development Strategy* retains significance and value. With the prospect of full implementation dollars dim, the Colorado Health Professions Workforce Policy Collaborative affirmed the document with the request of leaving the strategy's recommendations intact and updating it periodically to reflect prevailing trends in workforce projections, education, training and allocation.

The thoughts and perspectives presented in this workforce strategy reflect the culmination and synthesis of voices from more than 100 individuals representing more than 50 separate

organizations from a myriad of disciplines and areas of expertise. Prior to beginning the research and writing processes, all relevant stakeholders were identified and contacted. One group of stakeholders belonged to the group of grant-mandated state partnerships and included a diverse cross-section of individuals and organizations critical to the primary care workforce discussion in Colorado.

The Colorado Health Professions Workforce Policy Collaborative (the Collaborative) proved to be a key venue for engaging stakeholders. The purpose of the Collaborative was to convene policy leaders, health care providers, educational institutions, and economic development and workforce planning authorities to collectively establish a strategic public policy framework for Colorado that would advance health professions workforce priorities, alleviate provider shortages and strengthen the health care system.<sup>ii</sup>

Stakeholders were engaged in the process through working subgroup meetings. Five subgroups were created and distinguished by topic, as prescribed by grant guidance. Subgroups were categorized by labor trends, current and projected high demand areas, recruitment and retention, educational practices and policy.

Meetings yielded valuable information that greatly contributed to the comprehensiveness of this workforce development strategy. Additionally, the subgroup meetings brought together many individuals and organizations that do not typically coordinate efforts or communicate openly. Close collaboration led all to recognize the need for increased cohesion among health workforce initiatives in Colorado.

In addition to working subgroup meetings, one-on-one key informant interviews were conducted with more than 60 individuals. The Colorado Rural Health Center conducted 16 stakeholder interviews pertaining to educational practices via a guided email interview questionnaire with opportunity for follow-up. Primary Care Office Workforce Planners conducted the remaining key informant interviews in person or by phone.

In addition to gathering information from stakeholders across the state, the Primary Care Office researched resources and literature related to the primary care workforce, state and federal initiatives, previously collected data and other relevant information.

The *Colorado Health Workforce Development Strategy* is intended to be a living document, a pioneering first step in coordinated health workforce development. As such, the strategy articulates a structure and process through which organizations representing the interests of health workforce development in Colorado may critique, discuss, propose and advance evidence-based action and health profession education, training and funding policy. The

strategy also reflects a comprehensive view of primary care workforce development in 2010, with updated workforce projections for 2014.

## Recommendations

While Colorado's health workforce is insufficient to the needs of specific populations (see Maps 2-4), there remains an abundance of will and expertise among a diverse set of individuals and organizations to address the state's primary care workforce needs. In close consultation with many of Colorado's innovative thought leaders and program leads in the health workforce community, a set of key recommendations emerged. The *Colorado Health Workforce Development Strategy* groups these recommendations under four headings: **Organize Educate, Recruit, Retain and Advocate.**

### Strategy 1: Organize Colorado's Health Workforce Initiatives

#### A. Establish a Colorado Health Workforce Partnership

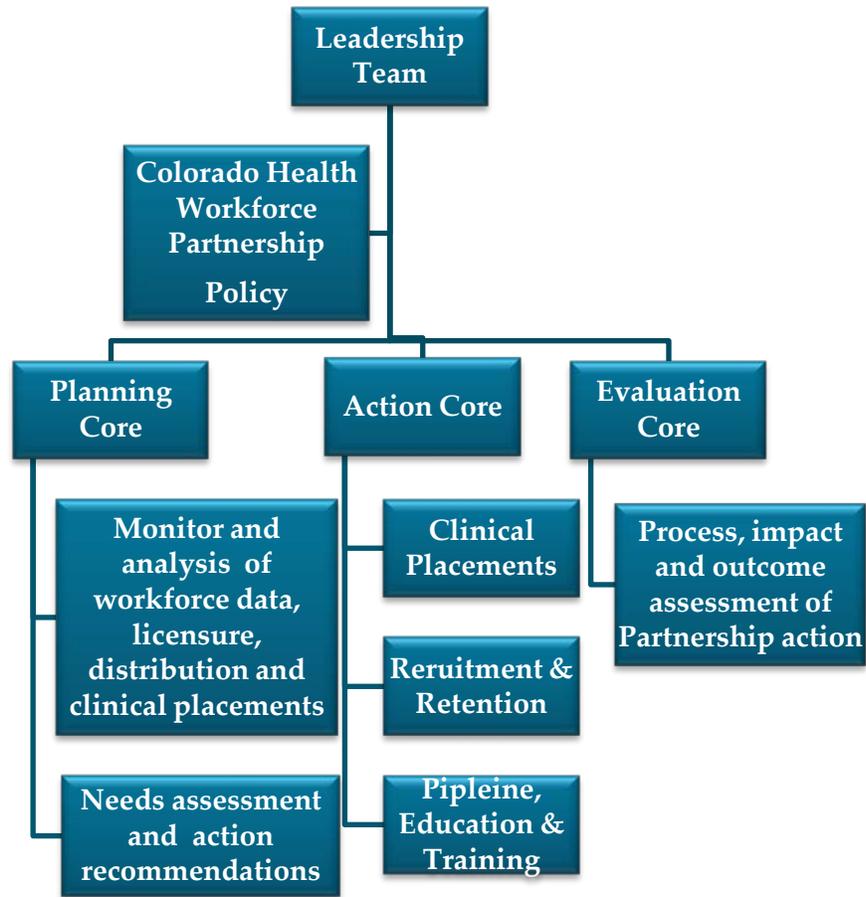
When the *Colorado Health Workforce Development Strategy* was first conceptualized the Colorado Health Professions Workforce Policy Collaborative was the only known entity in which the state's major voices in workforce development routinely met around the same table to discuss policy matters affecting the state's health workforce. The Collaborative has since disbanded and no such comprehensive dialogue in health workforce policy and development existed in 2013.

The collective voice that the Collaborative embodied must be regained and organized under the auspices of a funded Colorado Health Workforce Partnership or similar body operating as a Governor's appointed commission. This partnership would be facilitated by a leadership team comprised of representatives from the state's various workforce-related entities. The partnership would serve planning, action and evaluation functions, including, but not limited to:

- Prioritizing state health workforce development initiatives in accordance with data regarding current and prospective workforce shortages
- Providing access point to comprehensive information about the state's primary care workforce to granting agencies, foundations and educational institutions
- Providing guidelines and recommendations to ensure all current and future initiatives remain on track and non-duplicative
- Identifying policy solutions affecting the supply and distribution of Colorado's health workforce, with emphasis on the accessibility of primary care services

It is important to note that within this structure, all partnership organizations would continue to act independently and in accordance with their organizational missions and strategic priorities. The intent of the Partnership structure is to maximize opportunities for data access, resource sharing and policy development, while minimizing redundancy of effort and data isolation across a broad spectrum of workforce priorities.

**Model 1: Proposed Structure for a Colorado Health Workforce Partnership**



**B. Collect Licensure Data**

In order to organize Colorado’s health workforce development initiatives, it is necessary to implement a mechanism for collecting provider information on an ongoing basis and during professional license acquisition and renewal at the Colorado Department of Regulatory Agencies (DORA). Without accurate data about current providers, the state’s workforce development initiatives are operating in the dark.

In 2012, House Bill 1052 was enacted with the legislative declaration that *it is important for the state of Colorado to collect accurate and up-to-date health care professional data on a statewide basis in order to determine the medically underserved areas of the state and to*

*accurately guide the education and training needs for health care professionals in this state.*<sup>iii</sup> In 2013, DORA and the Colorado PCO partnered to formalize a data sharing arrangement that transmits the following health care professional licensure data:

1. Practice address
2. Direct patient care hours at each practice location
3. Specialties
4. Practice setting type
5. Education and training
6. Date of birth

In partnership with an HB1052 Advisory Committee of DORA representatives, health care professionals subject to data collection and health care workforce experts, the following health care professions were prioritized for licensure data collection: physicians, physician's assistants, nurse practitioners, dentists, registered dental hygienists, pharmacists, registered nurses, licensed practical nurses, licensed professional counselors, licensed psychologists, licensed clinical social workers, and licensed marriage and family therapists. As of July 1, 2013, licensure data was being transferred from the Colorado Department of Regulatory Agencies to the Colorado Primary Care Office.

#### C. Organize Communities on Health Workforce Issues

Educators and health employers often coexist in close proximity within small communities without communicating with one another clearly, consistently or at all. The Health Workforce Partnership will organize routine community engagement designed to gather information regarding local workforce needs and engage employers, educators and other community leaders in continuous strategic planning to address those needs. The Partnership will compile the local data gathered at these meetings, monitor trends across the state and disseminate reports to granting agencies, foundations and educational institutions to ensure that current and future initiatives are on track and non-duplicative.

### **Strategy 2: Educate Colorado's Health Workforce**

#### A. Educate Interprofessional Teams to Serve the Underserved

Interprofessional teams of health professionals deliver quality health care services to larger populations at reduced cost. This Strategy recommends prioritizing interdisciplinary educational programming that incorporates clinical placements within

interprofessional environments in rural and urban underserved areas. Such programming must include increased financial commitment by all funding sources for student support, recruitment and training of skilled educators, and development and support of clinical placements and residencies within interprofessional settings. This will promote the movement of new providers into careers in patient-centered medical homes and other practice environments actively engaged in integrated, interprofessional and collaborative models of care.

#### B. Educate a Diverse and Culturally Competent Workforce

To best serve the health needs of rural and urban underserved communities, a diverse and culturally competent workforce is required. This Strategy recommends implementing educational programming that incorporates training in cultural awareness for students and faculty, and increasing the racial, ethnic and cultural diversity of Coloradans entering advanced degree programs and serving as faculty.

A concerted effort to draw from students of diverse racial and cultural backgrounds must be launched. Traditional methods of increasing student diversity in advanced degree health care professional education programs must be combined with nontraditional methods that cultivate and motivate students early and locally. Such nontraditional methods include streamlined collaborations between the state's vocational and technical schools, community colleges and undergraduate institutions to guarantee local students from diverse racial and cultural backgrounds are prepared for advance degree programs. A corps of licensed health care professionals from students' racial-cultural community should be recruited and ready to mentor students through their academic careers.

#### C. Harness the Power of the Internet to Educate and Collect Data

This Strategy calls for the Colorado Health Workforce Partnership to collaborate in the formation of a sustainable health industry and career pipeline portal. This portal would be a one-stop web destination through which all health professional education and career pipeline programs are profiled, and all participants tracked and monitored. The portal should also provide resources on job hunting, loan repayment and other incentive programs, enhanced by a social networking component to foster mentor relationships and connect prospective and established health care professionals.

#### D. Support Health Sciences and Health Professions Academic Advising

The Colorado Health Workforce Partnership must systematically collaborate with academic advisers across the academic and institutional spectrum to empower the student success at all levels and areas of study aligned with state and regional workforce needs.

### **Strategy 3: Recruit and Retain a Health Workforce for Colorado's Underserved Communities**

#### A. Create a Clinical Placement Clearinghouse

This Strategy recommends Colorado develop and launch a centralized system of clinical placement and residency tracking for health care professions. This centralized system would make it possible to 1) identify and efficiently use all available placement sites across the state, and 2) place students from different disciplines together to prepare them to work within interprofessional and collaborative models of care.

#### B. Recruit and Retain Faculty and Preceptors

This Strategy recommends collaboration between education programs and clinical placement sites to recruit preceptors individually, matching them with students with similar interests. The Colorado Health Workforce Partnership would support this collaboration by providing a forum for educator-employer engagement.

#### C. Develop Additional Clinical Placement Sites

Colorado is unable to place all students in clinical settings due to a shortage of available and qualified sites. As a result, our developing health professionals must seek clinical training in other states, where they often remain. In order to recruit and retain a health workforce for Colorado's underserved communities, this Strategy recommends additional clinical placement sites be identified and supported throughout the state.

#### D. Support Community-Based Efforts to Recruit and Retain Health Workers

This Strategy calls for the Colorado Health Workforce Partnership to engage community-level leadership in strategic discussions about how to effectively draw health care professionals to their communities, supporting their efforts to promote the "attractiveness" and "liveability" of their communities.

#### E. Sustain and Create Loan Repayment Incentive Programs

This Strategy requires state support for the J-1 Visa Waiver program, the National Health Service Corps program, the Colorado Health Service Corps program, the Expanded Dental Loan Option of the Colorado Health Service Corps, and the Nurse Faculty Loan Repayment program. These programs are crucial to assisting health professionals in managing their education and clinical experience costs and effective in recruiting and retaining professionals for underserved communities. The Colorado Health Workforce Partnership should work with community leaders and employers to create additional local loan repayment and incentive programs.

### **Strategy 4: Advocate for Health Workforce Policy Reform**

#### A. Support the Ongoing Development of Workforce-Related Policy Recommendations

The Colorado Health Professions Workforce Policy Collaborative outlined a plan of action for necessary policy reform (adopted here, and detailed below). This Strategy calls for the Collaborative or similar stakeholder group to support ongoing development of workforce-related policy recommendations.

#### B. Advocate for Prioritized Reimbursement to Primary Care Providers

This Strategy recommends advocacy that targets certain health workforce priorities, including reimbursement to primary care providers; restoration of funding levels; implementation of Colorado HB 10-1330, the All-Payer Claims Database, with disclosure and reporting of reimbursement policies to ensure fair and reasonable criteria; maintenance of a tort environment that contains liability costs; mitigation of additional practice costs associated with payer requirements, quality improvement and patient safety programs; and development of new payment models that encourage greater access, reduce waste, recognize primary care service value and help implement collaborative, integrated care.

Those providers and organizations serving Medicaid patients should work on associated policy efforts to expand capacity to meet the increased demand. This support ought to include the gathering and dissemination of best practices for integrated systems of care (e.g. the patient-centered medical home model) that decrease administrative burdens while improving patient outcomes (minimizing ED visits, controlling chronic conditions, facilitating specialty referrals, improving overall community health, etc.). A discussion of the Colorado Primary Care Office's 2012 research regarding the primary care workforce and Medicaid participation is provided in the policy section.

C. Advocate for Prioritized Health Professions Education Funding

This Strategy recommends the legislature find new sources of revenue for health professions education separate from general higher education funding; create a bicameral interim task force and charge its members to work with relevant state agencies, institutions of higher education and other key stakeholders to examine the issue of health professions education funding within the state budget appropriations for secondary and higher education; and increase salaries for health professions faculty at public schools to alleviate large gaps between clinicians and teachers.

D. Advocate for Prioritized Creation of Residencies and Clinical Placement Opportunities

This strategy recommends the legislature support increased funding and flexibility for health professions training, programs that encourage health care providers to offer clinical learning opportunities for all health disciplines, and electronic platforms and clearinghouses that facilitate clinical placements.

E. Advocate for Measures Enabling Top-of-License Practice

This Strategy recommends revising state regulations that restrict the range of practice of nurse practitioners, physician assistants and other health professionals allowed to practice at a higher level in other states. If the state is to adequately meet the challenges posed by health professional shortages, all health professionals must be allowed to practice at the top of their licenses.

## Colorado: A Pioneering Voice in Health Care Reform

### Effect of Health Insurance Coverage Expansion on Employment

New American Foundation and University of Denver's Center for Colorado's Economic Future

*Successfully expanding health insurance coverage will not only enhance the Colorado economy, but also create new jobs for Coloradans. Health care expansion in Colorado would create 23,319 jobs by 2019.*

Colorado has a unique history of legislative action in health care reform that includes efforts to expand eligibility for enrollment in Medicaid and the State Children's Health Insurance Program (SCHIP). In Colorado this program is called the Children's Health Plan Plus (CHP+). Legislative priorities have centered on the delivery of quality, affordable health care services to

all Coloradans. A historical overview of health care reform nationally and in Colorado provides context for the inventories and recommendations presented in this state strategy. It is important to acknowledge the state’s legislative history in health care reform as directly influencing the environment in which the future primary care workforce will train and practice.

The ramifications of the state’s budget shortfall resulting from the economic downturn starting in 2007 is of significant importance. Diminishing state revenues and reduced funding for higher education and K-12 education is likely to impact the state’s capacity to educate and train its future primary care workforce. The impact of reduced funding for higher education is further explored in the *Recruitment and Retention* discussion.

### **SB06-208 Blue Ribbon Commission for Health Care Reform**

In 2006, the Colorado General Assembly authorized the formation of a Blue Ribbon Commission for Health Care Reform. SB06-208 represents the state legislature’s first step in comprehensive health care reform. This legislation specifically acknowledged that Americans spend an exorbitant amount on health care and that the complexity of the health care system diverts too many dollars away from the delivery of cost-effective, evidenced-based health care. SB06-208 also notes that health care policy dialogues too often do not include enough community and business leaders and do not adequately consider the political process essential to bringing about the systemic reforms needed to lower and contain cost.<sup>iv</sup>

The Commission’s final report to the Colorado General Assembly was released in January 2008. The report contained 32 recommendations and a detailed description of the state’s uninsured population. It also identified factors associated with the rising cost of care and coverage in Colorado.<sup>v</sup> The Commission’s final report is particularly noteworthy as it provided a rationale and platform for incremental state-level health care reform in the years to follow (Table 1).

**Table 1. Blue Ribbon Commission for Health Care Reform-Key Recommendations**

<b>Reduce Health Care Costs, Enhance Quality of Care</b>	<b>Provide a Medical Home for All Coloradans</b>
	<b>Create a multi-stakeholder “Improving Value in Health Care Authority.”</b>
	<b>Pay providers based on quality.</b>
	<b>Commission an independent study to explore ways to minimize barriers to mid-level providers such as Advanced Practice Nurses, Physician Assistants and others from practicing to the fullest extent of their licensure and training.</b>
	<b>Develop a statewide system aggregating data from all payer plans, public and private.</b>
<b>Improve Access to Health Care with Mechanisms to Improve Choices</b>	<b>Require every legal resident of Colorado to have at least a Minimum Benefit Plan, with provisions to make the mandate enforceable.</b>
	<b>Require all health insurance carriers operating in Colorado to offer a minimum benefit plan in the individual market.</b>
	<b>Expand eligibility in combined Medicaid/CHP+ program to cover more uninsured, low-income Coloradans.</b>

	Enhance access to needed medical care, especially in rural Colorado where provider shortages are common.
	Improve delivery of services to vulnerable populations.
Adopt recommendations as a comprehensive, integrated package but do so in stages, increasing efficiency and assuring access before expanding coverage.	

## SB07-130 Medical Homes for Children

SB07-130 was the catalyst for pediatric medical home development throughout the state. The legislation specifically notes that the best medical care for infants, children and adolescents is provided through a patient-centered medical home. The principles that guide these homes include a whole person orientation, quality service, patient safety and care coordinated and integrated across a complex health care system and the community. A medical home should be a place where qualified health care practitioners provide primary care and help manage and facilitate all aspects of medical care.<sup>vi</sup>

The law directs the Colorado Department of Health Care Policy and Finance (HCPF) and the Colorado Department of Public Health and Environment's (CDPHE) 2001 Colorado Medical Home Initiative to develop standards and processes that ensure that children covered under Medicaid or CHP+ have access to a medical home that is family centered, continuous, comprehensive, coordinated, compassionate and culturally responsive.

By March 2009, approximately 88,000 Medicaid and 62,000 CHP+ children were enrolled in a medical home. The state's medical home system consisted of 97 practices representing 310 physicians. Median medical costs were lower for children in a medical home - \$785 compared to \$1,000 for children not in a medical home.<sup>vii</sup>

In 2013, pediatric medical home creation was as a function of either the National Committee for Quality Assurance (NCQA) patient-centered medical home certification or a practice affiliation with the Colorado Children's Healthcare Access Program (CCHAP). In partnership with CCHAP, the HCPF Medical Homes for Children Program allocates pay-for-performance incentives for preventive care visits for children covered under Colorado Medicaid. By December 2012, a total of 236,000 Medicaid and 83,000 CHP+ children were enrolled in a medical home. Medical home capacity totaled 214 practices and 904 physicians, 97 percent pediatricians. Between 2007 and 2011, Medicaid well-child checks increased from 56 percent to 71 percent.<sup>viii</sup>

## **Executive Order D 005 08 Establishing the Center for Improving Value in Health Care (CIVHC)**

Executive Order D 005 08 directed the formation of the Center for Improving Value in Health Care (CIVHC). Citing the evident need to develop a structured, coordinated approach to improving quality, containing costs and protecting consumers, CIVHC is charged with the following tasks:<sup>ix</sup>

1. Convene a health care quality steering committee of relevant state departments and health care stakeholders.
2. Establish priorities, develop strategies, coordinate existing efforts and begin implementing strategies to improve health care quality and manage the growth of health care costs.
3. Research quality forums or councils in other states, including best practices on governance structure, funding, roles and responsibilities, and engagement of the private sector.
4. Identify strategies for tying quality measurement to rate-setting methodologies and payment structures for providers in public insurance programs. Research general trends in private sectors that relate to quality improvement and cost management.

CIVHC is incorporated as a 501(c)(3) and its mission is to *support, promote and spread strategic initiatives that will improve the health of Coloradans, contain costs and ensure better value of health care received*. CIVHC's strategic priorities include data and transparency, payment reform and delivery system redesign.<sup>x</sup>

### **HB09-1293 Colorado Health Care Affordability Act**

The Colorado Health Care Affordability Act (CHCAA) of 2009 authorized HCPF to collect a provider fee from all licensed or certified hospital providers. At the time of passage, it was estimated that the CHCAA would provide health care coverage to more than 100,000 uninsured Coloradans, reduce uncompensated care costs and allow the state to draw down an estimated \$600 million in federal Medicaid matching funds.<sup>xi</sup> In meeting this goal, HB09-1293 increased the eligibility level for children of parents with incomes as high as 100 percent of the federal poverty level (FPL) through Medicaid.

The CHCAA also increased the eligibility level for children and pregnant women under the Child Health Plan Plus (CHP+) to as much as 250 percent of FPL. It reduces the number of uninsured through implementation of health care coverage for adults without dependent

children with incomes as much as 100 percent of FPL. It also established a Medicaid buy-in program for individuals with disabilities whose family incomes are too high for Medicaid eligibility but are under 450 percent of FPL. The CHCAA provides for 12-months of continuous eligibility for children enrolled in Medicaid.<sup>xiii</sup>

For the 2009-10 fiscal year, approximately \$341 million in hospital provider fees were collected. On May 1, 2010, Medicaid eligibility expansions described previously went into effect. HCPF reports that by Sept. 30, 2010, CHCAA eligibility expansion enabled enrollment of 25,000 Medicaid parents, 2,500 CHP+ children and 200 CHP+ pregnant women.<sup>xiii</sup> According to HCPF, \$2.9 billion, including \$1.45 billion in fees and \$1.45 billion in federal matching dollars, was collected through September 2012. The CHCAA provider fee resulted in \$428 million in net new federal funds to hospitals, saving the state general fund \$50 million in FY2011-12 and \$25 million in FY2012-13.<sup>xiv</sup>

### **HB10-1330 Concerning the Creation of an Advisory Committee to Make Recommendations Regarding the Creation of a Colorado All-Payer Health Claims Database for the Purpose of Transparent Public Reporting of Health Care Information**

HB10-1330 enabled the formation of an advisory committee to make recommendations regarding the development of an All Payer Claims Database (APCD). CIVHC is charged with fulfilling the necessary administrative functions for the state's APCD. Colorado's APCD was launched in November 2012 and contains claim information from public and private payers, including Medicaid and the state's eight largest health care plans.<sup>xv</sup>

### **Colorado Accountable Care Collaborative and Regional Care Collaborative Organizations**

Colorado's Medicaid Accountable Care Collaborative (ACC) pilot program was launched in May 2011 with the intent of improving the quality of health care and patient outcomes and containing costs. Seven Regional Care Collaborative Organizations (RCCOs) are responsible for medical management and care coordination, provider network development, provider support, and accountability and reporting. The Colorado ACC completed its second year of operation in June 2013 with the following results:<sup>xvi</sup>

- Total program enrollment was 352,236 members, including 222,862 children.
- Forty-seven percent of all Medicaid clients were enrolled in the ACC program.
- There was \$44 million gross, \$6 million net reduction in total cost of care (cost avoidance) for clients enrolled in the program.

- Two-thirds of all primary care medical providers actively exchange data with other providers and the RCCOs.

## **The Patient Protection and Affordable Care Act of 2010**

The Patient Protection and Affordable Care Act (PPACA) was signed into law on March 23, 2010. The PPACA is a transformative step in federally initiated health care reform. The intent of PPACA is to hold insurance companies more accountable, lower health care costs, increase health care choices and enhance the quality of health care available to all Americans. The PPACA has the potential to realize the following advances in how Coloradans obtain, access and receive health care:

1. An estimated reduction in family health insurance premiums in the range of \$1,510 to \$2,160<sup>xvii</sup>
2. An additional 500,000 Coloradans with access to health care coverage under the PPACA's coverage expansions and state Exchange<sup>xviii</sup>
3. An estimated 90,000 small businesses in Colorado eligible for tax credits designed to make coverage more affordable for employees<sup>xix</sup>

In 2011, SB11-200 was signed into law and work on a state-run health benefit exchange commenced.<sup>xx</sup> In October 2013, Connect for Health Colorado went live as a nonprofit entity governed by a Board of Directors. Enrollment in the commercial health insurance market through Connect for Health Colorado was 127,233 between October 1 through April 15, 2014. An additional 178,508 Coloradans signed-up for Medicaid during the same enrollment period.<sup>xxi,xxii</sup>

## **Colorado's FY2011-12 Budget**

Forty-four states and the District of Columbia reported budget shortfalls for the 2012 fiscal year. Colorado's budget deficit for the 2011-12 fiscal year was projected at \$988 million to \$1.3 billion.<sup>xxiii,xxiv</sup> Efforts to close the state's budget gap for FY 2011-12 resulted in significant cuts to state departments vital in educating, training and retaining the future primary care workforce, including the Colorado Department of Education and the Colorado Department of Higher Education.

The National Conference of State Legislatures provides current data regarding the extent of budget cuts to K-12 education and higher education in Colorado over the past two fiscal years. The FY 2010-11 budget included a \$260 million (6.4 percent) cut from K-12 education. The FY2011-12 budget cut funding for K-12 education by \$160 million.<sup>xxv,xxvi</sup> Higher education was

cut \$61.5 million in FY2010-11 and \$36 million in FY2011-12.<sup>xxvii,xxviii</sup> The cumulative effective of these budget cuts resulted in a 27 percent reduction in state support for Colorado higher education over a two-year period.<sup>xxix</sup>

Cuts to higher education are particularly relevant to primary care workforce education and training capacity. Among Colorado’s public institutions, the state’s community colleges are a principal source of affordable, entry-level nurse education, including Certified Nurse Aide (CNA), Licensed Practical Nurse (LPN) and RN-Associate Degree in Nursing (ADN). Colorado’s community colleges also are the primary sources of dental hygienist education and training in the state. Colorado’s public four-year institutions offer undergraduate and graduate advanced practice education, training and/or clinical placement for physicians, physician assistants, dentists, psychologists, psychiatrists, social workers and counselors, and advanced practice nurses (family nurse practitioners and certified nurse midwives).

The Colorado Joint Budget Committee’s *Appropriations Report Fiscal Year 2011-12* contains a comprehensive overview of state general tax revenue and expenditures, including comparative and historical information associated with appropriations made during the Colorado General Assembly’s 2011 legislative session. This document details the magnitude of budget cuts to Colorado’s institutions of higher education (Table 2).<sup>xxx</sup>

**Table 2. State and Federal Support for Colorado Institutions of Higher Education FY2010-14**

FY2010-11	FY2011-12	FY2012-13	FY2013-14
\$644,483,103	\$519,040,694	\$513,240,694	\$542,930,649

## Colorado’s Primary Care Workforce Development Infrastructure

A vast community of Colorado public and private organizations and educational institutions are invested in primary care workforce development, advocacy, education and training. Workforce building efforts are largely focused on rural, frontier and urban underserved communities. The following Colorado-based entities constitute the state’s existing primary care workforce development infrastructure.

**Adams County Education Consortium**

[www.adamscountyeducation.org](http://www.adamscountyeducation.org)

**Caring for Colorado Foundation**

[www.caringforcolorado.org](http://www.caringforcolorado.org)

**Center for Research Strategies**

[www.crsllc.org](http://www.crsllc.org)

**ClinicNET**

[www.clinicnet.org](http://www.clinicnet.org)

Colorado Academy of Family Physicians	<a href="http://www.coloradoafp.org">www.coloradoafp.org</a>
Colorado Academy of Physician Assistants	<a href="http://www.coloradopas.org">www.coloradopas.org</a>
Colorado AHEC	<a href="http://www.ucdenver.edu/life/services/ahec/Pages/index.aspx">www.ucdenver.edu/life/services/ahec/Pages/index.aspx</a>
Colorado Association of Family Medicine Residencies	<a href="http://www.cofammedresidencies.org">www.cofammedresidencies.org</a>
Colorado Association of School-based Health Centers	<a href="http://www.casbhc.org">www.casbhc.org</a>
Colorado Behavioral Health Council	<a href="http://www.cbhc.org">www.cbhc.org</a>
Colorado Center for Nursing Excellence	<a href="http://www.coloradonursingcenter.org">www.coloradonursingcenter.org</a>
The Colorado Children’s Hospital	<a href="http://www.childrenscolorado.org">www.childrenscolorado.org</a>
Colorado Coalition for the Medically Underserved	<a href="http://www.ccmu.org">www.ccmu.org</a>
Colorado Community College System	<a href="http://www.cccs.edu">www.cccs.edu</a>
Colorado Community Health Network	<a href="http://www.cchn.org">www.cchn.org</a>
Colorado Dental Association	<a href="http://www.cdaonline.org">www.cdaonline.org</a>
Colorado Department of Education Data and Research Secondary Services and Initiatives Individual and Career Academic Plan (ICAP)	<a href="http://www.cde.state.co.us/secondaryinitiatives/icap">www.cde.state.co.us/secondaryinitiatives/icap</a>
Colorado Department of Higher Education	<a href="http://www.highered.colorado.gov">www.highered.colorado.gov</a>
CollegeInvest	<a href="http://www.collegeinvest.org">www.collegeinvest.org</a>
College in Colorado	<a href="http://www.collegeincolorado.org">www.collegeincolorado.org</a>

**Colorado Commission on Higher Education** [www.highered.colorado.gov/cche/mission.html#](http://www.highered.colorado.gov/cche/mission.html#)

**Colorado Department of Labor and Employment** [www.colorado.gov/cs/Satellite/CDLEMain/CDLE/1240336821467](http://www.colorado.gov/cs/Satellite/CDLEMain/CDLE/1240336821467)  
Workforce Development Council

**Colorado Department of Public Health and Environment** [www.colorado.gov/cs/Satellite/CDPHEMain/CBON/1251583470000](http://www.colorado.gov/cs/Satellite/CDPHEMain/CBON/1251583470000)  
Primary Care Office  
School-based Health Center Program  
Office of Health Equity  
Office of Planning and Partnerships

**Colorado Department of Regulatory Agencies** [www.dora.colorado.gov/professions](http://www.dora.colorado.gov/professions)  
Boards and Examiners

**The Colorado Health Foundation** [www.coloradohealth.org](http://www.coloradohealth.org)

**The Colorado Health Institute** [www.coloradohealthinstitute.org](http://www.coloradohealthinstitute.org)

**The Colorado Hospital Association** [www.cha.com](http://www.cha.com)

**The Colorado Medical Society** [www.cms.org](http://www.cms.org)

**Colorado Nurses Association** [www.coloradonurses.org](http://www.coloradonurses.org)

**Colorado Rural Health Center-  
State Office of Rural Health** [www.coruralhealth.org](http://www.coruralhealth.org)

**Colorado Society of Osteopathic Medicine** [www.coloradodo.org](http://www.coloradodo.org)

**The Colorado Trust** [www.coloradotruster.org](http://www.coloradotruster.org)

**Community Health Association  
of Mountain Plains States** [www.champsonline.org](http://www.champsonline.org)

El Pomar Foundation

[www.elpomar.org](http://www.elpomar.org)

Engaged Public

[www.engagedpublic.com](http://www.engagedpublic.com)

Mental Health America  
of Colorado

[www.mhacolorado.org](http://www.mhacolorado.org)

Western Interstate Commission  
for Higher Education

[www.wiche.edu](http://www.wiche.edu)

## Rural, Urban and Underserved Focus

### Health Disparity

#### Office of Health Equity- Colorado Department of Public Health and Environment

*Improved technologies within the medical, public health, and environmental fields have resulted in increased life expectancy and better quality of life. However, racial and ethnic groups have not benefited equally from these advances. Underserved communities of Colorado are disproportionately affected by disease, disability, and preventable death. These differences are known as health disparities and are present at the national, state and local levels.*

The Colorado Health Workforce Development Strategy targets the primary care workforce needs of the state's rural, frontier and urban underserved communities. The state's geography, respective of existing health professional shortage designations, provides perspective for the future need and distribution of an increased primary care workforce in high need areas. Data collection and needs assessments articulated in this state strategy are identified as the necessary measurement processes required for the provision of specific types of primary care providers and services within an identified region or community.

The definition of rural is complex and variable. There are more than 20 definitions of "rural" applied by federal agencies. This state strategy utilizes the current U.S. Census Bureau definition of rural, which includes the following definitions of urbanized area.<sup>xxxi</sup>

**Urbanized Area**- includes a central city and the surrounding densely settled territory that together have a population of 50,000 or more and a population density generally exceeding 1,000 people per square mile.

**Urban Cluster** - consists of a central core and adjacent densely settled territory that together contain between 2,500 and 49,999 people. Typically, the overall population density is at least 1,000 people per square mile.

“Rural” encompasses all population, housing and territory not included within an urban area. “Frontier” areas are sparsely populated rural areas having a population density of six or fewer persons per square mile.<sup>xxxii</sup> Seventy-three percent of Colorado’s 64 counties are classified as rural or frontier (Appendix 1, Map 1).

Population data for 2010 identify the magnitude of population distribution across rural and frontier Colorado. According to the Colorado State Demography Office, Colorado was home to 5,029,196 residents in 2010. Rural and frontier counties made up 687,293 or 14 percent of the state’s population.<sup>xxxiii</sup>

Lack of primary care providers creates high barriers to access for low-income, publicly insured, uninsured and geographically isolated Coloradans.<sup>xxxiv</sup> Existing and current primary care, dental and mental health, Health Professional Shortage Area (HPSA) designations affirm this state strategy’s rural and frontier focus as a target for primary care workforce development (Appendix 1, Maps 2-4).

Rural and frontier residence has a direct correlation to primary care need, access and utilization. In 2008, an average of 13.1 percent of the population in rural counties was over 65 years as compared to only 8.7 percent of the population in urban counties. In 2010, the median age for Coloradans was 36.3 years while in rural counties the median age was 41 years. The current average rate of uninsured individuals aged 0-64 years in Colorado’s rural and frontier counties is 23.5 percent, above the state average of 18.6 percent.<sup>xxxv</sup>

### *Colorado’s Urban Communities*

Colorado’s urban counties are home to 4,341,903 residents or 86.3 percent of the state’s population. In 2009 the Colorado Department of Public Health’s Office of Health Disparities produced a report entitled *Racial and Ethnic Health Disparities in Colorado 2009*. This publication comprehensively documents and describes the impact of health disparity on Colorado’s racial/ethnic communities, with an emphasis on such determinants of health as income,

education, employment, physical environment, personal health practices, access and use of health services, and culture. The Colorado State Demography Office indicates dramatic increases among racial/ethnic populations most affected by health disparity including Hispanics, African-Americans, Asian-Pacific Islanders and American Indians (Table 3).<sup>xxxvi</sup>

**Table 3. Population Forecasts by Race/Ethnicity 2015-2040**

Community	2015	2025	2030	2040
Hispanic	1,133.1	1466.8	1,632.8	1,952.4
African-American	238.2	293.1	317.8	366.0
Asian-Pacific Islander	158.5	192.2	207.7	236.5
American Indian	58.4	70.7	76.3	86.0

(Note: Numbers in Thousands)

The expected growth of Colorado’s racial/ethnic communities and the distribution of these communities throughout the state’s urban Front Range counties guide workforce strategy. Population data provided by the Annie E. Casey Foundation and the Colorado Children’s Campaign indicate where sustained population growth among Colorado’s’ racial/ethnic populations is likely to occur (Appendix 1, Maps 5-9). For purposes of this state strategy, such data offers the additional benefit of identifying where students of diverse ethno-cultural backgrounds, the state’s future primary care workforce, reside and go to school.

## Workforce Trends & Employment Projections

### Physician Extenders

#### National Center for Health Workforce Analysis

*Based on current utilization patterns, demand for primary care physicians is projected to grow more rapidly than physician supply. Increased use of NPs and PAs could alleviate the projected primary care physician shortage if they are effectively integrated into the health care delivery system.*

Colorado has multiple sources of primary care workforce provider and consumer data that inform different programs and designations. They paint the picture of access and coverage across the state. Data from national sources, including the National Center for Health Workforce Analysis, the U.S. Bureau of Labor Statistics, the Robert Graham Center and the American Association of Medical Colleges; and state level analysis and workforce projections

from the Colorado Health Institute, the Colorado Department of Labor and Employment and the Center for Nursing Excellence guide Colorado workforce development.

In addition to education and training factors, the demand for primary care providers by discipline also is influenced by productivity, scope of practice and the structure and financing of the health care delivery system.<sup>xxxvii</sup> Aging, population growth, health care reform, recruitment and retention practices, and the distribution of the health care workforce also bear considerable influence on the demand for primary care services.<sup>xxxviii</sup>

In 2011, the Colorado Health Institute was among the first state-based organizations to examine the impact of health care expansion under the Affordable Care Act in relation to primary care workforce capacity statewide. An estimated 510,000 Colorado residents are likely to become insured once Affordable Care Act expansions have been fully implemented, including as many as 130,000 under Colorado Medicaid and 380,000 in the private insurance market. The resulting increase of between 256,010 and 432,420 annual primary care visits would require 83 to 141 additional primary care providers.<sup>xxxix</sup>

The primary care professions explored in this workforce strategy include those associated with the Colorado Health Service Corps and for which current occupational and employment projections are known: physician, physician assistant, nurse practitioner, dentists, dental hygienist, psychologist, professional counselor, clinical social worker, marriage and family therapist, and certified nurse midwife.

### **Primary Care Physicians**

Existing literature identifies a shortage of 20,400 primary care physicians in the U.S. by 2020 and as many as 52,000 by 2025. It is projected that by 2016 the number of adult primary care physicians leaving practice will exceed the number entering. In effect, as the need for adult primary care increases, the capacity to provide such care is shrinking.<sup>xl,xli</sup>

The state's current population to primary care physician ratio of 1404:1 is lower than the national average of 1463:1. By 2030, Colorado will need an additional 1,773 primary care physicians because of increased utilization due to an aging population (1,283 physicians), population growth (142 physicians) and implementation of the Affordable Care Act (152 physicians).<sup>xlii</sup> A review of 19,482 active physician licenses registered with the Colorado Department of Regularly Agencies in January 2014 found 352 licenses referenced family medicine certification under the American Osteopathic Association and 2,526 licenses referenced a specialty as "Family Medicine."

The Colorado Health Institute 2014 publication, *Colorado’s Primary Care Workforce: A Study of Regional Disparities*, provides an excellent data-driven profile of the state primary care physician capacity. In its study, the Colorado Health Institute included family, internal, general and pediatric physicians within the scope of primary care physicians. The study contains the following insights:<sup>xliii</sup>

- The number of Colorado physicians choosing to specialize in primary care is on the decline.
- The percentage of physicians delivering primary care between 2008 and 2013 declined from 30.5 percent to 28 percent.
- Regional differences in the availability of primary care persist.

### *Physician Assistants*

Data sets specific to physician assistants in the United States reference 2010 as a baseline year in which there were between 74,476 to 84,000 clinically active physician assistants, with a third practicing in primary care.<sup>xliv,xlv</sup> Though the number of physician assistants delivering primary care in the United States is expected to increase to 43,900 in 2025, the gain would account for only 16 percent of the providers needed to address the projected primary care physician shortage.<sup>xlvi</sup>

Employment projections provided by the Colorado Department of Labor and Employment show an estimated employment of 1,909 physician assistants in 2012. Projected employment for 2022 is estimated at 2,477. In light of the positive occupational outlook for Colorado physician assistants, the distribution, recruitment and retention of these physician extenders across the state will bear significant influence on primary care capacity.

**Table 4. Physician Assistant Occupational & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Percent Change
Bureau of Labor Statistics (in thousands)	86.7	120.0	33.3	38.4%
Colorado Department of Labor and Employment	1,909	2,477	568	29.7%

### **Nurse Practitioners**

Between 2001 and 2011, the number of nurse practitioner graduates grew 69 percent, from 7,261 2001 to 12,273.<sup>xlvii</sup> Of the estimated 110,800 clinically active nurse practitioners in 2010, approximately 55,500 were practicing in primary care. The National Center for Workforce

Analysis projects the number of nurse practitioners delivering primary care to increase 30 percent, from 55,400 in 2010 to 72,100 in 2020.<sup>xlviii</sup>

Although no occupational outlook for Colorado nurse practitioners is currently available, the Colorado Health Institute estimates that there were 3,106 clinically active advanced practice nurses in 2010, with 68 percent, or 2,112, registered as nurse practitioners and 71 percent or 1,499, specializing in primary care.<sup>xlix</sup>

## Dentists

General Dentists held approximately 125,800 jobs in the United States in 2012, with an anticipated increase of 16.3 percent to 146,400 jobs in 2022.<sup>i</sup> Employment numbers provided by the Colorado Department of Labor and Employment estimate a 2012 employment of 2,613 General Dentists with projected employment in 2022 estimated at 3,035.<sup>ii</sup>

The dental workforce faces similar challenges in distribution and specialization. Though national data indicates an adequate supply of dentists, there are significant disparities at the regional level, especially among those that accept Medicaid patients. According to a 2013 Colorado Health Institute study, the Affordable Care Act and state Medicaid expansion will increase the number of Medicaid enrollees with dental benefits to 482,417 in 2014 and 844,491 in 2016. Meanwhile, only 752 of 2,349 private practice Dentists accept Medicaid.<sup>iii</sup> Private practices and community-funded safety net dental clinics will be challenged to absorb the increased demand.

**Table 5. Dentists (General) Occupational & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	125.8	146.4	20.6	16.3%
Colorado Department of Labor and Employment	2,613	3,035	422	16.2%

## Dental Hygienists

U.S. Bureau of Labor Statistics 2012 data show 192,800 dental hygienists in the United States. Employment projections for 2022 indicate steady growth in the profession, with a 33.3 percent increase to 256,900 jobs.<sup>iiii</sup> Long term employment projections for dental hygienists in Colorado show employment of 4,079 in 2012 and 5,384 by 2022. As of January 2014, there were 4,520 active dental hygienist licenses registered with the Colorado Department of Regulatory Agencies. Three of the four dental hygiene training programs in the state are based in community colleges. Colorado Northwestern Community College serves a large rural

and frontier population, while the Community College of Denver and Pueblo Community College are located in racially diverse communities.

**Table 6. Dental Hygienists Occupational Employment & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	192.8	256.9	64.2	33.3%
Colorado Department of Labor and Employment	4,079	5,384	1,305	32.0%

## Psychologists

In its 2012 report on behavioral health in the United States, the Substance Abuse and Mental Health Services Administration reported 95,545 U.S. and 2,178 Colorado psychologists in 2011.<sup>liv</sup> The U.S. Bureau of Labor Statistics accounts for a range of behavioral health professions, including clinical psychologists and those for whom a doctoral or professional degree is required. These professionals held 145,100 jobs in 2012, with an expected increase to 161,500 by 2022.<sup>lv</sup> The Colorado Department of Labor and Employment estimates employment for clinical, counseling and school psychologists of 3,601 in 2012, increasing to 4,544 in 2022.

Psychology is a diverse discipline with professionals segmented into a variety of settings, including academia, private practice, government and nonprofit sectors. This makes workforce estimates particularly difficult. A survey of American Psychological Association shows two thirds of its members with doctorates work in the health service sector. Thirty-four percent of psychologists surveyed worked in the university or college setting, 17 percent were self-employed private practitioners, 22 percent were employed by business or group practices, 11 percent worked in government, 10 percent in nonprofit organizations, and 6 percent in other educational settings.<sup>lvi</sup>

**Table 7. Clinical, Counseling and School Psychologists (Doctoral) Occupational Employment & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	145.1	161.5	16.4	11.3%
Colorado Department of Labor and Employment	3,601	4,544	943	26.2%

## Licensed Professional Counselors

In 2011, there were 144,567 counselors, which include mental health and substance abuse counselors, in the United States, with 7,834 in Colorado.<sup>lviii</sup> Many enter the profession in their mid-40s and as a second career. In the addiction services workforce, there is high turnover, worker shortages, an aging workforce, stigma and inadequate compensation.<sup>lviii</sup>

The U.S. Bureau of Labor Statistics accounts for a range of counseling professions under the heading of Mental Health Counselors, including clinical mental health counselors and licensed clinical mental health counselors. These professionals accounted for 128,400 jobs in 2012 and are expected to account for 165,100 in 2022. The Colorado Department of Labor and Employment estimates mental health counselor employment of 3,644 in 2012, increasing to 4,861 in 2022.

**Table 8. Mental Health Counselors Occupational Employment & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	128.4	165.1	36.7	28.5%
Colorado Department of Labor and Employment	3,644	4,861	1,217	33.4%

## Clinical Social Workers

In 2011, there were 293,038 clinical social workers in the United States, with 3,770 in Colorado. The state's provider to population rate of 73.7 per 100,000 exceeded the national rate of 62.0 per 100,000 for that year.<sup>lix</sup> Neither the Bureau of Labor Statistics nor the Colorado Department of Labor and Employment have employment projections specific to clinical social workers and/or licensed clinical social workers.

There is limited information specific to the clinical social worker workforce. A 2006 study of 10,000 social workers conducted by the National Association of Social Workers provides insight into the main drivers of clinical social worker capacity. Licensed social workers tend to fall into older age groups compared to the U.S. civilian labor force. There are 33 percent of licensed social workers in the age 45 to 54 year range and 24 percent in the 55 to 64 year range. Licensed social workers are concentrated in urban metropolitan areas. Only 3 percent of the workforce practices in a rural setting.<sup>lix</sup>

## Marriage and Family Therapists

In 2011, there were 62,316 marriage and family therapists in the United States, with 574 in Colorado. Colorado's provider to population rate of 11.2 per 100,000 was well below the

national rate of 20.0 per 100,000 for that year.<sup>lxii</sup> The Bureau of Labor Statistics estimates employment of 37,800 in 2012, increasing to 49,400 by 2022. The Bureau estimates employment of 401 marriage and family therapists in Colorado for 2012, increasing to 565 by 2022.

**Table 9. Marriage and Family Therapists Occupational Employment & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	37.8	49.4	11.6	30.6%
Colorado Department of Labor and Employment	401	565	164	40.9%

### Certified Nurse Midwife

Between 2001 and 2011, there were noticeable fluctuations in the numbers of “newly” certified nurse midwives. Employment stood at 422 in 2001, dropped to 285 in 2007 and bounced back to 392 in 2011. Colorado projections for 2012-22 employment are not available.

**Table 10. Certified Nurse Midwife Occupational Employment & Future Employment Outlook 2012-2022**

Source	2012 Estimated Employment	2022 Projected Employment	Total 2012-2022 Employment Change	Annual Avg. Percent Change
Bureau of Labor Statistics (in thousands)	6.0	7.7	1.7	28.6%
Colorado Department of Labor and Employment	NA	NA	NA	NA

## Recruitment and Retention

### Clinical Placement

#### Colorado Health Professions Workforce Policy Collaborative

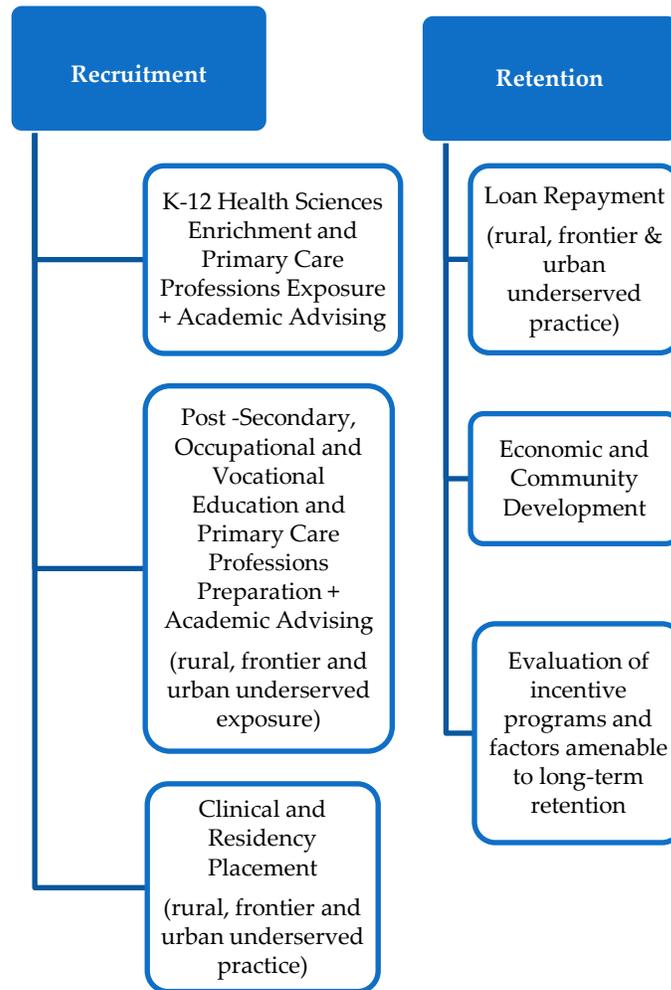
*Not all components of health care workforce education can be taught from a book or through distance learning. Clinical experiences are essential to preparing future health care providers, and all types of provider facilities should offer their patient settings to help prepare the next generation of health care providers.*

Key informant interviews and inventory of recruitment and retention practices of primary care providers in Colorado confirmed that programmatic and organizational investment in recruitment and retention practices are a substantial component of existing workforce development initiatives and priorities in the state. Workforce strategy implementation was viewed as a means of empowering existing partnerships and initiatives that support recruitment and retention of primary care providers through incentive programs, clinical and residency placement, and community development.

Effective recruitment and retention practices require coordinated and sustained interactions among state departments, academic institutions, safety-net providers, funders and nonprofit organizations in rural, frontier and underserved communities across the state. Also captured in the interview process was the need to harness the expertise and resources of nontraditional partners, including local business, government and economic development coalitions in recruitment and retention in rural, frontier and urban underserved communities.

Recruitment and retention practices in Colorado demonstrate the need for outreach early in the educational process (Figure 1). This includes K-12 enrichment programs designed to support student success in the health sciences, and programs that provide direct observational exposure to primary care practice.

Figure 1. Components of Primary Care Professions Recruitment and Retention Efforts in Colorado



Colorado’s community colleges, public and private universities, occupational schools and technical colleges educate and prepare primary care professionals in training for the required clinical and residency placements necessary for graduation, state licensure and competent primary care practice. This requires coordinated collaborations across a diverse community of hosting sites qualified to provide the required level of clinical and practical experiences. Clinical and residency placement also plays a vital recruitment role in rural, frontier and urban underserved practice. Upon licensure and entry into the primary care workforce, a combination of incentive programs, loan repayments, and economic development initiatives support the long-term retention of primary care practitioners in rural, frontier and urban underserved communities across the state.

Each recruitment and retention component identified in Figure 1 involves a strategic mix of federal, state and private resources designed to educate, train, recruit and retain a skilled primary care workforce in Colorado. The *Educational Practices* section of this state strategy

describes the breadth, importance and limitations of K-12 health sciences enrichment and exposure to primary care professions. These activities demand sustained federal, state and private investment. Analysis of organizations hosting recruitment and retention focused workforce initiatives in 2010 illustrates the significant influence of philanthropic resources in program delivery.

### Recruitment to Rural and Underserved Practice-Secondary Education & Training

Colorado community colleges, public and private universities, occupational schools and technical colleges have two roles in primary care practice recruitment and retention: providing a program location that ensures access for rural and frontier residents, and designing programs that motivate those students to practice in rural, frontier and urban underserved areas.

Analysis of all primary care profession training programs and associated pathways reveal that of the 99 Certified Nurse Aide (CNA) programs approved by the Colorado State Board of Nursing, 31 percent (N = 31) are located in federally designated rural or frontier counties (Table 11).

**Table 11. Rural & Frontier-based Certified Nurse Aide (CNA) Training Programs, 2013**

Program	City	County	Type
Colorado Mountain College-West Garfield	Rifle	Garfield	Rural
Colorado Mountain College- Vail	Edwards	Eagle	Rural
Colorado Mountain Collage-Steamboat Springs	Steamboat Springs	Routt	Rural
Colorado Northwestern Community College	Craig	Moffat	Frontier
Columbine Manor Care (facility-based)	Salida	Chaffee	Rural
Delta Montrose Technical College-Post Secondary	Delta	Delta	Rural
Devonshire Acres Ltd (facility-based)	Sterling	Logan	Rural
Florence High School (high school-based)	Florence	Fremont	Rural
Katelens Health Care Education	Walsenburg	Huerfano	Frontier
Lamar Community College	Lamar	Prowers	Rural
Morgan Community College-Burlington	Burlington	Kit Carson	Frontier
Morgan Community College-HTSE (high school-based)	Fort Morgan	Morgan	Rural
Morgan Community College-Limon	Limon	Lincoln	Frontier
Morgan Community College-Fort Morgan	Fort Morgan	Morgan	Rural
Morgan Community College-Wray	Wray	Yuma	Frontier
Northeastern Junior College-HTSE (high school-based)	Sterling	Logan	Rural
Northeastern Junior College-Sterling	Sterling	Logan	Rural
Otero Junior College	La Junta	Otero	Rural
Pine Ridge (facility-based)	Pagosa Springs	Archuleta	Rural
Pueblo Community College-Fremont Campus	Cañon City	Fremont	Rural
Senior Living Community at Gunnison Valley Health (facility-based)	Gunnison	Gunnison	Frontier
Southeast Colorado Hospital & Long Term Care Ctr (facility-based)	Springfield	Baca	Frontier
Southwest Colorado Community College	Mancos	Montezuma	Rural

St. Vincent Nurse Aide Training Program	Leadville	Lake	Rural
Summit High School Health Sciences (high school-based)	Frisco	Summit	Rural
Trinidad State Junior College/San Luis Educ. Ctr-Valley Campus	Alamosa	Alamosa	Rural
Valley Inn (facility-based)	Mancos	Montezuma	Rural
Waldbridge Wing Nurse Aide Training (facility-based)	Meeker	Rio Blanco	Frontier
Weisbrod Memorial Hospital and Nursing Home (facility-based)	Eads	Kiowa	Frontier
Yampa Valley Medical Center/Doak Walker Care Center	Steamboat Springs	Routt	Frontier
Yuma Life Care Center	Yuma	Yuma	Frontier

In Colorado, institutions providing the approved academic and practical experiences leading to licensure as a Licensed Practical Nurse (LPN) may offer an LPN certificate-only program or an LPN exit option as part of the institution’s approved nursing program (Appendix 2). Of 24 LPN programs approved by the Colorado State Board of Nursing, nearly half, or 46 percent (N = 11), are located in federally designated rural or frontier counties. Of the 23 Associate Degree of Nursing (ADN) programs approved by the Colorado State Board of Nursing, 43 percent (N =10) are located in federally designated rural or frontier counties (Table 12). Rural and frontier communities also host programs in Bachelors of Science in Nursing (BSN), Dental Hygiene (RDH), Psychology (Associate Degree and Bachelor’s Degree), Mental Health and Addictions Counseling (Masters, Associate and Certificate) and pre-professional studies (medicine, dentistry, dental hygiene, pharmacy and physician assistant).

**Table 12. Rural & Frontier-based Licensed Practical Nurse (LPN), Associate Degree of Nursing (ADN), Bachelor’s of Science Degree Nursing (BSN) and Primary Care Professions Pathways -Colorado, 2013**

Program	City	County	Type
Delta Montrose Technical College 1. LPN	Delta	Delta	Rural
Northeastern Junior college 1. LPN 2. ADN 3. A.S. Biology 4. A.S. Chemistry 5. A.S. Microbiology 6. Pre-professional (Dental Hygiene, Dentistry, Medicine, Nursing, Pharmacy, 7. A.A./A.S. Psychology	Sterling	Logan	Rural
Colorado Mountain Junior College-Glenwood Springs 1. LPN-ADN 2. A.A./A.S. Psychology 3. A.S. Biology 4. A.S. Chemistry 5. A.S. Physics	Glenwood Springs	Garfield	Rural

<b>Colorado Northwestern Community College</b> 1. LPN-AND 2. A.A.S. Dental Hygiene 3. A.A. /A.S. Psychology 4. A.A.S. Emergency Medical Services	<b>Craig</b>	<b>Moffat</b>	<b>Frontier</b>
<b>Lamar Community College</b> 1. LPN-AND 2. A.A./A.S. Psychology	<b>Lamar</b>	<b>Prowers</b>	<b>Rural</b>
<b>Morgan Community College</b> 1. LPN-AND 2. Certificate Health Science Technology 3. A.A./A.S. Psychology	<b>Fort Morgan</b>	<b>Morgan</b>	<b>Rural</b>
<b>Otero Community College</b> 1. LPN-AND 2. A.A. Behavioral Science 3. A.S. Biology 4. A.S. Chemistry 5. A.A.S. Health Navigator 6. Pre-professional (Dental Hygiene, Dentistry, Medicine, Pharmacy, Physician's Assistant) 7. A.A./A.S. Psychology 8. A.A. Sports Medicine	<b>La Junta</b>	<b>Otero</b>	<b>Rural</b>
<b>Pueblo Community College-Fremont Campus</b> 1. LPN-ADN	<b>Cañon City</b>	<b>Fremont</b>	<b>Rural</b>
<b>Southwest Colorado Community College ( a division of Pueblo Community College)</b> 1. LPN-ADN 2. Certificate Health Information Technology	<b>Durango</b>	<b>La Plata</b>	<b>Rural</b>
<b>Trinidad State Junior College</b> 1. LPN-AND 2. A.A./A.S. Psychology 3. A.S. Biology 4. A.S. Chemistry 5. Pre-professional (Medicine, Dentistry, Pharmacy) 6. Certificate Addictions Counseling	<b>Trinidad</b>	<b>Las Animas</b>	<b>Frontier</b>
<b>Trinidad State Junior College-Valley Campus</b> 1. LPN-AND 2. A.A./A.S. Psychology 3. A.S. Biology 4. A.S. Chemistry 5. Pre-professional (Medicine, Dental, Pharmacy) 6. Certificate Addictions Counseling	<b>Alamosa</b>	<b>Alamosa</b>	<b>Rural</b>
<b>Adams State University</b> 1. B.A./B.S. Biology 2. B.A./B.S. Chemistry 3. B.A./B.S. /M.A Human Performance & Physical Education 4. B.S.N Nursing 5. B.S. Physics 6. Pre-professional (Dentistry, Medicine, Pharmacy, Physician Assistant, Physical	<b>Alamosa</b>	<b>Alamosa</b>	<b>Rural</b>

Therapy) 7. B.A. Psychology			
<b>Fort Lewis College</b> 1. B .A./B.S. Biology 2. B..A./B.S. Chemistgry 3. B.S. Physics 4. B.A. Psychology	<b>Durango</b>	<b>La Plata</b>	<b>Rural</b>
<b>Western State Colorado University</b> 1. B.S. Biology (cell biology and pre-medicine) 2. B.S. Chemistry 3. B.S. Exercise & Sport Science 4. B.S. Physics 5. B.S. Psychology (clinical, counseling and school-psychology)			

Key informant interviews and inventory of primary care profession training programs reveal the importance of infusing concepts and practical experiences in integrated care, patient centered medical homes, and rural and underserved practice into primary care education and training. The presence of such programs is beneficial to Colorado as it supports an education and training environment directly aligned with known and developing concepts in primary care delivery and system design. As a result, Colorado is ensuring capacity to develop and sustain a training culture capable of recruiting talent into the state, while providing pathways to rural and underserved practices at home (Table 13).

**Table 13. Colorado Post Secondary Health Professions Training Programs, Pathways to Rural, Frontier and Underserved Practice-2011**

<b>Program</b>	<b>Pathway</b>
<b>University of Colorado-Department of Family Medicine</b>	Rural Track Rural & Community Care Block Family Medicine Electives <ul style="list-style-type: none"> <li>• Health Care for the Poor and Homeles</li> <li>• PCMH Concept &amp; Practice</li> </ul> ACT Program-Integrated Care Demonstration Project
<b>Rocky Vista University</b>	Community and Medical Outreach Program Honors Curriculum <ul style="list-style-type: none"> <li>• Rural and Wilderness Medicine</li> </ul> Core Rotation <ul style="list-style-type: none"> <li>• Family Medicine</li> </ul> Required 4 <sup>th</sup> Year Clerkships <ul style="list-style-type: none"> <li>• Global Urban or Rural Medicine</li> </ul>
<b>University of Colorado School of Medicine-Physician Assistant Program</b>	Rural Track Urban/Underserved Track (CU-Unite) Year 1 Regular Track <ul style="list-style-type: none"> <li>• Community Clinic Section</li> </ul> Year 2 Regular Track <ul style="list-style-type: none"> <li>• Community Clinic Section</li> </ul> Year 3 Regular Track <ul style="list-style-type: none"> <li>• Family Medicine Rotation</li> </ul>

Red Rocks Community College-Physician Assistant Program	Clinical Rotations in Medically Underserved Areas Colorado Collaboration for Rural Health Care Access
University of Colorado- College of Nursing	Sheridan Health Services Community Clinic
University of Colorado-School of Dental Medicine	Advanced Clinical Training & Services Program Colorado Smilemakers Mobile Clinic Dental Van Frontier Center Campus-wide Interprofessional Education Program
Regis University Loretto Heights School of Nursing	Service Learning Component to Graduate Clinical Education
Regis University School of Pharmacy	Service Learning Component to Graduate Clinical Education

## Funding Colorado’s Public Institutions of Higher Education

In 2007-08, before the onset of the recession, Colorado’s public colleges and universities received \$629.9 million in general fund support. The following year, 2008-09, that amount dropped to \$535 million. In 2009-10, general fund support for the state’s public colleges and universities amounted to \$313 million, representing a 50 percent cut in two years.<sup>lxiii</sup> In 2008, Colorado ranked 48<sup>th</sup> in the nation in state and local funding for higher education operating expenses per \$1,000 of personal income and support for higher education per capita. In 2011, the state ranked 50<sup>th</sup> in the nation in state and local support for higher education operation expenses per \$1,000 of personal income and 49<sup>th</sup> in the nation for state and local support for higher education operating expenses per capita.<sup>lxiii</sup>

Key informants affiliated with primary care professions, education and training noted the presence of numerous unfunded projects designed to recruit primary care professionals to rural, frontier and underserved practice. Such efforts indicate a desire to expand such educational opportunities. However, declining revenue support for higher education has elevated the role of private funding in ensuring program viability. Given the current reliance on private funders to address multiple and critical funding priorities, the sustainability of programs such as the Rural Track at the University of Colorado School of Medicine are in jeopardy.

## Loan Repayment and IMG Waiver Programs

Loan repayment programs in Colorado use a combination of federal, state and private resources to retain licensed primary care professionals in rural and underserved practices. The median education debt for medical school graduates in 2012 was \$170,000 among the 86 percent of graduates reporting education debt.<sup>lxiv</sup> High loan debt is known to strongly influence the decision of health care providers to opt for higher paying sub-specialties and practices that do not significantly care for medically underserved people. Loan forgiveness programs

significantly diminish a key barrier to health professionals who would consider rural or low-income primary care settings.<sup>lxv</sup>

Analysis of Colorado's health professional loan repayment programs conducted in 2009 reveals that these programs have an influence on rural provider retention.<sup>lxvi</sup> A study conducted by the Colorado Commission on Family Medicine concluded that one-third of family medicine residents who leave Colorado for rural and underserved communities report that a loan repayment incentive was a critical factor in their decision to relocate. In addition, this study indicated that loan repayment is becoming more important among all the factors that contribute to the practice choice of new graduates.<sup>lxvii</sup>

In July 2009, five independent loan repayment programs in the state were consolidated into the Colorado Health Service Corps under the administration of the Primary Care Office (PCO) at the Colorado Department of Public Health and Environment (CDPHE). Since then, the CHSC has granted \$15 million in loan repayment awards to nearly 230 primary care clinicians practicing in safety net clinics throughout Colorado. The purpose of the CHSC is to improve the health of Colorado's underserved and medically vulnerable populations by alleviating health disparities resulting from poor access to primary health services. This is achieved by repaying educational loan debt held by licensed primary, mental and oral health professionals who agree to serve low-income, publicly insured, uninsured and geographically isolated Coloradans. The CHSC program increases the number of health care providers in underserved communities while improving the retention of clinicians already working in those communities.

The Colorado Health Service Corps maintains a necessary and vital reach in addressing the maldistribution of primary care professionals in areas of the state where critical shortages of such workforce persist. As of February 2014, there were 152 Colorado Health Service Corps providers practicing in the state, including 54 physicians, 21 physicians assistants, four psychologists, 24 licensed professional counselors, 14 dentists, 16 nurse practitioners, 13 licensed clinical social workers, two marriage and family therapists, and four registered dental hygienists.

To date, 74.8 percent of the 808,000 primary care patient encounters delivered by CHSC clinicians are to individuals who were uninsured or publicly insured (Medicaid or Medicare). All clinicians in the program are employed by public or nonprofit clinics that are in communities designated as Health Professional Shortage Areas by the Health Resources and Services Administration. From 2010 to 2013, the capacity of the CHSC program increased by 510 percent. CHSC creates positive recruitment effects for Colorado safety net clinics independent of whether any individual clinician becomes a contracted provider. Seventy-five percent of

active CHSC clinicians report that loan repayment was a key factor in their decision of where to work. Of clinicians who apply for the program, only those with strong retention characteristics are awarded.

Colorado also has a recognizable presence of foreign-trained physicians. The International Medical Graduate J-1 Visa Waiver Program places international medical graduates (IMGs) in rural and urban underserved areas. As of February 2014, there were 46 IMG physicians, including 17 delivering primary care services, in Colorado. Colorado's IMG physicians are practicing in high need rural, frontier and urban underserved settings across the state. Twenty-six percent (n = 12) of Colorado's IMG clinicians in 2014 were practicing in either rural or frontier counties.

Loan repayment as a recruitment and retention strategy for primary care providers in Colorado is bolstered by the National Health Service Corps, which has an active presence in the state. As of February 2014, there were 146 National Health Service Corps providers practicing in high need areas of the state, including 26 physicians, 30 physicians assistants, 13 psychologists, 34 licensed professional counselors, six dentists, 17 nurse practitioners, two certified nurse midwives, 14 licensed clinical social workers, two marriage and family therapists, and two registered dental hygienists.

The Colorado Rural Health Center, also the State Office of Rural Health, launched the Colorado Provider Recruitment program (CPR) to help Colorado rural and frontier communities in the recruitment and retention of qualified health care professionals. These professionals include primary care physicians, advanced practice nurses, physician assistants, dentists, registered dental hygienists, registered nurses and allied health professionals. With a focus on quality over quantity, CPR has been successful in finding the ideal fit for both the health care provider and the community. Over the past 10 years, CPR has worked with 83 rural and/or frontier communities and recruited 147 health care providers.<sup>lxviii</sup>

The retention rate of health care professionals placed through the CPR program since 2005 is 64 percent. In 2013, the program made over 300 provider referrals to rural and urban-underserved clinics. The program was instrumental in placing 15 health care professionals in high need communities across the state. CPR increased workforce capacity in Colorado safety net clinics, including critical access hospitals, rural health clinics and federally qualified health centers.

**Table 14. NHSC, CHSC Contribution to Primary Care Capacity-2014**

NHSC	Provider Type	CHSC
26	Physicians (MD, OD)	54
30	Physician’s Assistants	21
13	Psychologists (Doctoral)	4
34	Licensed Professional Counselors	24
6	Dentists	14
17	Nurse Practitioners	16
2	Certified Nurse Midwives	0
14	Licensed Clinical Social Workers	13
2	Marriage and Family Therapists	2
2	Registered Dental Hygienists	4
146	TOTAL	

### Clinical Placement and Residency

Clinical and residency placement is a complex challenge. Clinical placement is a defining period in a health professional’s education and an influential element in recruiting trained talent to rural, frontier and urban underserved practice. As education and training programs begin infusing primary care delivery concepts such as patient centered medical home and inter-professional models of care into clinical and residency training, Colorado is constructing an infrastructure for quality, cost-effective primary care delivery (Appendix 4).

In a white paper commissioned by the Colorado Health Professions Workforce Policy Collaborative in 2010, seven challenges and barriers to clinical and residency placement in Colorado were described. Notably, there is competition for clinical and residency placement within a small community of agencies qualified to provide the necessary level of clinical and practical exposure for the primary care professions. More clinical placements are needed for some health professions to produce the health workforce necessary to meet the health care needs of Coloradans (Table 15).<sup>lxix</sup>

**Table 15. Challenges and Barriers to Clinical and Residency Placement in Colorado-2010**

Issue	Description
Cost	Providing staff time for students is an expense to health care organizations and educational resources are becoming increasingly scarce in the health care system.
Transparency	Transparency is desirable at the statewide policy level but not so at the facility level. The transparency that comes from openly displaying real time information about a facility’s placement capacity or willingness is not always appreciated in a time of scarce resources and competition.
Interest of Clinical Placement Provider	Facilities and practices often provide the clinical training on a volunteer basis.

Turnover	Coordinator positions have a high burnout rate and see frequent turnover, which presents challenges in maintaining relationships between programs and facilities.
Out of State Competition	Schools report increased competition for clinical placements from out-of-state schools and students, specifically in medical school rotations, PA rotations, dental student placements and pharmacist interns. For dental students out of state admissions is a competitive factor.
Patient Safety	Patients are seen multiple times a day by multiple students and providers, and this can affect their health status. Hospitals have reduced their nursing cohorts and cite patient safety and staffing capacity as a reason.
Incentives to Facilities	The challenge to increasing capacity may be identifying methods that would incentivize facilities' expansion of training programs.

(Source: Engaged Public, formerly Tag Strategies-2010)

Colorado does not have a centralized system or data hub for clinical placement across primary care profession training programs and facilities. Historically, private funding and resources have been the principal means of addressing challenges and barriers associated with clinical and residency placement. The Colorado Trust provided \$10.2 million from 2005 through 2008 for the Health Professions Initiative to increase the number of health professionals in Colorado across all disciplines. This funding allowed grantees to enhance training programs by creating networks of clinical preceptors and increasing in-house lab and simulation experiences to decrease requirements for external clinical placements.<sup>bx</sup>

Funds also supported the Commission on Family Medicine's development of rural and underserved training sites for family medicine residents. In a step toward coordinated clinical placement across nursing professions, private funders, including The Colorado Health Foundation and the Robert Wood Johnson Foundation/Northwest Health Foundation, supported the development of the Colorado Center for Nursing Excellence (CNE) Nursing Student Clinical Placement Clearing House.

In its public policy agenda for 2010, the Colorado Health Professions Workforce Policy Collaborative recommends important first steps in the movement toward coordinated clinical and residency placement. First, an increase in the number of clinical placement and training sites requires identification of current and potential sites for all programs. Second, the state's existing clinical placement programs need encouragement to study the most effective methods for providing statewide coordination of clinical placements with the goal of increasing successful placements and graduating an increased numbers of health care professionals. Third, the study of statewide coordination of clinical training programs should include an examination of the need to require health care facilities licensed by the Colorado Department of Public

Health and Environment to fully disclose the number of clinical training placements each has available for health professions students.<sup>lxxi</sup>

## Community and Economic Development

Community and economic development is fundamental to the recruitment and retention of a primary care workforce in rural and underserved communities in Colorado. First, community development offers important community-based partnerships and local funding opportunities to develop and maintain a community-level infrastructure necessary to community longevity and essential to sustaining a local atmosphere attractive to primary care practice. Second, the presence of primary care practice in rural communities is an economic driver for a community and region. The American Academy of Family Physicians reports that economic activity generated by one primary care physician in Colorado in 2006 was equal to \$892,177 per year. The economic impact of primary care delivery is also explored in the *Policy* section of this state strategy. Providers recruited or retained through the interactions of clinical and residency placement and loan forgiveness have the potential to help create significant economic activity in communities acutely affected by the recent economic recession. In turn, state tax revenue would be enhanced because of the positive economic externalities associated with state and federal loan forgiveness programs and options.<sup>lxxii</sup> In Colorado, USDA Rural Development and the Colorado Department of Labor and Employment are active in the promotion and delivery of economic development programs in rural, frontier and urban underserved communities across the state.

**Table 16. Colorado’s Economic, Community Development and Advocacy Infrastructure-2011**

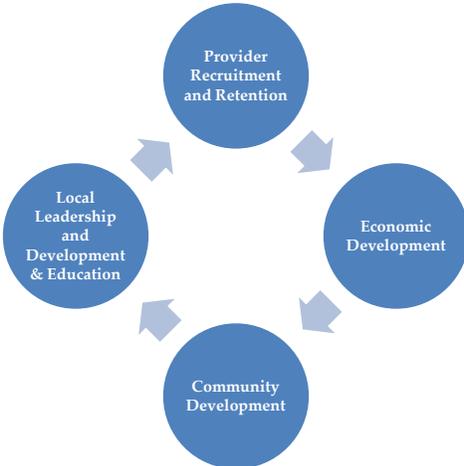
Agency	Development Mechanisms	Program Description
USDA Rural Development	Loans & Grants	Community Facilities and Guaranteed Loan Program
The USDA Rural Development’s Community Facility (CF) Guaranteed Loan Program partners with private lenders to finance public facilities in rural areas. Health care specific facilities include health clinics, assisted and skilled living facilities, hospitals, medical rehabilitation and telemedicine. Achievements include 2004 Cottonwood Ridge Assisted Living in Rocky Ford, 2003 Southwest Memorial Hospital Modernization Project in Cortez and 2001 Renatta Health Care Systems in Wray.		
Club 20	Advocacy	Coalition Building, Marketing, Advertising and Public Education
Club 20 is a coalition of individuals, businesses, tribes and local governments in Colorado’s 22 western counties. Club 20 is the voice of the Western Slope. Club 20 is a forum for the discussion of complex and controversial issues affecting Colorado’s Western slope and includes issues associated with agriculture, business affairs, education and workforce development, energy, health care, public lands and natural resources, tourism, telecommunications, transportation, and water.		
Progressive 15	Advocacy	Coalition Building, Marketing, Advertising and Public Education
Progressive 15 was formed to speak with a single unified voice in Northeastern Colorado and to influence public policy and enhance the economic viability and quality of life in the region.		

Action 22	Advocacy	Coalition Building, Marketing, Advertising and Public Education
Action 22 is a volunteer-driven membership organization of individuals, cities, communities, counties, associations, businesses and organizations in a 22-county region of Southern Colorado. Activities include building resources and relationships to enhance economic development in Southern Colorado.		

The Colorado Sustainable Towns: Rural Innovation, Development, Expansion and Success program (STRIDES) relies on the collaboration of members from all facets of the local community working in tandem with state, federal and philanthropic resources offered through the Colorado Rural Health Center. Drawing from existing economic and community development models, such as West Virginia’s Recruitable Communities Program, Economic Gardening programs around the country, and Asset Based Community Development, Colorado STRIDES identifies and builds upon community assets while identifying opportunities for improvement, thereby enhancing the ability of communities in rural Colorado to recruit and retain quality health care providers.<sup>lxxiii</sup>

Colorado STRIDES provides a statewide example of how a collaboratively driven community action planning process can support 1) increased economic vitality through development of community amenities, 2) increased infrastructure for healthy living, and 3) increased knowledge and leadership on health care provider recruitment and retention. A strength, weaknesses, opportunities and threats (SWOT) analysis is a component of the STRIDES community engagement plan and assists communities in a preliminary overview of proposed community development activities. Upon completion of the SWOT analysis, the STRIDES community embarks on a collaborative action planning process that incorporates business development, health care capacity and housing development themes as essential components of a targeted community development process (Figure 2).

**Figure 2. Colorado Rural Health Center-Colorado STRIDES Focus Areas**



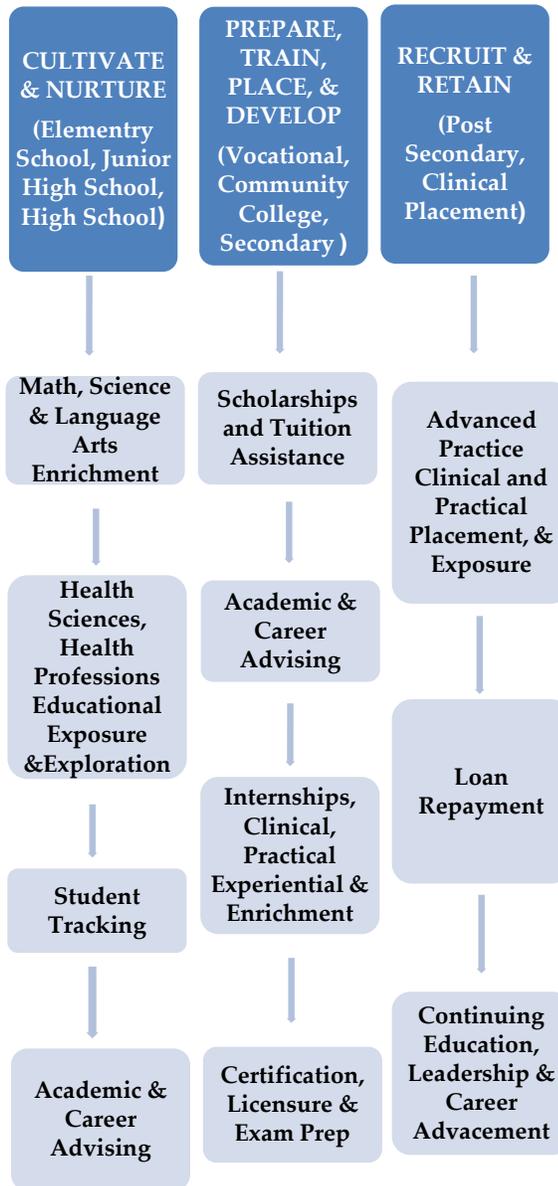
In 2010, Frasier, Delta, Cedaredge, Julesburg and Garfield counties participated in STRIDE community assessments. Delta and Cedaredge engaged in individual community assessments combined into a single county action plan. Springfield, located in frontier Baca County, participated in a STRIDES community assessment and completed a community action plan during 2010. As of March 2014, STRIDES community health needs assessments have been completed in 16 rural and frontier counties. STRIDES will use 2014 as a period of data collection and analysis. With quantitative measures on all rural and frontier counties in Colorado, the program can begin to focus on population health need respective of provider projections throughout the state.

## **Educational Practices**

Colorado's health education and career pipeline is the vehicle through which the state will inspire, motivate and retain homegrown and out-of-state talent to supply public demand for primary care services well into the future. The synthesis of key informant perspectives regarding the characteristics of a proficient and effective health education and career pipeline include (Figure 4):

- Engage students early, at the K-12 level, through academic advising and early exposure and enrichment programs in preparation for achievement in health science and primary care profession education and training programs.
- Deliver sufficient academic advising, didactic instruction, clinical and residency experiences in post-secondary education to cultivate interest in rural and underserved practice and ensure certification, licensure and competent primary care practice.
- Coordinate academic and financial supports and incentives necessary to move the future primary workforce through the pipeline and into rural and underserved practice.

Figure 3. Essential Elements of Colorado Health Education and Career Pipeline



### Overview of Colorado’s Health Education and Career Pipeline

The capacity of Colorado’s health education and career pipeline is reflected in organizations and their educational and workforce initiatives designed to enhance opportunities for entry into primary care careers, including: 1) recruitment and retention efforts; 2) academic institutions that prepare and train students for entry into certificate, degree and licensure programs

required for primary care practice; and 3) funding support from Colorado's community of philanthropic trusts and foundations, and local, state and federal governments.

It is difficult to ascertain the exact number of organizations and initiatives supporting Colorado's health education and career pipeline. This is due to the number of funded programs versus the number of mature, start-up, defunded or community initiated programs. Key informants noted a lack of sustainability for health education and career pipeline initiatives as a major barrier to building momentum in primary care workforce development. Because it can take six to 12 years to educate and train a primary care health professional, it is difficult to measure the degree of impact on the primary care workforce for pipeline programs that are short lived.

In 2008, the Colorado Health Institute reported there were 39 organizations supporting 84 workforce initiatives. Each of these programs and initiatives were directly related to, or contained programming features identified as, essential components of Colorado's health education and career pipeline.<sup>lxxiv</sup> Data for 2009 catalogues 26 organizations supporting 58 workforce initiatives.<sup>lxxv</sup> A deeper examination of 2008 pipeline activity demonstrates the extent to which Colorado's health education and career pipeline is fragmented (Tables 12-14). Such fragmentation has resulted in the following gaps:

- Comprehensive and sustained outcome evaluation of the impact of these programs on the state's primary care workforce
- Current inventory of all health education and career pipeline activities
- Incorporation of evidence-based best practices into the design and delivery of all programs
- Over-representation of specific pipeline activities and under-representation of necessary pipeline activities, including those that target workforce diversity, dislocated workers, career and academic advising, and counseling enhancements
- Regional disparities
- Multiple web-based applications serving the state's health education and career pipeline

There exists a significant pipeline gap with respect to the strength of initiatives that specifically focus on health career advising and guidance at the high school and undergraduate levels. At the high school level, academic advising that incorporates a health sciences and health careers focus is a necessary component for cultivating and nurturing the state's future primary care professionals. At the undergraduate level, pre-health advisors are stretched thin with respect to the number of students served and mentored. Key informants also stressed that undergraduate pre-health advisors address student's needs in multiple capacities as professors, mentors and case managers.

**Table 17. Reported Pipeline Professions Capture-2008**

Reported Professions Capture	Number of Known Pipeline Workforce Initiatives
All	23
Certified Nurse Midwife	1
Certified Nurse Aide	19
Licensed Practical Nurse	22
Registered Nurse	28
Advanced Practice Nurse	24
Physician Assistant	14
Physician	23
Pharmacist	11
Psychiatrist	4
Psychologist	5
Dentist	13
Dental Hygienist	8
Social Worker	9
Allied Health	22

(Source: Colorado Health Institute, Workforce Initiatives Inventory, 2008)

**Table 18. Reported Pipeline Capture by Educational Site-2008**

Reported Educational Location	Number of Known Pipeline Workforce Initiatives
Elementary	2
Middle School	10
High School	17
Community College	37
Vocational/Occupational Schools	15
Post Secondary (Undergraduate and Graduate)	35
Residency and Post Graduate	15

(Source: Colorado Health Institute, Workforce Initiatives Inventory, 2008)

**Table 19. Reported Pipeline Capture by Target Audience & Activity-2008**

Reported Target Audience & Activity	Number of Known Pipeline Workforce Initiatives
Educators, Advisors, Faculty	6
Students	49
Professions Exposure and Exploration	17
Continuing Education, Career, Advancement and Leadership Development	17
Scholarships and Tuition Assistance	13

Loan Repayment Affiliation	7
Workforce-Industry Bridge	3
Portals and Web-based Applications	3
Meetings, Summits and Taskforces	3
Workforce Diversity and Cultural Competency	8
Data Collection	6
Other Pipeline Support	6

(Source: Colorado Health Institute, Workforce Initiatives Inventory, 2008)

## Academic Skill Standards in Colorado

Programs and initiatives affiliated with the state’s health education and career pipeline incorporate academic and health care industry skill standards for high school graduation and entry into post-secondary education, and for various credentials and licensure. Key informants were instrumental in providing detailed perspectives regarding the interplay of academic and industry standards in educational and training program design from K-12 through post secondary education. They also described existing mechanisms for accessing and disseminating information about workforce standards to schools and academic institutions.

In Colorado, there are 186 school districts with a total of 1,146 elementary schools, 591 middle schools and 481 high schools.<sup>lxxvi</sup> The Colorado Department of Higher Education recognizes 13 two-year community colleges, two local district community colleges, 14 four-year colleges or universities, three area technical colleges, 100 private four-year institutions and 379 private occupational schools.<sup>lxxvii</sup> There are fewer secondary and post-secondary institutions affiliated with the state’s health education and career pipeline, however, challenging the creation of effective connections and dissemination routes for workforce and industry standards (Appendix 4).

In many states there are standardized statewide requirements for a high school diploma. With respect to the primary care workforce, high school graduation requirements for English, math, science and foreign language are of particular importance. By 2018, 44 states and the District of Columbia will have high school graduation requirements for English. Forty-five states and the District of Columbia have such requirements for math and science. Forty-two states and the District of Columbia have such requirements for physical education and health. And two states and the District of Columbia have minimum graduation requirements for foreign language.<sup>lxxviii</sup>

In Colorado, graduation requirements are set at the individual school district level and can differ greatly. Article IX, Section 15, of the Colorado Constitution allows school district boards

of education to control instruction. Such local control provides both flexibility and variability with respect to high school graduation requirements for English, math, science, physical and health education, and foreign language. Currently, the only mandated coursework across the state is a 0.5 unit course on “the civil government of the United States and the State of Colorado.”<sup>lxxxix</sup> Per state statute (Sec. 22-2-106), the State Board of Education adopted a set of guidelines for high school graduation with full implementation anticipated in the 2020-21 academic year. Local graduation requirements must meet or exceed minimum standards, core competencies or skills identified in the guidelines.

There is considerable policy mobilization to balance local control with core educational competencies, outcomes and workforce readiness. Colorado is taking steps to ensure that high school students are college and workforce ready. Colorado’s Preschool to Postsecondary Alignment Act (SB08-212), also known as CAP4K (Colorado Achievement Plan for Kids), is a meaningful state investment to improve Colorado’s public education through alignment of preschool through post secondary expectations (Appendix 5). CAP4K encompasses important milestones necessary to ensure Colorado high school graduates are prepared for the workforce or higher education. .<sup>lxxx</sup>

**Table 20. Policy Investment in Educational Guidelines, Competencies and Workforce Readiness**

Bill and Title	Description
H.B. 07-1118 Concerning Guidelines for High School Graduation	Create an educational environment for systemic change by setting aspirational high school graduation guidelines as a model for school districts to meet or exceed when developing high school graduation requirements.
SB 09-256 Concerning the Financing of Public Schools	Requires the State Board of Education to establish standards for Individual Career and Academic Plans for students enrolled in public schools.
SB 08-212 Concerning Alignment of Preschool to Postsecondary Education	Requires the State Board of Education to adopt high school completion policies that will establish high school diploma endorsement criteria and detail statewide graduation guidelines.

(Source: Colorado Department of Education, 2024)

Key informants identified training institutions and dissemination routes for health care industry skill standards required for high school graduation, postsecondary education, and various credentials and licensure as focus areas for pipeline improvement. Each agency or source identified in Table 21 has necessary and valuable information on specific academic and health care industry skill standards for high school graduation, postsecondary education, and various credentials and licensure. Key informants viewed implementation as a vehicle to establish coordination and connections across numerous resources.

Key informants also noted that students and academic advisors across all academic levels, parents, community members, certified and licensed health care providers, and employers seeking information regarding health sciences and education/training programs have multiple access points for entry into web-based applications containing the following features.

- Health career guides
- Health career engagement, planning and tracking resources
- Undergraduate health sciences programs
- Post secondary and graduate level health career training programs including residencies
- Financial aid
- Loan repayment
- Continuing education
- Educational standards
- Workforce and industry competency standards

**Table 21. Agencies and Sources for Academic and Health Care Industry Skill Standards-Colorado**

Agency or Source	Resource
Colorado Department of Education	Colorado Academic Standards
Primary Care Professions Education and Training Programs	Program Websites
Central Colorado Area Health Education Center	Colorado Health Careers Guide Health Care Career Readiness Sphere
Colorado Commission on Higher Education	CollegeInColorado Website
Colorado Department of Labor and Employment	E-Colorado Website
CollegeInvest (non-profit division of the Colorado Department of Higher Education)	CollegeInvest Website
Colorado Department of Regulatory Agencies and State Board of Examiners (for specific primary care professions credentialing and licensure information)	Web access to state practice acts for primary care professions.
Western Interstate Commission on Higher Education (WICHE)	Adult College Completion Website

## Policy

The Colorado Health Professions Workforce Policy Collaborative was established in 2008 to “better understand the complex nature of health workforce policy and to develop and support effective changes.”<sup>lxxxi</sup> CDPHE convened policy leaders, health care providers, educational institutions, economic development officials, workforce planning authorities and other key informants who guided the Collaborative’s policy agendas for 2010 and 2011. Their work forms

a solid foundation for the continued development of a comprehensive health workforce development strategy. The primary recommendation associated with this planning document is intended to complement the health professions policy infrastructure the Collaborative built through ongoing dialogue and data-driven, actionable, coordinated policy development.

Policy supporting primary care workforce development in Colorado considers three known impacts associated with a shortage of primary care providers, including impacts on health, access to care and local economies. In 2010, the Collaborative reported that shortages of primary care providers acutely affect Colorado's rural counties. More than one million Coloradans live in a community with less than half the primary health care providers needed to optimally deliver primary care services.<sup>lxxxii</sup> By 2010, more than 50 of Colorado's 64 counties were designated by the federal government - in part or as a whole - as primary care Health Professional Shortage Areas.<sup>lxxxiii</sup>

The *Recruitment and Retention* section of this state strategy considers the beneficial economic impact of primary care delivery. As noted, primary care practice is an important economic driver, particularly in rural communities. An economic impact study conducted by the National Center for Rural Works concluded that one primary care physician could generate as much as \$1.5 million in revenue and \$0.9 million in payroll and create 23 jobs in a physician clinic and hospital.<sup>lxxxiv</sup>

The National Center for Rural Health Works also describes the potential economic impact of residency programs in rural regions. In its 2007 analysis of the impact of rural residency in Bryan County, Oklahoma, the total employment of the rural residency program was 15 full- and part-time employees with an estimated payroll, including benefits, of \$803,500, secondary income of \$249,085 and total economic impact of \$1.1 million. Secondary income is generated through the rural residency program and employee spending in other sectors. The rural residency program generated \$376,777 in direct and secondary retail sales and \$3,768 from a 1 percent sales tax.<sup>lxxxv</sup>

The impacts on health directly associated with primary care delivery are well known. As the Collaborative reports, those with adequate access to primary care have been shown to realize a number of health and economic benefits including: 1) reduced all-cause mortality and morbidity due to cardiovascular and pulmonary disease; 2) decreased use of emergency departments, hospitals and diagnostic tests; 3) better detection of breast cancer and reduced incidence and mortality due to colon and cervical cancer; 4) lower medication use and care-related costs; and 5) improved health equity in areas with the highest income inequality, including better vision, immunization, blood pressure control and oral health.<sup>lxxxvi</sup>

## **Data Collection**

The Colorado Department of Regulatory Agencies (DORA) collects primary care professional licensure information at the time of state licensure (paper) and renewal (electronic). DORA does not collect practice-related data that would indicate whether the provider is actively practicing or maintaining current licensure for future use. Such information is necessary for data-driven, comprehensive workforce planning. Such data will provide policy makers and the organizations supporting primary care workforce development with the necessary information to measure the success of primary care workforce interventions and policies. Enhanced data collection also supports the development of new primary care workforce initiatives as organizations reallocate funding from data collection to new programs and services.

DORA reports minimal licensure data for the primary care professions described in this planning document, including certified nurse midwives, certified addiction counselors I-III, certified nurse aides, dentists, dental hygienists, licensed addiction counselors, licensed social workers including clinical social workers, licensed practical nurses, licensed professional counselors, licensed psychologists, marriage and family therapists, nurse practitioners, pharmacists, physical therapists, physicians, physician's assistants and registered nurses. In the public domain, organizations and citizens seeking licensure data in Colorado can access some licensure-related demographics, including first name, middle name, last name, suffix, entity name, mailing address, city, state, county, zip code, license type, license number, license first-issue date, license expiration date, license status description, license renewal date and any authority, specialty, title and degree information available.

## **Reimbursement**

It is imperative that reimbursement to primary care providers remain a top priority in the state budgeting process. Unfortunately, reduced revenues at the federal and state level have made cuts to health care provider reimbursement an easy target for balancing the state budget. Reimbursement from public and private payers is the centerpiece of practice viability, particularly for sites providing primary care services to rural and underserved residents.

The Collaborative and its key informants concluded that reimbursement for primary care providers is low, especially for physicians, advanced practice nurses, physician assistants, dentists and dental hygienists. Physician assistants and advanced practice nurses are integral to the delivery of quality primary care services in rural and underserved communities. Colorado statute provides that an insurance company shall not be precluded from setting a different fee schedule for different services performed by different health professionals, but shall use the same fee schedule for substantially identical health services performed by different

professionals. The State of Colorado reimburses all licensed health care providers at the same rates for the same services provided under Medicaid, but the requirement for equal payment does not appear to be uniformly practiced among all private payers.<sup>lxxxvii</sup>

Though the Affordable Care Act will increase reimbursement rates for Medicaid to 100 percent of Medicare in 2013-14, studies suggest that such rates have only a modest effect on provider participation. Despite previous increases in reimbursement rates, the percentage of physicians who accept Medicaid patients has been on the decline for more than a decade. The care of Medicaid patients is increasingly concentrated among those physicians who practice in large groups, hospitals and community health centers.

There are a number of reasons for this concentration, all of which have something to do with economy of scale in serving the Medicaid patient population. The large practices, hospitals and community health centers that serve the largest share of Medicaid patients, and that are most willing to accept new Medicaid patients, are often the practices that: 1) provide interpreter services; 2) use non-physician staff to provide patient education and/or case management; 3) offer physician compensation based on fixed salary; 4) use health IT to coordinate cost-effective patient care; 5) are situated in lower-income areas or are easily accessible via public transportation; 6) have systematized billing procedures and Medicaid eligibility; and/or 7) have introduced other delivery system innovations that overcome common complaints about Medicaid most often cited by those physicians who are less willing or unwilling to serve Medicaid patients (i.e., low reimbursement rates, challenges in securing specialist care, administrative burden, and the chronic health needs and low compliance of the Medicaid population).

Because of these practices, large practices, hospitals and community health centers that serve the largest share of Medicaid patients are best-positioned to accommodate the expected expanded patient pool. Even though some of these large practices may already be at or near capacity, their seasoned delivery systems and Medicaid-friendly business models position them well for the necessary magnitude of expansion.

Smaller group practices that serve a moderate share of Medicaid patients may be interested in increasing their share to accommodate the expanded enrollment brought about by health reform. They are most likely to do so by adopting certain key elements of the model established by the larger practices: hiring non-physicians to efficiently manage a larger patient caseload, for example, and investing in health IT. At the same time, the emerging trend of hospital acquisition of primary care practices may play into this transformation, as the absorption of these smaller group practices into larger systems promises to replicate the economy of scale, enabling them to expand Medicaid service without loss of business efficiency.

Finally, research supported by the Kaiser Family Foundation suggests that those practices presently serving a small share or no Medicaid patients are least likely to play a role of any significance in serving the expanded Medicaid population. These low-share practices “practice in the highest-income zip code areas and are less likely than other PCPs to use health IT and to offer patient education for people with major chronic conditions.”<sup>lxxxviii</sup>

## **Funding for Health Professions Education Programs**

Funding for health professions education and training programs was the single most identified policy concern among key informants. As noted in the *Context and Background* and *Recruitment and Retention* sections of this state strategy, budget cuts to institutions of higher education supporting primary care professions has been a regular mechanism for balancing the state budget in recent years. The Collaborative recommends the Colorado General Assembly look for new sources of revenue for health professions education funding, separate from general higher education funding. The current level of funding, and the process by which higher education funds are allocated for health professions, is not adequate to meet current or future workforce needs. Additional resources and funding to strengthen health professions career guidance and counseling from K-12 through post-secondary education was also a vocal theme among key informants.

## **Clinical Placement and Residency**

As noted in the *Recruitment and Retention* section of this state strategy, clinical placement and residency is vital to rural and underserved practice. Key informants and the Collaborative want to study and improve statewide coordination of clinical placements. Several states, including Massachusetts, California, Oregon, Michigan and Tennessee, have models to study. The Colorado Center for Nursing Excellence has experience in implementing aspects of the Oregon model into clinical placements for nursing. Colorado can and should be a pioneer in coordinated clinical placement across the diverse scope of primary care professions and their education and training programs.

Key informants also expressed the need for Graduate Medical Education (GME) reform in physician residency. Funding for physician residencies, including family medicine residencies, is provided by the federal government through GME payments from Medicare. At present, federal statute caps those payments at a certain number of residency slots per qualified facility. Although there are some measures of flexibility allowed within these caps (limited exceptions for rural and primary care), many argue that they deny the state the ability to adapt to dynamic shifts in demand and changes in the local physician workforce.<sup>lxxxix</sup> Some other GME reforms needed include nationwide, regional disparities in the allocation of residency slots; 2) a state’s

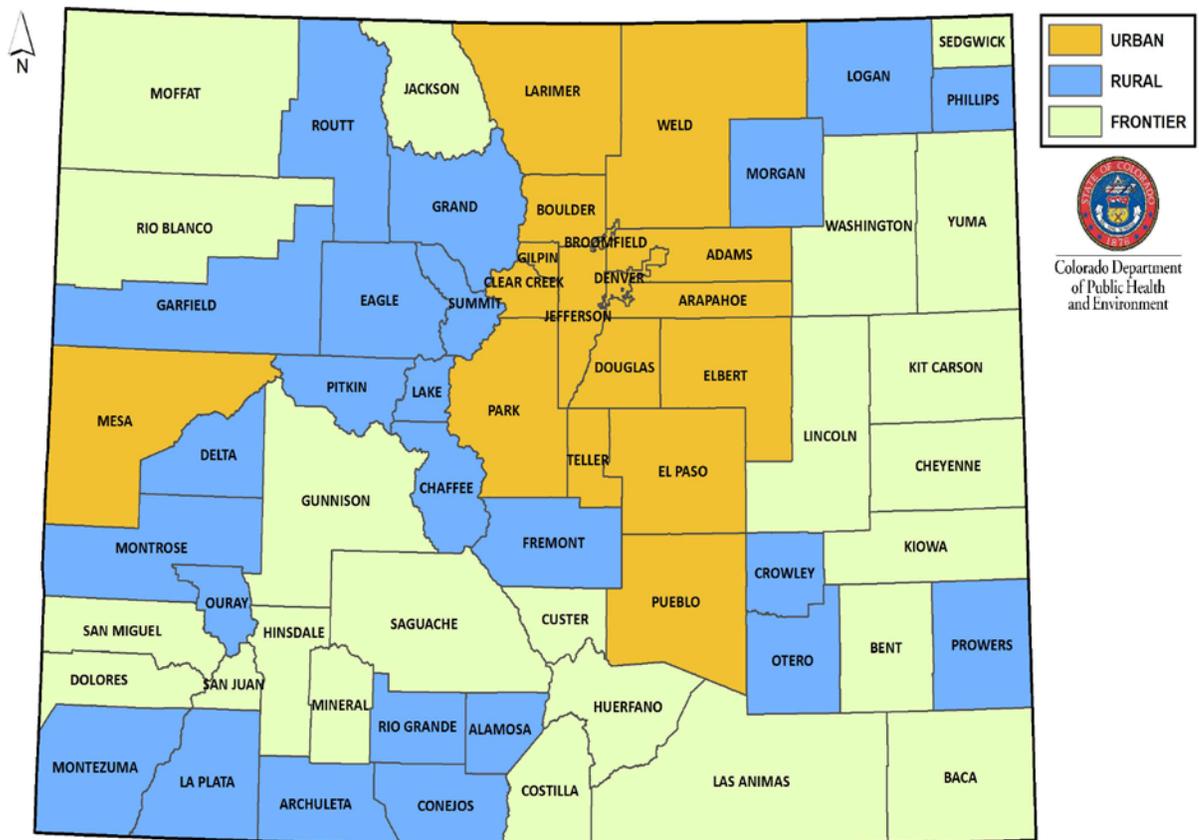
inability to utilize open residency slots left vacant by neighboring states; and 3) funding expansions beyond the hospitals and health systems currently receiving GME funds.

## Appendix 1-Maps

(Note: Maps 5-9 sourced from the Annie E. Casey Foundation/Colorado Children’s Campaign-Kids Count Data Center)

Map 1. Colorado’s Rural, Urban and Frontier Counties

Colorado's Urban/Rural/Frontier County Designation



Urbanized area definitions from the Office of Management and Budget (OMB):

Urban counties contain an urban nucleus of 50,000 people or more, and include outlying counties with 25% or more workers commuting to an urbanized area.

Nonmetro counties are outside the boundaries of metro areas and are further subdivided into two types, Rural and Frontier.

Frontier counties is a subset of Rural, with a population density of 6 or fewer people per square mile.

Map Created February 5, 2013  
Data Source: Office of Management and Budget - <http://www.whitehouse.gov/omb/>

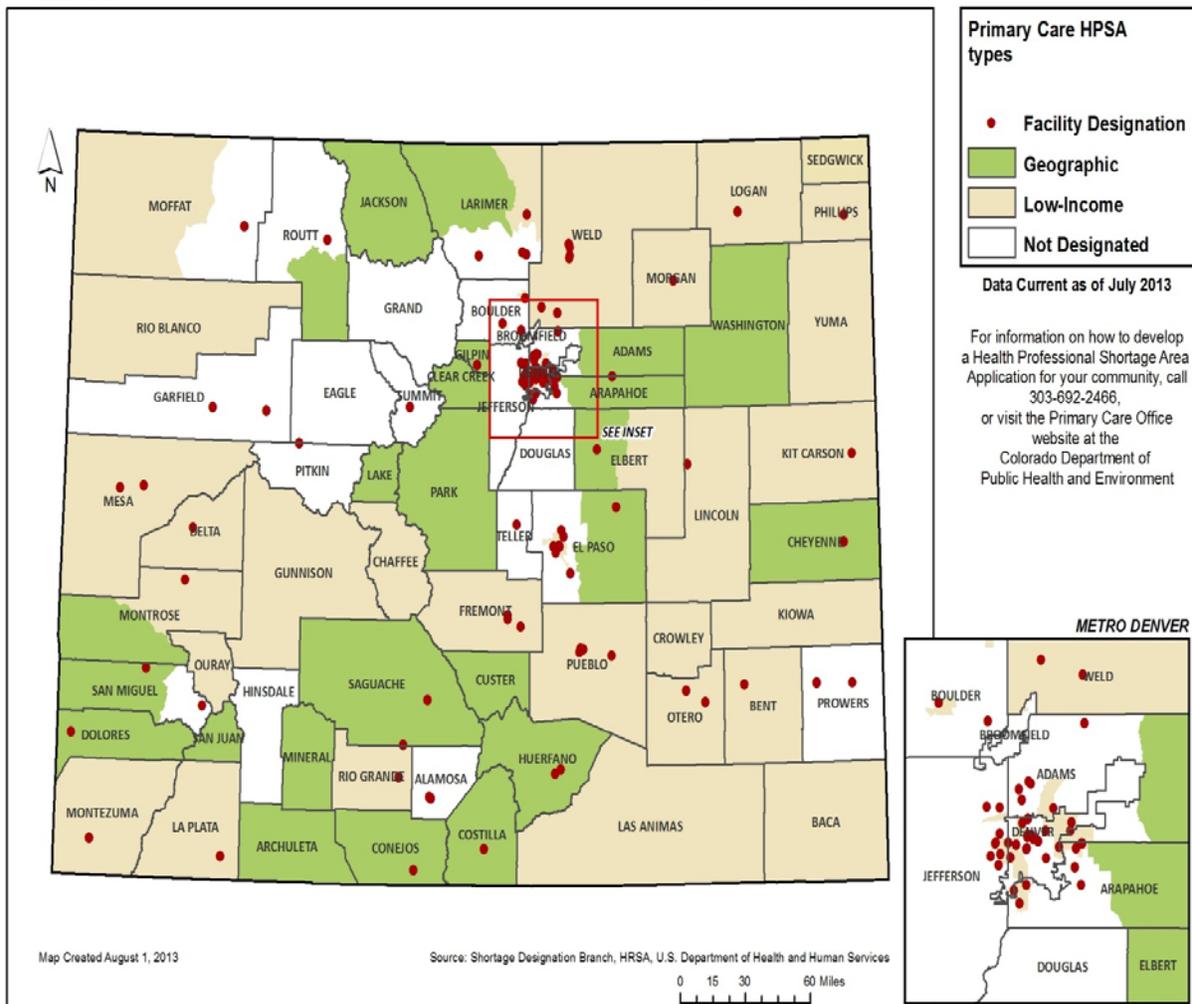
Map 2. Primary Care HPSA Designations, Colorado 2013



# Primary Care Health Professional Shortage Areas (HPSAs)

Map Prepared By:

Colorado Department  
of Public Health  
and Environment GIS



Map 3. Mental Health HPSA Designations, Colorado 2013

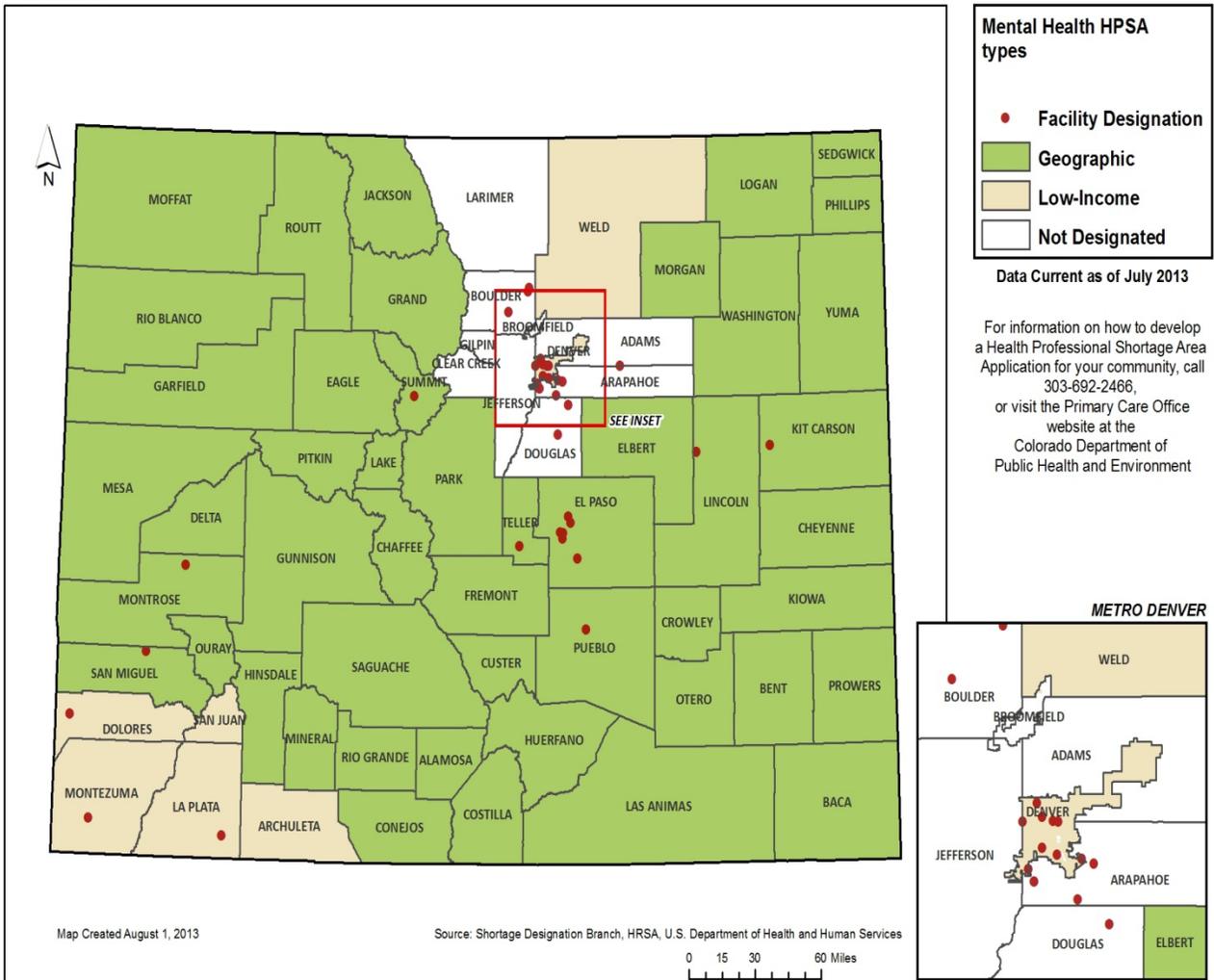


# Mental Health

## Health Professional Shortage Areas (HPSAs)

Map Prepared By:

Colorado Department  
of Public Health  
and Environment GIS



Map 4. Dental Health HPSA Designations, Colorado 2011

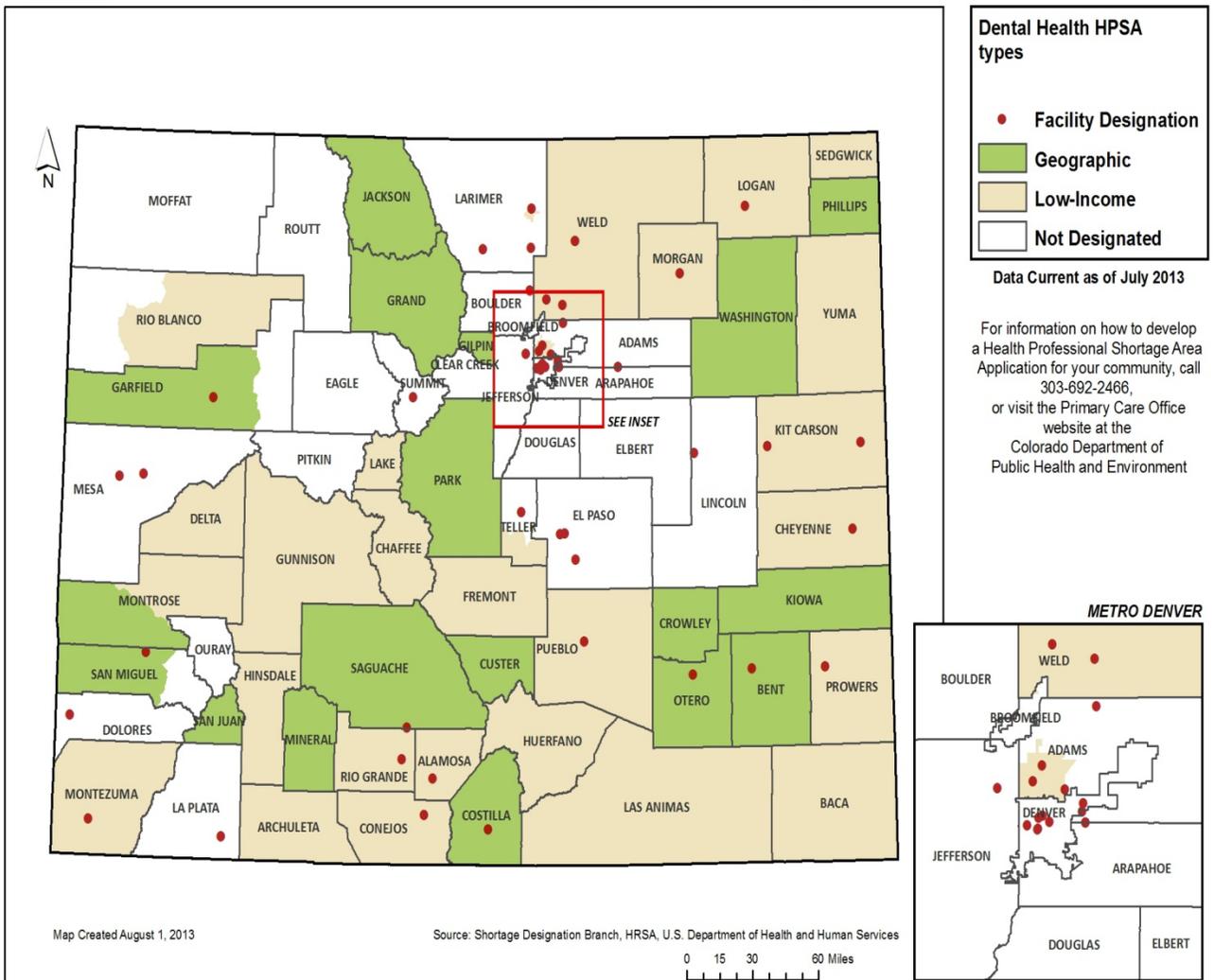


# Dental Health

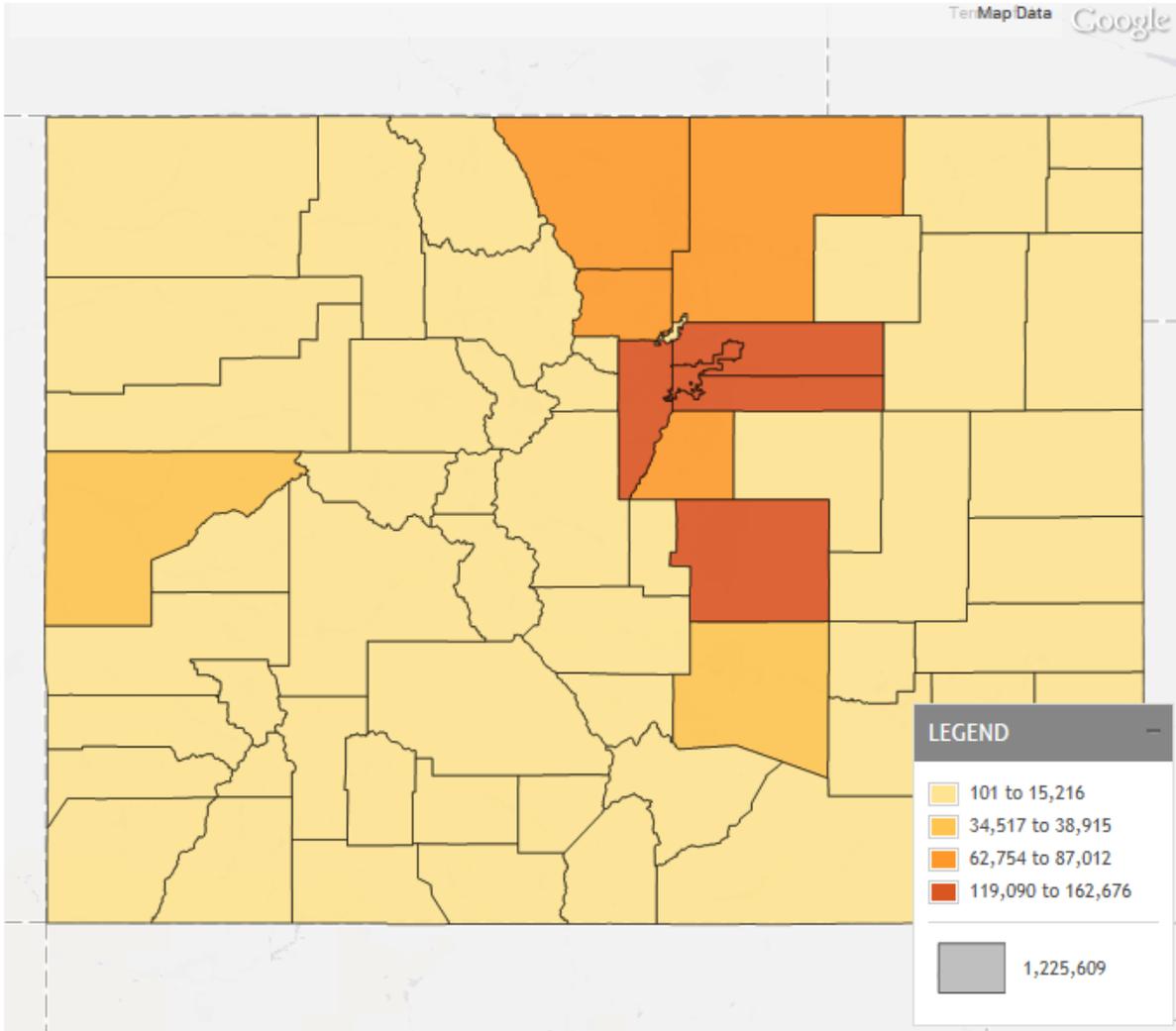
## Health Professional Shortage Areas (HPSAs)

Map Prepared By:

Colorado Department  
of Public Health  
and Environment GIS



**Map 5. Total Child Population Under 18 Years of Age (Number)-2010**



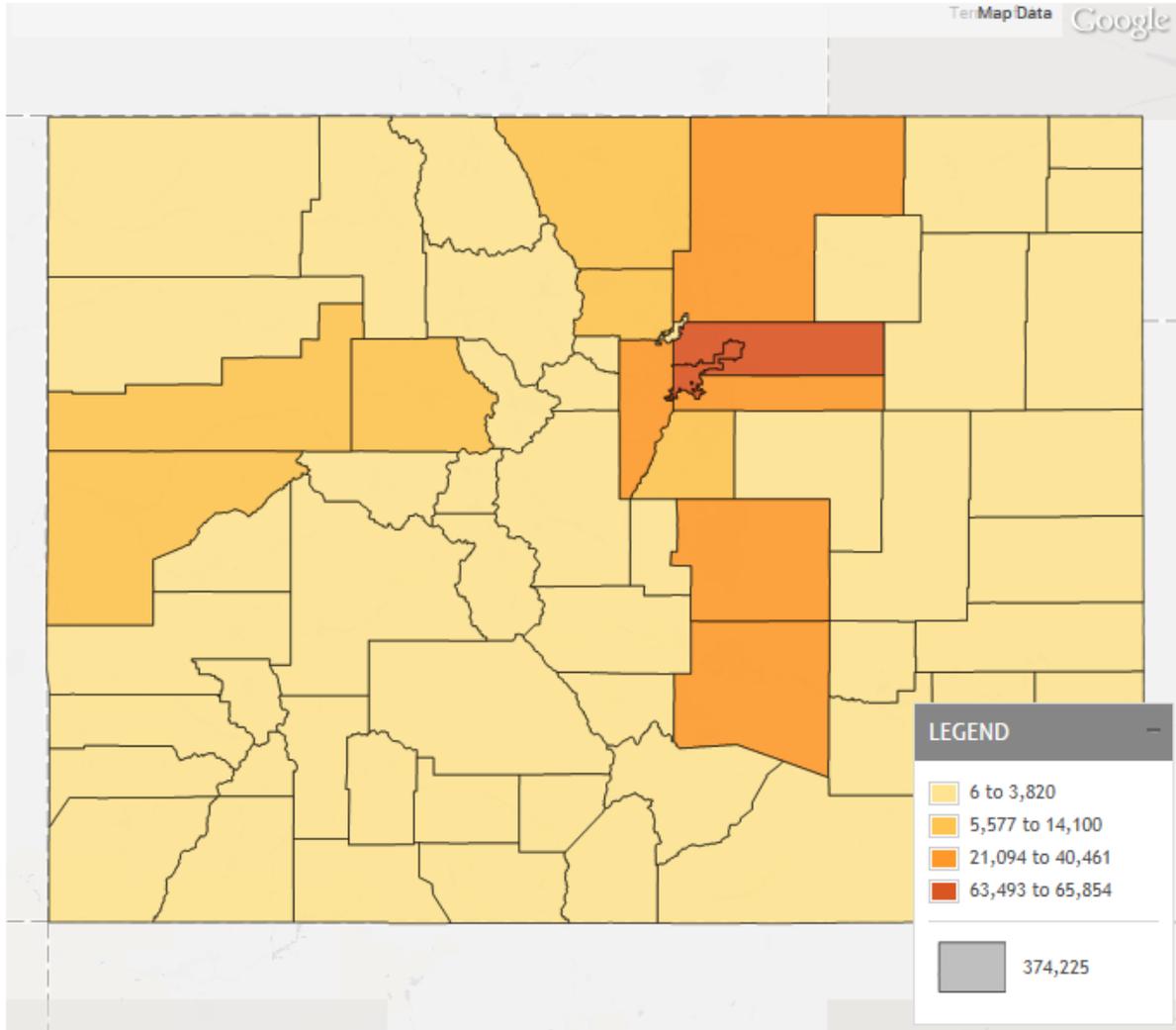
## CHILD POPULATION BY RACE AND ETHNICITY COMBINED: UNDER 18: TOTAL CHILDREN UNDER 18 (NUMBER) - 2010

Colorado Children's Campaign

KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)

A project of the Annie E. Casey Foundation

Map 6. Child Population by Hispanic Origin: Hispanic (Number)-2010



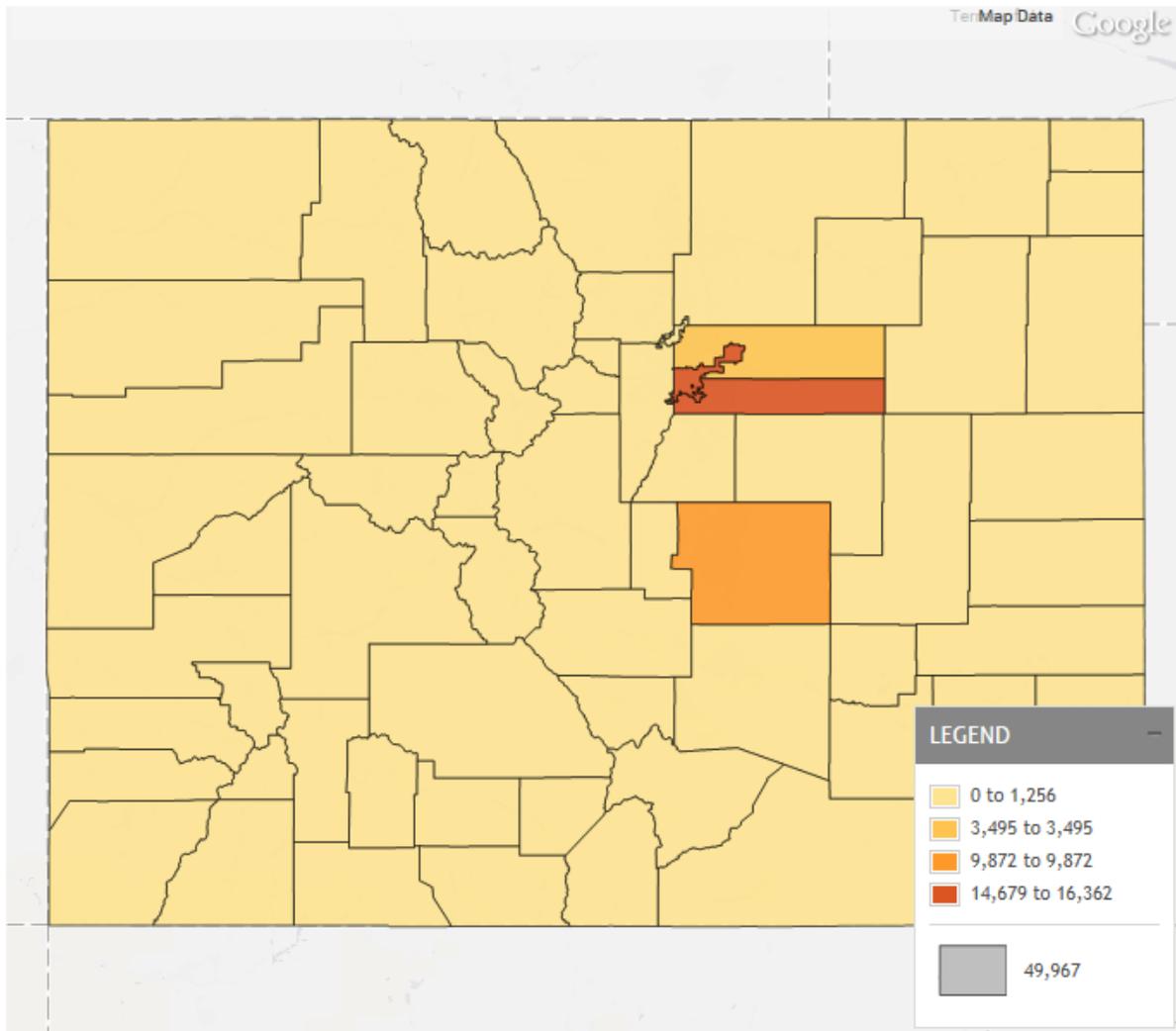
## CHILD POPULATION BY RACE AND ETHNICITY COMBINED: UNDER 18: HISPANIC (NUMBER) - 2010

Colorado Children's Campaign

KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)

A project of the Annie E. Casey Foundation

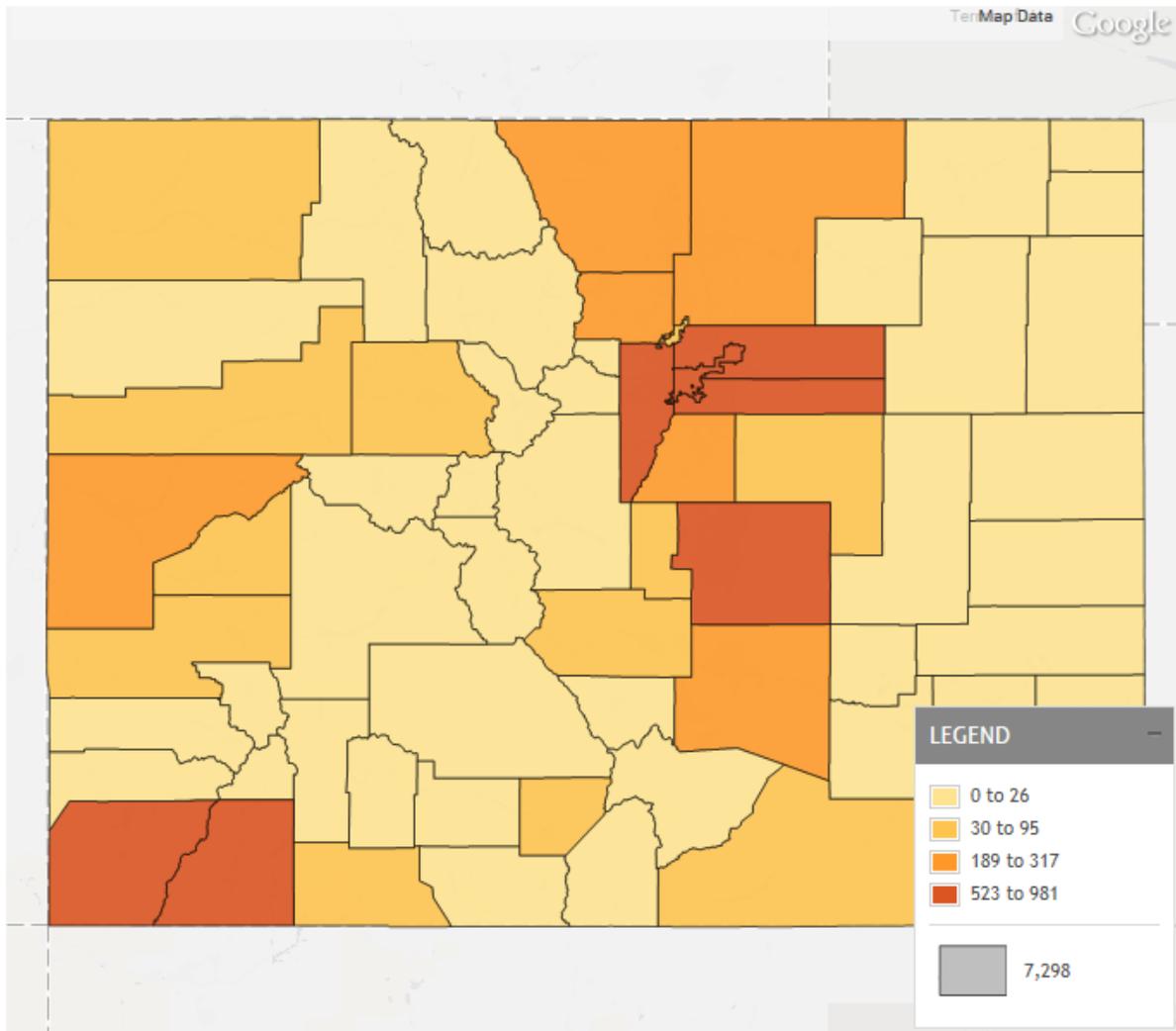
Map 7. Child Population by Race: Black Only (Number)-2010



## CHILD POPULATION BY RACE AND ETHNICITY COMBINED: UNDER 18: NON-HISPANIC BLACK (NUMBER) - 2010

Colorado Children's Campaign  
KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)  
A project of the Annie E. Casey Foundation

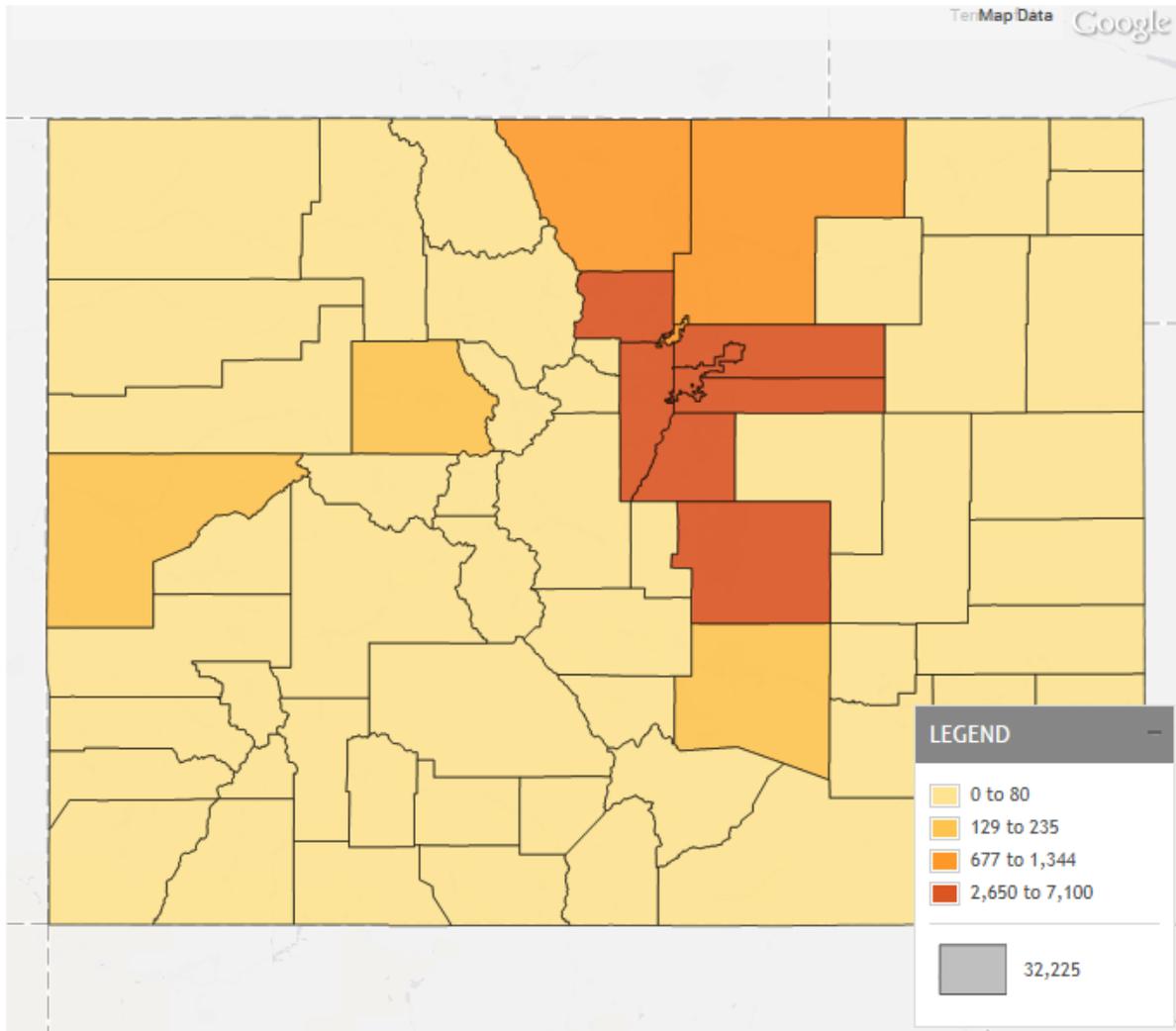
Map 8. Child Population by Race: American Indian (Number)-2010



## CHILD POPULATION BY RACE AND ETHNICITY COMBINED: UNDER 18: NON-HISPANIC AMERICAN INDIAN (NUMBER) - 2010

Colorado Children's Campaign  
KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)  
A project of the Annie E. Casey Foundation

Map 9. Child Population by Race: Asian Only (Number)-2010



## CHILD POPULATION BY RACE AND ETHNICITY COMBINED: UNDER 18: NON-HISPANIC ASIAN (NUMBER) - 2010

Colorado Children's Campaign  
KIDS COUNT Data Center, [datacenter.kidscount.org](http://datacenter.kidscount.org)  
A project of the Annie E. Casey Foundation

# Appendix 2 Primary Care Professions Pathways & Education and Training Programs

## Certified Nurse Aide (CNA) and Home Health Aide Programs Active in 2013

Note: Colorado Department of Regulatory Agencies, Division of Registrations, 3 CCR 716-1, Chapter X-1.2.

1. "Nurse aide training program" is a course of study which is approved by the Colorado State Board of Nursing or the appropriate authority in another state or territory in the United States.

Program	City	County	Type
Acelerated Healthcare Institute	Englewood	Denver	Independent
Agape Angelicum School of Nursing Arts, Inc.	Broomfield	Broomfield	Independent
AIMS Community College	Greeley	Weld	Community College
AIMS Community College-Fort Lupton	Fort Lupton	Weld	Community College
AIMS Community College-Loveland	Loveland	Larimer	Community College
Aims Community College-HSTE	Greeley	Weld	High School
Ann Rose School of Nursing Arts, Inc.	Westminster	Adams	Independent
APL Med Academy	Aurora	Adams	Independent
Arapahoe Community College	Littleton	Arapahoe	Community College
Avanza Training, LLC	Colorado Springs	El Paso	Independent
Beo Nurse Aide Training Program	Colorado Springs	El Paso	Independent
Bollman Technical Education Center	Thornton	Adams	High School
Boulder Technical Education Center	Boulder	Boulder	High School
Brighton High School-HSTE	Brighton	Adams	High School
Career Development Center	Longmont	Boulder	High School
Clearway Training	Aurora	Adams	Independent
College America-Denver	Denver	Denver	Independent
College America-Colorado Springs	Colorado Springs	El Paso	Independent
College America-South Colorado Springs	Colorado Springs	El Paso	Independent
Colorado Mountain College-West Garfield	Rifle	Garfield	Community College
Colorado Mountain College-Vail	Edwards	Eagle	Community College
Colorado Mountain College-Steamboat Springs	Steamboat Springs	Routt	Community College
Colorado Northwestern Community College	Craig	Moffat	Community College
Columbine Manor Care	Salida	Chaffee	Facility-Based
Community College of Denver	Denver	Denver	Community College
Community Health Institute	Denver	Denver	Independent
Compass Nursing Arts	Lafayette	Boulder	Independent
Delta Montrose Technical College Post Secondary	Delta	Delta	Technical College
Emily Griffith Technical College-Extended Home Health Aide	Denver	Denver	Technical College
Emily Griffith Technical College-Home Health Aide	Denver	Denver	Technical College
Emily Griffith Technical College-Nurse Aide	Denver	Denver	Technical College
Estes Park Medical Center	Estes Park	Larimer	Facility-Based
Fairacres Manor	Greeley	Weld	Facility-Based
Florence High School-HSTE	Florence	Fremont	High School
Four Corners Health Care Center	Durango	La Plata	Facility-Based
Fred N. Thomas Career Education Center Middle College of Denver	Denver	Denver	High School

Front Range Community College Larimer-Post Secondary	Loveland	Larimer	Community College
Front Range Community College Larimer-Medical Careers Exploration	Fort Collins	Larimer	High School
Front Range Community College Longmont	Longmont	Boulder	Community College
Front Range Community College Westminster	Westminster	Adams	Community College
Front Range Nurse Aide Training Program	Colorado Springs	El Paso	Independent
Geriatric Education Center (formerly Columbine Health Systems)	Fort Collins	Larimer	Independent
Good Samaritan Society-Simla	Simla	Elbert	Facility-Based
Innovage Home Care North (formerly Caring Hands)	Estes Park	Larimer	Independent
IntelliTec Collage	Pueblo	Pueblo	Independent
Katelens Health Care Education	Walsenburg	Huerfano	Independent
Lamar Community College	Lamar	Prowers	Community College
Larchwood Inns	Grand Junction	Mesa	Facility-Based
Life Care Center of Longmont	Longmont	Boulder	Facility-Based
Littleton Public Schools Health Sciences Technology	Centennial	Arapahoe	High School
Morgan Community College-Burlington	Burlington	Kit Carson	Community College
Morgan Community College-Limon	Limon	Lincoln	Community College
Morgan Community College-Wray	Wray	Yuma	Community College
Morgan Community College-Post Secondary	Ft. Morgan	Morgan	Community College
Morgan Community College-HSTE	Ft. Morgan	Morgan	High School
New Beginning Nursing Assistant Program	Denver	Denver	Independent
New Directions	Northglenn	Adams	Independent
Northeastern Junior College-Post Secondary	Sterling	Logan	Community College
NTSOC Nurse Aide Training Program	Colorado Springs	El Paso	Independent
Otero Junior College	La Junta	Otero	Community College
Overland High School	Aurora	Arapahoe	High School
Pacific School of Nursing Arts	Lakewood	Jefferson	Private
Parker Horizon	Parker	Douglas	Private
Pickens Technical College-Post Secondary	Aurora	Arapahoe	Technical College
Pickens Technical College-HSTE	Aurora	Arapahoe	Technical College
Pikes Peak Community College-Post Secondary	Colorado Springs	El Paso	Community College
Pikes Peak Community College Area Vocational Program	Colorado Springs	El Paso	High School
Pikes Peak Community College Falcon Nurse Aide Training Program	Falcon	El Paso	High School
Pima Medical Institute-North	Denver	Denver	Independent
Pine Ridge	Pagosa Springs	Archuleta	Facility-Based
Pueblo Community College	Pueblo	Pueblo	Community College
Pueblo Community College-Fremont Campus	Cañon City	Fremont	Community College
Pueblo Community College-HSTE	Pueblo	Pueblo	High School
Red Rocks Community College	Lakewood	Jefferson	Community College
Senior Living Community at Gunnison Valley Hospital	Gunnison	Gunnison	Facility-Based
South Denver School of Nursing Arts	Centennial	Arapahoe	Independent
Southwest Colorado Community College	Mancos	Montezuma	Community College

Southeast Colorado Hospital & Long Term Care Ctr.	Springfield	Baca	Facility-Based
St. Joseph Hospital Foundation	Denver	Denver	Facility-Based
St. Lukes Ministry	Denver	Denver	Independent
St. Vincent Nurse Aid training Program	Leadville	Lake	Facility-Based
Stillwater College of Allied Health	Denver	Denver	Independent
Summit High School Health Sciences	Frisco	Summit	High School
Trinidad State Junior College-San Luis Educ Ctr. Valley Campus	Alamosa	Alamosa	Community College
Valley Inn	Mancos	Montezuma	Facility-Based
Vista Academy Nursing Assistant Program	Denver	Denver	High School
Warren Tech-North	Arvada	Jefferson	High School
Waldbridge Wing Nurse Aide Training	Arvada	Jefferson	Facility-Based
Weisbrod Memorial County Hospital	Eads	Kiowa	Facility-Based
Western Colorado AHEC	Grand Junction	Mesa	Independent
Western Colorado Community College	Grand Junction	Mesa	Community College
Western Colorado Community College Med-Prep	Grand Junction	Mesa	High School
Westminster High School Health Studies	Westminster	Adams	High School
Wheat Ridge Regional Center	Wheat Ridge	Jefferson	Facility-Based
Yampa Valley Medical Center Doak Walker Care Center	Steamboat Springs	Routt	Facility-Based
Yuma Life Care Center	Yuma	Yuma	Facility-Based

### Licensed Practical Nurse (LPN)

Note: Colorado Department of Regulatory Agencies, Division of Registrations, 3 CCR 716-1, Chapter 1-1.2,3.2 & Chapter 2-3.3

1. Approved Nursing Education Program (Approved Professional Nursing Education Program/Approved Practical Nursing Education Program): A course of study which implements the basic practical nursing curriculum prescribed by the Board.
2. A graduate of a Colorado approved Professional Nursing Education Program is eligible to take the NCLEX examination for professional or practical nursing.
3. A Nursing Education Program applying to grant a certificate in practical nursing must be located in an institution accredited by a regional accrediting agency or a national institutional accrediting agency.

Program	City	County	Type	Accreditation
Aims Community College LPN Exit Option as Part of Associate Degree Nursing Program	Greeley	Weld	Community College Not-for-Profit	ACEN Accredited
Arapahoe Community College LPN Exit Option as Part of Associate Degree Nursing Program	Littleton	Arapahoe	Community College Not-for-Profit	ACEN Accredited
Colorado Mesa University LPN Certificate	Grand Junction	Mesa	Colorado Public Accredited Institution Not-for-Profit	Candidate ACEN from Spring 2013-February, 2015
Colorado Mountain Junior College LPN Exit Option as Part of Associate Degree Nursing Program	Glenwood Springs	Garfield	Community College Not-for-Profit	ACEN Accredited
Colorado Northwestern Community College LPN Exit Option as Part of Associate Degree Nursing Program	Craig	Moffat	Community College Not-for-Profit	ACEN Accredited

<b>Colorado State University-Pueblo LPN Exit Option as Part of Bachelor of Science in Nursing Program</b>	Pueblo	Pueblo	Colorado Public Accredited Institution  Not-for-Profit	ACEN Accredited
<b>Community College of Denver LPN Certificate</b>	Denver	Denver	Community College  Not-for-Profit	Candidate ACEN January, 2012- January, 2014
<b>Concorde Career College LPN Certificate</b>	Aurora	Arapahoe	Private Occupational School Operating in Colorado  Profit	CO State Board of Nursing does not list accreditation. Program was a ACEN Candidate August , 2011- August 2013
<b>Delta Montrose Technical College LPN Certificate</b>	Delta	Delta	Area Technical College  Not-for-Profit	ACEN Accredited
<b>Emily Griffith Opportunity School LPN Certificate</b>	Denver	Denver	Area Technical College  Not-for-Profit	ACEN Candidate September, 2013- September, 2015
<b>Front Range Community College- Boulder Campus LPN Certificate</b>	Longmont	Boulder	Community College  Not-for-Profit	ACEN Accredited
<b>Front Range Community College- Larimer Campus LPN Exit Option as Part of Associate Degree Nursing Program</b>	Ft. Collins	Larimer	Community College  Not-for-Profit	ACEN Accredited
<b>Front Range Community College- Westminster Campus LPN Exit Option as Part of Associate Degree Nursing Program</b>	Westminster	Adams	Community College  Not-for-Profit	ACEN Accredited
<b>Lamar Community College LPN Exit Option as Part of Associate Degree Nursing Program</b>	Lamar	Prowers	Community College  Not-for-Profit	ACEN Accredited
<b>Morgan Community College LPN Exit Option as Part of Associate Degree Nursing Program</b>	Ft. Morgan	Morgan	Community College  Not-for-Profit	ACEN Accredited
<b>Northeastern Junior College LPN Certificate</b>	Sterling	Logan	Community College  Not-for-Profit	ACEN Accredited
<b>Otero Junior College LPN Exit Option as Part of Associate Degree Nursing Program</b>	La Junta	Otero	Community College  Not-for-Profit	ACEN Accredited
<b>Pickens Technical College LPN Certificate</b>	Aurora	Arapahoe	Area Technical College  Not-for-Profit	None Listed
<b>Pikes Peak Community College- Rampart Range Campus LPN Exit Option as Part of Associate Degree Nursing Program</b>	Colorado Springs	El Paso	Community College  Not-for-Profit	ACEN Accredited

<b>Pueblo Community College</b> LPN Certificate	Pueblo	Pueblo	Community College Not-for-Profit	ACEN Accredited
<b>Pueblo Community College-Fremont Center</b> LPN Exit Option as Part of Associate Degree Nursing Program	Cañon City	Fremont	Community College Not-for-Profit	ACEN Accredited
<b>Pueblo Community College-Southwest Center</b> LPN Exit Option as Part of Associate Degree Nursing Program	Durango	La Plata	Community College Not-for-Profit	ACEN Accredited
<b>Trinidad State Junior College</b> LPN Exit Option as Part of Associate Degree Nursing Program	Trinidad	Las Animas	Community College Not-for-Profit	ACEN Candidate February, 2013- February, 2015
<b>Trinidad State Junior College-Valley Campus</b> LPN Exit Option as Part of Associate Degree Nursing Program	Alamosa	Alamosa	Community College Not-for-Profit	ACEN Candidate February, 2013- February, 2015

### Associate Degree Nursing (ADN)

Note: Colorado Department of Regulatory Agencies, Division of Registrations, 3 CCR 716-1, Chapter 1-1.2,3.1 & Chapter 2-3.2, 3.5

1. Approved Nursing Education Program (Approved Professional Nursing Education Program/Approved Practical Nursing Education Program): A course of study which implements the basic professional nursing curriculum prescribed by the Board.
2. A graduate of a Colorado approved Professional Nursing Education Program is eligible to take the NCLEX examination for professional or practical nursing.
3. A Nursing Education Program applying to grant a baccalaureate degree or an associate degree in nursing must be located in an institution accredited by a regional accrediting agency or a national institutional accrediting agency.
4. All Nursing Education Programs that have received Full Approval by January 1, 2006 must be accredited by a national nursing accrediting body recognized by the United States Department of Education by January 1, 2010 or must have achieved candidacy status leading to such accreditation and demonstrated satisfactory progression toward obtaining such accreditation.

Program	City	County	Type	Accreditation
Aims Community College	Greeley	Weld	Community College Not-for-Profit	ACEN Accredited
Arapahoe Community College	Littleton	Arapahoe	Community College Not-for-Profit	ACEN Accredited
College America	Denver	Denver	Private Occupational School Operating in Colorado Profit	None Listed
Colorado Mesa University	Grand Junction	Mesa	Colorado Public Accredited Institution Not-for-Profit	ACEN Accredited

<b>Colorado Mountain Junior College- Roaring Fork Campus</b>	Glenwood Springs	Garfield	Community College  Not-for-Profit	ACEN Accredited
<b>Colorado Northwestern Community College</b>	Craig	Moffat	Community College  Not-for-Profit	ACEN Accredited
<b>Colorado Technical University- Pueblo Campus</b>	Pueblo	Pueblo	Colorado Private Accredited Institution  Profit	None Listed, CO State Board of Nursing Notes "Closed to Admissions"
<b>Concorde Career College</b>	Aurora	Arapahoe	Private, Occupational School Operating in Colorado  Profit	ACEN Candidate August, 2011-August, 2013
<b>Denver School of Nursing</b>	Denver	Denver	Colorado Private Accredited Institution Profit	ACEN Accredited
<b>Front Range Community College- Boulder Campus</b>	Longmont	Larimer	Community College  Not-for-Profit	ACEN Accredited
<b>Front Range Community College- Larimer Campus</b>	Ft. Collins	Larimer	Community College  Not-for-Profit	ACEN Accredited
<b>Front Range Community College Westminster Campus</b>	Westminster	Adams	Community College  Not-for-Profit	ACEN Accredited
<b>Lamar Community College</b>	Lamar	Prowers	Community College  Not-for-Profit	ACEN Accredited
<b>Morgan Community College</b>	Ft. Morgan	Morgan	Community College  Not-for-Profit	ACEN Accredited
<b>National American University</b>	Denver	Denver	Private Accredited Institution Operating in Colorado  Profit	ACEN Candidate Spring, 2011-Spring, 2013
<b>Northeastern Junior College</b>	Sterling	Logan	Community College  Profit	ACEN Accredited
<b>Otero Junior College</b>	La Junta	Otero	Community College  Profit	ACEN Accredited
<b>Pikes Peak Community College- Rampart Range Campus</b>	Colorado Springs	El Paso	Community College	ACEN Accredited
<b>Pueblo Community College</b>	Pueblo	Pueblo	Community College	ACEN Accredited
<b>Pueblo Community College- Fremont Campus</b>	Cañon City	Fremont	Community College	ACEN Accredited

Pueblo Community College-Southwest Center	Durango	La Plata	Community College	ACEN Accredited
Trinidad State Junior College	Trinidad	Las Animas	Community College	ACEN Candidate February, 2012- February, 2014
Trinidad State Junior College-Valley Campus	Alamosa	Alamosa	Community College	ACEN Candidate February, 2012- February, 2014

### Bachelor of Science Nursing (BSN)

Note: Colorado Department of Regulatory Agencies, Division of Registrations, 3 CCR 716-1, Chapter 1-1.2,3.1,4.1 & Chapter 2-3.2, 3.5,

1. Approved Nursing Education Program (Approved Professional Nursing Education Program/Approved Practical Nursing Education Program): A course of study which implements the basic professional nursing curriculum prescribed by the Board.

2. A graduate of a Colorado approved Professional Nursing Education Program is eligible to take the NCLEX examination for professional or practical nursing.

3. Applicants licensed to practice professional nursing or practical nursing in another state or territory of the United States shall be eligible for licensure by endorsement in Colorado if the applicant has been previously licensed or is currently licensed in another state or territory from a traditional nursing education program approved by a Board of Nursing in a state or territory of the United States.

3. A Nursing Education Program applying to grant a baccalaureate degree or an associate degree in nursing must be located in an institution accredited by a regional accrediting agency or a national institutional accrediting agency.

4. All Nursing Education Programs that have received Full Approval by January 1, 2006 must be accredited by a national nursing accrediting body recognized by the United States Department of Education by January 1, 2010 or must have achieved candidacy status leading to such accreditation and demonstrated satisfactory progression toward obtaining such accreditation.

Program	City	County	Type	Accreditation
Adams State College 1. BSN 2. RN-BSN Online Degree Completion Program	Alamosa	Alamosa	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
Colorado Christian University 1. BSN 2. RN-BSN Online Degree Completion Program	Northglenn	Adams	Colorado, Private Accredited Institution  Not-for-Profit	CCNE Accredited
Colorado Mesa University 1. BSN 2. Online RN-BSN Degree Completion Program	Grand Junction	Mesa	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
Colorado State University Pueblo 1. BSN 2. LPN-BSN 3. RN-BSN 4. Degree Plus to BSN 5. Paramedic to BSN	Pueblo	Pueblo	Colorado Public Accredited Institution  Not-for-Profit	ACEN Accredited
Denver School of Nursing 1. BSN 2. BSN Completion Program 3. RN-BSN	Denver	Denver	Colorado Private Accredited Institution  Profit	ACEN Accredited

<b>Metropolitan State College of Denver</b> 1. BSN 2. BSN-RN Nurse Completion Option (BRNCO) 3. Accelerated Nursing Option (ANO) 4. Nursing Dual Enrollment Pathway	Denver	Denver	Colorado Public Accredited Institution  Not-for-Profit	ACEN Accredited
<b>Platt College</b> 1. BSN	Aurora	Arapahoe	Colorado Private Accredited Institution  Profit	ACEN Accredited
<b>Regis University</b> 1. BSN 2. Accelerated BSN 3. CHOICE BSN 4. RN-BSN Completion Program	Denver	Denver	Colorado, Private Accredited Institution  Not-for-Profit	CCNE Accredited
<b>University of Colorado Denver</b> 1. BSN 2. Accelerated BSN 3. RN-BSN Online Completion Program 4. Integrated Nursing Pathway	Aurora	Arapahoe	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
<b>University of Colorado-Colorado Springs</b> 1. BSN 2. RN to BSN or Dual Enrollment 3. Accelerated BSN	Colorado Springs	El Paso	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
<b>University of Northern Colorado</b> 1. Traditional BSN 2. BSN Second Degree Program 3. Online RN-BSN Degree Completion Program	Greeley	Weld	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
<b>University of Phoenix Online/Onsite (campus specific)</b> 1. RN-BSN Option	Lone Tree Colorado Springs Westminster	Douglas El Paso  Adams	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in AZ
<b>The following BSN programs are registered as educational or occupational programs with the Colorado Department of Higher Education and are not approved by the Colorado State Board of Nursing. Some programs maintain affiliations in both Colorado and out-of-state.</b>				
<b>Adventist University of Health Sciences (formerly Florida Hospital College of Health Sciences)-Denver</b> 1. BSN	Orlando, Fl	N/A	Private Accredited Institution Operating in Colorado  Not-for-Profit	ACEN Accredited

<b>American Sentinel University</b> 1. Online RN-BSN Completion Program	Aurora	Adams	Private Accredited Institution Based in Colorado  Profit	CCNE Accredited
<b>Aspen University Inc.</b> 1. RN-BSN	Denver	Denver	Private Accredited Institution Based in Colorado  Profit	CCNE Accredited
<b>Capella University</b> 1. Online RN-BSN Program	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in MN
<b>College America</b> 1. Online RN=BSN Program	Denver Colorado Springs x 2 Ft. Collins	Denver El Paso	Private Occupational School Operating in Colorado  Profit	None Listed
<b>Colorado Technical University</b> 1. Online RN-BSN Program	Denver Pueblo Colorado Springs	Denver Pueblo El Paso	Private Accredited Institution Based in Colorado  Profit	Applicant CCNE Accreditation in SD
<b>Grand Canyon University</b> 1. Online RN-BSN Program	Phoenix, AZ	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in AZ
<b>National American University</b> 1. Online RN-BSN Program	Denver	Denver	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in SD
<b>Walden University</b> 1. Online RN-BSN Program	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in MN
<b>Webster University</b> 1. Online RN-BSN Program	St. Louis, MO	N/A	Private Accredited Institution Operating in Colorado  Not-for-Profit	ACEN Accredited in MO
<b>Western Governors University</b> 1. Online RN-BSN Program	Salt Lake City, UT	N/A	Private Accredited Institution Operating in Colorado  Not-for-Profit	CCNE Accredited in UT

## Advanced Practice Nursing (MSN, DNP, PhD)

Note: Colorado Department of Regulatory Agencies, Division of Registrations 3 CCR 716-1, Chapter 21,1.1

1. **Advanced Practice Nurse (APN):** A master's prepared nurse holding a graduate degree in advance practice nursing who has completed a graduate or post-graduate program of study in an advanced practice Role and/or Population Focus, in an accredited advanced practice nursing program recognized and included on the Advanced Practice Registry (APR) by the Board. APN roles recognized by the Board are nurse practitioner (NP), certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM) and clinical nurse specialist (CNS).

Program	City	County	Type	Accreditation
<b>Colorado Mesa University</b> 1. Master of Science-Nursing <ul style="list-style-type: none"> <li>• Advanced Nursing Practice Cognate</li> <li>• Nursing Education Cognate</li> </ul> 2. Doctor of Nursing Practice <ul style="list-style-type: none"> <li>• Family Nurse Practitioner</li> </ul>	Grand Junction	Mesa	Colorado Public Accredited Institution  Not-for-Profit	CCNE site visit October, 2013
<b>Colorado State University Pueblo</b> 1. Master of Science in Nursing: <ul style="list-style-type: none"> <li>• Adult/Gerontology Acute Care Nurse Practitioner</li> <li>• Adult/Gerontology Acute Care/Family Nurse Practitioner</li> <li>• Psychiatric-Mental Health Nurse Practitioner</li> <li>• Nurse Educator</li> </ul>	Pueblo	Pueblo	Colorado Public Accredited Institution  Not-for-Profit	ACEN Accredited
<b>Regis University</b> 1. Master of Science in Nursing: <ul style="list-style-type: none"> <li>• RN to Master of Science in Nursing: Education or Management Focus</li> <li>• Family Nurse Practitioner</li> <li>• Neonatal Nurse Practitioner</li> <li>• Leadership in Health Care Systems: Education Focus</li> <li>• Leadership in Health Care Systems: Management Focus</li> <li>• Nursing Completion</li> </ul> 2. <b>Doctor of Nursing Practice</b> <ul style="list-style-type: none"> <li>• Post BSN-DNP</li> <li>• Advanced Leadership in Health Care Specialization</li> <li>• Advanced Practice Registered Nurse Specialization</li> </ul>	Denver	Denver	Private Accredited Institution Based in Colorado  Not-for-Profit	CCNE Accredited

<p><b>University of Colorado Denver</b></p> <p>1. <b>Master of Science in Nursing:</b></p> <ul style="list-style-type: none"> <li>• Adult-Gero Clinical Nurse Specialist</li> <li>• Adult-Gero Nurse Practitioner</li> <li>• Family Nurse Practitioner</li> <li>• Family Psych Mental Health Nurse Practitioner</li> <li>• I-LEAD Nursing Leadership and Health Care Systems</li> <li>• Pediatric Nurse Practitioner</li> <li>• Pediatric Nursing Leadership &amp; Special Needs</li> <li>• Nurse-Midwifery</li> <li>• Special Studies for Certified Nurse Practitioners</li> <li>• Women’s Health Care Nurse Practitioner</li> <li>• Health Care Informatics</li> <li>• MS-DNP Program</li> <li>• MS-PhD Program</li> <li>• Post-Masters Certificates</li> </ul> <p>2. <b>Doctor of Philosophy (PhD) in Nursing</b></p> <p>3. <b>Doctor of Nursing Practice</b></p>	Aurora	Arapahoe	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
<p><b>University of Colorado Colorado Springs</b></p> <p>1. Master of Science in Nursing:</p> <ul style="list-style-type: none"> <li>• Nurse Practitioner (Adult/Gero or Family)</li> <li>• Nursing Education</li> <li>• Post-Master Certificate-Nurse Practitioner</li> </ul> <p>2. Doctorate of Nursing Practice</p> <ul style="list-style-type: none"> <li>• Post Masters Doctorate Nursing Practice</li> <li>• Post BSN to Doctorate of Nursing Practice</li> </ul>	Colorado Springs	El Paso	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited
<p><b>University of Northern Colorado:</b></p> <p>1. Master of Science in Nursing</p> <ul style="list-style-type: none"> <li>• Family Nurse Practitioner</li> <li>• Clinical Nurse Leader</li> </ul> <p>2. Doctor of Philosophy (PhD) in Nursing Education</p>	Greeley	Weld	Colorado Public Accredited Institution  Not-for-Profit	CCNE Accredited

<p>3. Doctor of Nursing Practice (DNP)</p> <ul style="list-style-type: none"> <li>• Post Bachelors Doctor of Nursing Practice (BS-DNP) Family Nursing Practitioner</li> <li>• Post-Master’s Doctor of Nursing Practice (MS-DNP) for APNs</li> </ul>				
<p>The following MSN, DNP and PhD programs are registered as educational programs with the Colorado Department of Higher Education and may or may not be recognized by the Colorado State Board of Nursing. Some programs maintain affiliations in both Colorado and out-of-state.</p>				
<p><b>American Sentinel University</b></p> <p>1. Master of Science in Nursing (Online)</p> <ul style="list-style-type: none"> <li>• Case Management</li> <li>• Infection Prevention and Control</li> <li>• Nursing Education</li> <li>• Nursing Informatics</li> <li>• Nursing Management and Organizational Leadership</li> </ul> <p>2. Doctor of Nursing Practice (Online)</p> <ul style="list-style-type: none"> <li>• Educational Leadership</li> <li>• Executive Leadership</li> </ul>	Aurora	Arapahoe	Private Accredited Institution Based in Colorado  Profit	CCNE Accredited
<p><b>Aspen University</b></p> <p>1. Master of Science in Nursing</p> <ul style="list-style-type: none"> <li>• RN-MSN</li> <li>• Nursing Education</li> <li>• Nursing Administration and Management</li> </ul>	Denver	Denver	Private Accredited Institution Based in Colorado  Profit	CCNE Accredited
<p><b>Capella University</b></p> <p>1. Master of Science in Nursing (Online)</p> <ul style="list-style-type: none"> <li>• Diabetes Nursing</li> <li>• General Business Administration for Nurses</li> <li>• General Nursing</li> <li>• Nurse Educator</li> <li>• Nursing Leadership and Administration</li> <li>• RN-MSN: Diabetes Nursing, General Nursing, Nurse Educator, Nursing Leadership and Administration</li> </ul> <p>2. Doctor of Nursing Practice (Online)</p> <ul style="list-style-type: none"> <li>• Doctor of Nursing Practice</li> <li>• Doctor of Nursing Practice Preparatory Program</li> </ul>	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in MN

<b>College America</b> 1. Master of Science in Nursing (Online) <ul style="list-style-type: none"> <li>Nurse Education</li> <li>Nursing Administration</li> </ul>	Denver	Denver	Private Occupational School Operating in Colorado  Not-for-Profit	None Listed for Master's Program
<b>Grand Canyon University</b> 1. Master of Science in Nursing (Online) <ul style="list-style-type: none"> <li>Nursing Leadership in Health Care Systems</li> <li>Acute Care Nurse Practitioner with an Emphasis in Adult-Gerontology</li> <li>Health Care Informatics</li> <li>Nursing Education</li> <li>Public Health</li> <li>RN-MSN Program</li> <li>Post Masters Certificates</li> </ul> 2. Doctor of Nursing Practice	Phoenix, AZ	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in AZ
<b>National American University</b> 1. Master of Science in Nursing <ul style="list-style-type: none"> <li>Nursing Education</li> </ul>	Denver	Denver	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited
<b>Nova Southeastern University</b> 1. Master of Science in Nursing (Online) <ul style="list-style-type: none"> <li>Nursing Education</li> <li>Health Systems Leadership</li> <li>Nursing Informatics</li> </ul> 2. Doctor of Nursing Practice (Online) 3. Doctor of Philosophy in Nursing Education (Online)	Ft. Lauderdale, FL.	N/A	Private Accredited Institution Operating in Colorado  Not-For-Profit	CCNE Accredited in FL
<b>University of Phoenix</b> 1. Master of Science in Nursing (Online) <ul style="list-style-type: none"> <li>Informatics</li> <li>Health Administration</li> <li>Nurse Administration</li> <li>Nurse Education</li> <li>Health Care Education</li> <li>Health Care Management</li> </ul>	Westminster Lone Tree Colorado Springs	Adams Douglas El Paso	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in AZ
<b>Walden University</b> 1. Master of Science in Nursing (Online) <ul style="list-style-type: none"> <li>Leadership and Management</li> <li>Nursing Education</li> <li>Nursing Informatics</li> <li>Adult-Gero Nurse Practitioner</li> <li>Adult Gero Acute Care Nurse Practitioner</li> </ul>	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	CCNE Accredited in MN

<ul style="list-style-type: none"> <li>Family Nurse Practitioner</li> </ul> <b>2. Doctor of Nursing Practice</b>				
<b>Western Governors University</b> <b>1. Master of Science in Nursing (Online)</b> <ul style="list-style-type: none"> <li>Education</li> <li>Leadership and Management</li> <li>RN-MSN Option: Education, Leadership and Management</li> </ul>	Salt Lake City, UT	N/A	Private Accredited Institution Operating in Colorado  Not-for-Profit	CCNE Accredited in UT

<b>Physician (MD)(DO)</b>				
<b>Program</b>	<b>City</b>	<b>County</b>	<b>Type</b>	<b>Accreditation</b>
<b>University of Colorado School of Medicine</b> Medical Doctor -Allopathic	Aurora	Arapahoe	Colorado Public Accredited Institution  Not-for-Profit	LCME Accredited
<b>Rocky Vista University of Osteopathic Medicine</b> Doctor of Osteopathic Medicine	Parker	Douglas	Private Accredited Institution Based in Colorado  Profit	COCA Accredited

<b>Certificate and Master's of Physician Assistant Studies (MPAS)</b>				
<b>Program</b>	<b>City</b>	<b>County</b>	<b>Type</b>	<b>Accreditation</b>
<b>University of Colorado School of Medicine Child Health Associate-Physician Assistant Program</b> <ul style="list-style-type: none"> <li>Rural Track</li> <li>Global Health Track</li> <li>Urban Underserved Track</li> <li>LEADS (Leadership, Education, Advocacy, Development and Scholarship)</li> </ul>	Aurora	Arapahoe	Colorado Public Accredited Institution  Not-for-Profit	ARC-PA Accredited
<b>Red Rocks Community College</b> <ul style="list-style-type: none"> <li>Certificate in PA Studies</li> <li>Masters Degree Option (partnership with St. Francis University)</li> </ul>	Lakewood	Jefferson	Community College  Not-for-Profit	ARC-PA Accredited

<b>Dentist (DDS) and Dental Hygienist (AAS-Dental Hygiene)</b>				
<b>Program</b>	<b>City</b>	<b>County</b>	<b>Type</b>	<b>Accreditation</b>
<b>University of Colorado School of Dental Medicine</b> Doctor of Dental Surgery	Aurora	Arapahoe	Colorado Public Accredited Institution  Not-for-Profit	CODA Accredited
<b>Colorado Northwestern Community College</b> AAS-Dental Hygiene	Rangely	Rio Blanco	Community College  Not-for-Profit	CODA Accredited

<b>Community College of Denver</b> AAS-Dental Hygiene	Denver	Denver	Community College Not-for-Profit	CODA Accredited
<b>Concorde Career College-Aurora</b>	Aurora	Adams	Private Accredited Institution Based in Colorado Profit	CODA Accredited
<b>Pueblo Community College</b> AAS-Dental Hygiene	Pueblo	Pueblo	Community College Not-for-Profit	CODA Accredited

### Doctor of Pharmacy (Pharm.D) (PhD)

Program	City	County	Type	Accreditation
<b>Regis University</b> • Doctor of Pharmacy	Denver	Denver	Private Accredited Institution Based in Colorado Not-for-Profit	ACPE Accredited
<b>University of Colorado School of Pharmacy</b> • Doctor of Pharmacy • PhD Programs-Pharmaceutical Sciences, Toxicology, Outcomes Research	Aurora	Arapahoe	Colorado Public Accredited Institution	ACPE Accredited

### Psychology (Certificate, A.A., A.S., Bachelors, Masters and Doctor)

Program	City	County	Type
<b>Adams State University</b> 1. Bachelors in Psychology • Psychology • Developmental and Clinical • Sport	Alamosa	Alamosa	Colorado Public Accredited Institution Not-for-Profit
<b>American Pathways University</b> 1. Bachelors in Psychology • Applied Psychology • Institutional Psychology (pathway) • Therapeutic Psychology (pathway)	Denver	Denver	Private Accredited Institution Based in Colorado Not-for-Profit
<b>Arapahoe Community College</b> 1. A.A., A.S. Psychology	Littleton	Arapahoe	Community College Not-for-Profit
<b>Argosy University</b> 1. A.A. Psychology 2. Bachelors in Psychology 3. Masters in Industrial Organizational Psychology 4. Doctor of Counseling Psychology (EdD)	Denver	Denver	Private Accredited Institution Operating in Colorado Profit

<b>Ashford University</b> 1. Bachelors in Psychology (Online)	Clinton, IA	N/A	Private Accredited Institution Operating in Colorado  Profit
<b>Aspen University</b> 1. Bachelors in Psychology and Addiction Counseling 2. Masters in Psychology and Addiction Counseling	Denver	Denver	Private Accredited Institution Based in Colorado  Profit
<b>Capella University</b> 1. Bachelors in Psychology (Online) 2. Masters in Psychology (Online) <ul style="list-style-type: none"> <li>• Applied Behavior Analysis</li> <li>• Child and Adolescent Development</li> <li>• Clinical Psychology</li> <li>• Counseling Psychology</li> <li>• Educational Psychology</li> <li>• General Psychology</li> <li>• Industrial Organizational Psychology</li> <li>• School Psychology</li> </ul> 1. Doctor of Psychology (PhD, PsyD) (Online) <ul style="list-style-type: none"> <li>• Addiction Psychology</li> <li>• Educational Psychology</li> <li>• General Psychology</li> <li>• Counselor Education and Supervision</li> <li>• Industrial Organizational Psychology</li> <li>• Clinical Psychology</li> <li>• School Psychology</li> </ul>	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit
<b>Colorado Christian University</b> 1. A.S. Psychology 2. Bachelors in Psychology	Lakewood	Jefferson	Private Accredited Institution Based in Colorado  Not-for-Profit
<b>Colorado College</b> 1. Bachelors in Psychology	Colorado Springs	El Paso	Private Accredited Institution Based in Colorado  Not-for-Profit
<b>Colorado Mesa University</b> 1. Bachelors in Psychology <ul style="list-style-type: none"> <li>• Counseling Psychology</li> </ul>	Grand Junction	Mesa	Colorado Public Accredited Institution  Not-for-Profit
<b>Colorado Northwestern Community College</b> 1. A.A., A.S. Psychology	Craig	Moffat	Community College  Not-for-Profit
<b>Colorado State University-Ft. Collins</b> 1. Bachelors in Psychology <ul style="list-style-type: none"> <li>• General Psychology</li> <li>• Industrial/Organizational</li> <li>• Mind, Brain and Behavior</li> </ul>	Ft. Collins	Larimer	Colorado Public Accredited Institution  Not-for-Profit  PhD Program APA Accredited

<p>2. Doctor of Psychology (PhD)</p> <ul style="list-style-type: none"> <li>• Applied Social and Health</li> <li>• Cognitive</li> <li>• Cognitive Neuroscience</li> <li>• Counseling</li> <li>• Industrial/Organizational</li> </ul>			
<p><b>Colorado State University-Pueblo</b></p> <p>1. Bachelors in Psychology</p>	Pueblo	Pueblo	Colorado Public Accredited Institution Not-for-Profit
<p><b>Colorado Technical University</b></p> <p>1. Bachelors in Psychology (Online)</p>	Colorado Springs Aurora	El Paso Adams	Private Accredited Institution Based in Colorado Profit
<p><b>Columbia College</b></p> <p>1. Bachelors in Psychology (Online)</p>	Columbia, MO	N/A	Private Accredited Institution Operating in Colorado Not-for-Profit
<p><b>Community College of Aurora</b></p> <p>1. A.A., A.S. Psychology</p>	Aurora	Arapahoe	Community College Not-for-Profit
<p><b>Community College of Denver</b></p> <p>1. A.A., A.S. Psychology</p>	Denver	Denver	Community College Not-for-Profit
<p><b>Front Range Community College</b></p> <p>1. A.A., A.S. Psychology</p>	Longmont Fort Collins Westminster	Boulder Larimer Adams	Community College Not-for-Profit
<p><b>Grand Canyon University</b></p> <p>1. Bachelors in Psychology (Online)</p> <p>2. Masters in Psychology (Online)</p> <p>3. Doctor of Psychology (PhD) (Online)</p>	Phoenix, AZ	N/A	Private Accredited Institution Operating in Colorado Profit
<p><b>Lamar Community College</b></p> <p>1. A.A., A.S. Psychology</p>	Lamar	Prowers	Community College Not-for-Profit
<p><b>Lesley University</b></p> <p>1. Bachelors in Psychology (Online)</p>	Cambridge, MA	N/A	Private Accredited Institution Operating in Colorado Not-for-Profit
<p><b>Metro State University-Denver</b></p> <p>1. Bachelors in Psychology</p>	Denver	Denver	Colorado Public Accredited Institution Not-for-Profit
<p><b>Morgan Community College</b></p> <p>1. A.A., A.S. Psychology</p>	Ft. Morgan	Morgan	Community College Not-for-Profit
<p><b>Northeastern Community College</b></p> <p>1. A.A., A.S. Psychology</p>	Sterling	Logan	Community College Not-for-Profit
<p><b>Nova Southeastern University</b></p> <p>1. Bachelors in Psychology (Online)</p>	Ft. Lauderdale, FL	N/A	Private Accredited Institution Operating in Colorado Not-for-Profit

<b>Otero Junior College</b> 1. A.A., A.S. Psychology	La Junta	Otero	Community College  Not-for-Profit
<b>Pikes Peak Community College</b> 1. A.A., A.S. Psychology	Colorado Springs	El Paso	Community College  Not-for-Profit
<b>Pueblo Community College</b> 1. A.A., A.S. Psychology	Pueblo	Pueblo	Community College  Not-for-Profit
<b>Regis University</b> 1. Bachelors in Psychology • Applied Psychology	Denver	Denver	Private Accredited Institution Based in Colorado  Not-for-Profit
<b>Red Rocks Community College</b> 1. A.A., A.S. Psychology	Lakewood	Jefferson	Community College  Not-for-Profit
<b>Trinidad State Junior College</b> 1. A.A., A.S. Psychology	Trinidad	Las Animas	Community College  Not-for-Profit
<b>University of Colorado-Boulder</b> 1. Bachelors in Psychology • Certificate in Cognitive Science • Certificate in Neuroscience 2. Doctor of Psychology (PhD) • Behavioral Genetics • Behavioral Neuroscience • Clinical Psychology • Cognitive Psychology and Cognitive Neuroscience • Social Psychology	Boulder	Boulder	Colorado Public Accredited Institution  Not-for-Profit  PhD Program APA Accredited
<b>University of Colorado-Colorado Springs</b> 1. Bachelors in Psychology 2. Masters in Psychology • Clinical • Psychological Science 3. Doctor of Psychology (PhD) • Clinical Psychology with Emphasis in Geropsychology	Colorado Springs	El Paso	Colorado Public Accredited Institution  Not-for-Profit  PhD Program APA Accredited
<b>University of Colorado-Denver</b> 1. Bachelors in Psychology 2. Doctor of Clinical Health Psychology (PhD)	Denver	Denver	Colorado Public Accredited Institution  Not-for-Profit  PhD Program Seeking APA Accreditation in Spring of 2014
<b>University of Denver</b> 1. Bachelors in Psychology • Cognitive Neuroscience 2. Doctor of Psychology (PhD)(PsyD) • Affect/Social Psychology • Cognitive Psychology	Denver	Denver	Private Accredited Institution Based in Colorado  Not-for-Profit  PhD and PsyD Programs APA Accredited

<ul style="list-style-type: none"> <li>• Clinical Child Psychology</li> <li>• Developmental Psychology</li> </ul>			
<b>University of Northern Colorado</b> 1. Bachelors in Psychology	Greeley	Weld	Colorado Public Accredited Institution  Not-for-Profit
<b>University of Phoenix</b> 1. A.A. Psychology (Online) 2. Bachelors in Psychology (Online and Campus) 3. Masters in Psychology (Online) <ul style="list-style-type: none"> <li>• Behavioral Health</li> <li>• Industrial Organizational Psychology</li> </ul>	Lone Tree Colorado Springs Westminster	Douglas El Paso Adams	Private Accredited Institution Operating in Colorado  Profit
<b>University of the Rockies</b> 1. Masters in Psychology (Online and Campus) 2. Doctor of Psychology (PsyD) <ul style="list-style-type: none"> <li>• Clinical Specialization</li> </ul>	Denver Colorado Springs	Denver El Paso	Private Accredited Institution Based in Colorado  Profit
<b>Walden University</b> 1. Bachelors in Psychology (Online) 2. Masters in Psychology (Online) <ul style="list-style-type: none"> <li>• Clinical Psychology</li> </ul> 3. Doctor of Psychology (PhD) (Online)	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit
<b>Washington University (St. Louis)</b> 1. Bachelors in Psychology (Online)	St. Louis, MO	N/A	Private Accredited Institution Operating in Colorado  Not-for-Profit
<b>Western State University</b> 1. Bachelors in Psychology <ul style="list-style-type: none"> <li>• Clinical, Counseling, and School Psychology</li> <li>• Experimental Psychology</li> </ul>	Alamosa	Alamosa	Colorado Public Accredited Institution  Not-for-Profit

### Marriage & Family Therapist (Post-Master's Certificate, Master's, Doctorate)

**Note: Rule 17 of Colorado State Board of Marriage and Family Therapist Examiners-Education and Training Requirements:**

**1. The applicant obtained a Master's or Doctoral degree from a program that was approved by the Commission on Accreditation for Marriage and Family Therapy Education**

**2. The applicant received a Master's or Doctoral degree from a graduate training program that, at the time she/he was enrolled and received her/his degree, fulfilled the equivalency degree requirements used to define a marriage and family therapy graduate training program.**

Program	City	County	Type	Accreditation
<b>Colorado School for Family Therapy</b> 1. Marriage and Family Therapy Certificate Program	Aurora	Arapahoe	Private Occupational Institution Based in Colorado  Profit	No COAMFTE Accreditation Listed on COAMFTE Website

<b>Colorado State University Fort Collins</b> 1. Masters in Human Development and Family Studies • Family and Developmental Studies • Marriage and Family Therapy	Ft. Collins	Larimer	Colorado Public Accredited Institution  Not-for-Profit	COAMFTE Accredited
<b>Argosy University</b> 1. Masters in Marriage and Family Therapy	Denver	Denver	Private Accredited Institution Operating in Colorado  For-Profit	No COAMFTE Accreditation Listed for CO Program on COAMFTE Website
<b>Capella University</b> 1. Masters in General Marriage and Family Counseling Therapy (Online)	Minnesota, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	COAMFTE Accredited
<b>Regis University</b> 1. Masters in Marriage and Family Therapy	Denver	Denver	Private Accredited Institution Based in Colorado  Not-for-Profit	COAMFTE Accredited
<b>University of the Rockies</b> 1. Masters in Counseling • Marriage and Family Therapy	Denver Colorado Springs	Denver El Paso	Private Accredited Institution Based in Colorado  Profit	No COAMFTE Accreditation Listed on COAMFTE Website
<b>Walden University</b> 1. Masters in Marriage, Couple, and Family Therapy (Online)	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	No COAMFTE Accreditation Listed on COAMFTE Website

### Social Worker (BSW, MSW, PhD)

**Note: Rule 17 of Colorado State Board of Social Work Examiners-Education and Training Requirements: The applicant obtained a masters degree in social work from a program that was approved by the Council on Social Work Education (CSWE) or a doctoral degree in social work from a doctoral program within a social work education program accredited by the Council on Social Work Education (CSWE).**

Program	City	County	Type	Accreditation
<b>Colorado State University Fort Collins</b> 1. Bachelors in Social Work 2. Masters in Social Work 3. Doctor of Social Work (PhD)	Ft. Collins	Larimer	Colorado Public Accredited Institution  Not-for-Profit	CSWE Accredited
<b>Colorado State University Pueblo</b> 1. Bachelors in Social Work	Pueblo	Pueblo	Colorado Public Accredited Institution  Not-for-Profit	CSWE Accredited
<b>University of Denver</b> 1. Masters in Social Work 2. Doctor of Social Work (PhD)	Denver	Denver	Colorado Private Accredited Institution  Not-for-Profit	CSWE Accredited

<b>Metropolitan State University Denver</b> 1. Bachelors in Social Work 2. Masters in Social Work	Denver	Denver	Colorado Public Accredited Institution  Not-for-Profit	CSWE Accredited
<b>Capella University</b> 1. Doctor of Social Work (DSW)(Online)	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	No CSWE Accreditation Listed on CSWE Website
<b>Newman University</b> 1. Masters in Social Work	Colorado Springs	El Paso	Private Accredited Institution Operating in Colorado  Not-for-Profit	CSWE Accredited in KS
<b>Walden University</b> 1. Masters in Social Work (Online) 2. Doctor of Social Work (PhD)(DSW)(Online)	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	No CSWE Accreditation Listed on CSWE Website

### **Counseling-Variou s Disciplines (Certificates, Bachelor's, Master's, Doctorate)**

**Note: Rule 17 of Colorado State Board of Licensed Professional Examiners-Education and Training Requirements:**

1. The applicant obtained a master's or doctoral degree from a program that was approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. The applicant received a master's or doctoral degree from a graduate training program that, at the time she/he was enrolled and received her/his degree, fulfilled the equivalency degree requirements used to define a professional counseling graduate training program.
3. Certification as an addiction counselor can be obtained by those individuals who possess a high school diploma or the equivalent, or a bachelor's, master's or doctorate degree in the behavioral health sciences as determined and approved by the Department. Licensure as an addiction counselor may be obtained by those individuals who possess a master's degree or higher in the behavioral health sciences as determined and approved by the Department.

<b>Program</b>	<b>City</b>	<b>County</b>	<b>Type</b>	<b>Accreditation</b>
<b>Adams State College</b> 1. Master of Arts in Counseling • Clinical Mental Health • School Counseling 2. Doctor of Counselor Education and Supervision (PhD)	Alamosa	Alamos	Colorado Public Accredited Institution  Not-for-Profit	CACREP Accredited
<b>American Pathways University</b> 1. Bachelors in Human Services • Certified Addictions Counselor (pathway)	Denver	Denver	Private Accredited Institution Based in Denver  Not-for-Profit	N/A
<b>Argosy University</b> 1. Masters in Clinical Mental Health Counseling	Denver	Denver	Private Accredited Institution Operating In Colorado  Profit	CACREP Accredited

<b>Aspen University</b> 1. Bachelors in Psychology and Addiction Counseling 2. Masters in Psychology and Addiction Counseling	Denver	Denver	Private Accredited Institution Based in Colorado  Profit	N/A
<b>Capella University</b> 1. Masters Degrees (Online) <ul style="list-style-type: none"> <li>• General Addictions Counseling</li> <li>• General Mental Health Counseling</li> </ul>	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Profit	CACREP Accredited in MN
<b>Colorado Christian University</b> 1. Masters in Counseling	Lakewood	Jefferson	Private Accredited Institution Based in Colorado  Not-for-Profit	CACREP Accredited
<b>Grand Canyon University</b> 1. Bachelors in Counseling with Emphasis in Addication, Chemical Dependency, and Substance Abuse (Online) 2. Masters in Addiction Counseling (Online)	Phoenix, AZ	N/A	Private Accredited Institution Operating in Colorado  Profit	No CACREP Accreditation Listed on CACREP Website
<b>Metropolitan State University Denver</b> 1. Bachelors in Human Services 2. Certified Addiction Counselor	Denver	Denver	Colorado Public Accredited Institution  Not-for-Profit	N/A
<b>Nova Southeastern University</b> 1. Masters in Counseling (Online) <ul style="list-style-type: none"> <li>• Mental Health Counseling</li> <li>• Substance Abuse Counseling</li> <li>• Applied Behavior Analysis</li> <li>• Advanced Applied Behavior Analysis</li> </ul>	Fort Lauderdale, FL	N/A	Private Accredited Institution Operation in Colorado  Not-for-Profit	No CACREP Accreditation Listed on CACREP Website
<b>Regis University</b> 1. Masters in Counseling 2. Post Graduate Certificates <ul style="list-style-type: none"> <li>• Counsling Children &amp; Adolescents</li> <li>• Marriage and Family Therapy</li> <li>• Transformative Counseling</li> <li>• Counseling Military Families</li> </ul>	Lakewood	Jefferson	Private, Accredited Institution Based in Colorado  Not-for-Profit	CACREP Accredited
<b>University of Colorado Denver</b> 1. Masters in Counseling <ul style="list-style-type: none"> <li>• Couple and Family Counseling</li> <li>• Clinical Mental Health Counseling</li> </ul>	Denver	Denver	Colorado Public Accredited Institution  Not for Profit	CACREP Accredited

<b>University of Northern Colorado</b> 1. Masters in Clinical Mental Health Counseling 2. Masters in Clinical Counseling: <ul style="list-style-type: none"> <li>Couples and Family Therapy</li> </ul> 3. Doctor of Counselor Education and Supervision (PhD)	Greeley	Weld	Colorado Public Accredited Institution  Not-for Profit	CACREP Accredited
<b>University of Colorado Colorado Springs</b> 1. Masters in Counseling and Human Services <ul style="list-style-type: none"> <li>Clinical Mental Health Counseling</li> </ul>	Colorado Springs	El Paso	Colorado Public Accredited Institution  Not-for-Profit	CACREP Accredited
<b>University of Northern Colorado</b> 1. Masters in Counseling <ul style="list-style-type: none"> <li>School Counseling</li> <li>Counselor Education and Supervision</li> <li>Clinical Mental Health Counseling</li> <li>Marriage and Family Counseling</li> </ul>	Greeley	Weld	Colorado Public Accredited Institution  Not-for-Profit	CACREP Accredited
<b>Trinidad State Junior College-Valley Campus</b> 1. A.S. or Certificate-Addictions Counseling	Alamosa	Alamos	Community College  Not-for-Profit	N/A
<b>University of Phoenix</b> 1. Bachelors in Human Services (Online and Campus) <ul style="list-style-type: none"> <li>Addictions</li> <li>Addictions (certificate track)</li> </ul> 2. Masters in Counseling (Campus) <ul style="list-style-type: none"> <li>Clinical Mental Health Counseling</li> <li>Mental Health Counseling</li> <li>School Counseling</li> </ul>	Lone Tree Colorado Springs Westminster	Douglas El Paso Adams	Private Accredited Institution Operating in Colorado  Profit	CACREP Accredited in AZ
<b>University of the Rockies</b> 1. Masters in Counseling <ul style="list-style-type: none"> <li>Marriage and Family Therapy</li> <li>Mental Health Counseling</li> </ul>	Denver Colorado Springs	Denver El Paso	Private Accredited Institution Based in Colorado  Profit	No CACREP Accreditation Listed on CACREP Website
<b>Walden University</b> 1. Masters in Mental Health Counseling (Online) 2. Masters in Addiction Counseling (Online)	Minneapolis, MN	N/A	Private Accredited Institution Operating in Colorado  Private	CACREP Accredited in MN

## Appendix 3: Colorado In-State Primary Care Professions Educational and Training Programs Clinical and Residency Overview

Because a board's Practice Acts govern the number of clinical and residency hours required for licensure, the respective state or examiners board must determine if "equivalency standards" have been met for programs not meeting national accreditation requirements, or for those programs that retain appropriate national accreditation.

### Nursing Professions

Chapter II-Rules and Regulations for Approval of Nursing Education Programs (3 CCR 716-1) describe clinical training requirements for practical nursing (LPN) and professional (RN-ADN/BSN) nursing programs.

1. Clinical Experience consists of faculty planned, guided, and supervised learning activities designed to assist students to meet course objectives in a clinical setting. Clinical experience is obtained concurrently with theory and applies nursing knowledge and skills in the direct care of patients or clients. This experience requires direct supervision by faculty, Associate Nursing Instructional Personnel (ANIP), or a preceptor who is physically present or immediately accessible, and must be completed prior to graduation.
2. Provide clinical experience and/or clinical simulation laboratory to prepare the student for the safe practice of nursing. This experience must be concurrent with theory and include:
  - a. For practical nursing education programs, a minimum of four hundred (400) clinical hours.
  - b. For professional nursing education programs, a minimum of seven hundred fifty (750) clinical hours.

Clinical hours associated with the Advance Practice Nursing (APN) are not specifically stated. Institutions providing APN education and training must be accredited by a Colorado State Board of Nursing approved accrediting body. Standards and competencies associated with an approved accrediting body influence the scope of clinic experiences required for APN practice. Under 3 CCR 716-1, Chapter XIV

1. Accrediting Body: Any organization that establishes and maintains standards for professional nursing programs and recognizes those programs that meet these standards and is recognized by the U.S. Department of Education (USDE) and/or the Council for Higher Education Accreditation (CHEA), including the Commission on Collegiate Nursing Education (CCNE), Accreditation Commission for Education in Nursing

(ACEN formerly NLNAC), Council on Accreditation of Nurse Anesthesia Education Programs (COA), Accreditation Council for Midwifery Education (formerly the Division of Accreditation) of the American College of Nurse Midwives, and the National Association of Nurse Practitioners in Women's Health Council on Accreditation.

2. Advanced Practice Nurse (APN): A master's prepared nurse holding a graduate degree in advanced practice nursing who has completed a graduate or post-graduate program of study in an advanced practice role and/or population focus, in an accredited advanced practice nursing program and has been recognized and included on the Advanced Practice Registry (APR) by the Board. APN roles recognized by the Board are nurse practitioner (NP), certified registered nurse anesthetist (CRNA), certified nurse midwife (CNM) and clinical nurse specialist (CNS). A nurse seeking recognition as an APN must be academically prepared for the expanded scope of practice described as Advanced Practice Nursing.

## **Physicians (MD, OD)**

Section 12-36-107 of the Colorado Medical Practice Act stipulates that an applicant seeking licensure to practice medicine in the state of Colorado must:

1. Pass examinations conducted by the national board of medical examiners, the national board of examiners for osteopathic physicians and surgeons, the federation of state medical boards, or any successor to said organizations, as approved by the board.
  - a. The Colorado Medical Board recognizes examinations provided by The United States Medical Licensing Examination ("USMLE") and The Comprehensive Osteopathic Medical Licensing Examination-USA ("COMLEX-USA"), as approved examinations
  - b. To be eligible to sit for the USMLE Step 3 or COMLEX-USA Level 3, an applicant must be serving in or have completed one year of postgraduate training in a program of graduate medical education accredited by the Accreditation Council for Graduate Medical Education (ACGME) of the American Medical Association or the American Osteopathic Association.

Students graduating from the MD or OD program in Colorado apply for placement in a Graduate Medical Education (GME) program, which offers practical training for residents and fellows. The University of Colorado School of Medicine and its affiliated hospitals provide Graduate Medical Education training in 78 ACGME accredited resident and fellowship programs and 64 fellowship programs with no or other accreditation. "Residents" include interns, residents, and fellows in GME training programs.

In Colorado, there are nine family medicine residencies. Programs are three years in duration, allowing physician graduate to take their respective MD or OD examinations upon completion of the first year of residency. In its *Strategic Plan and Budget Request: FY2011-2012*, the Commission on Family Medicine reports that 89 percent of 65 first-year family medicine residency slots in 2009-10 were filled by graduates from 40 out-of-state medical schools. Sixty-eight percent of graduating residents are now working in the state. Fifteen of 43 2010 family medicine residency graduates chose a rural community or underserved community for practice.

The Commission reports that there are seven family medicine residency-affiliated rural and underserved training sites. These sites are located in Buena Vista, Cañon City, Julesburg, Yuma, the San Luis Valley, La Junta and northeast Metropolitan Denver. Valley-wide serves the San Luis Valley and La Junta area. Plan de Salud covers the underserved communities north of metro-Denver from Fort Morgan, Fort Lupton, Commerce City, Frederick and Longmont.

Colorado's nine family medicine residences include:

1. Exempla St. Joseph Family Medicine Residency, Denver, CO
2. Ft. Collins Family Medicine Residency at Poudre Valley Hospital, Fort Collins, CO
3. Northern Colorado Family Medicine Residency, Greeley, CO
4. Rose Family Medicine Residency, Denver, CO
5. Southern Colorado Family Medicine Residency, Pueblo, CO
6. St. Anthony's Family Medicine Residency, Westminster, CO
7. St. Mary's Family Medicine Residency, Grand Junction, CO
8. Swedish Family Residency, Littleton, CO
9. University of Colorado Family Medicine Residency, Aurora, CO

### **Physician's Assistant**

Under Rule 400 (3 CCR713-7,) the Colorado Medical Board states that qualifications for licensure as a practicing physicians assistant in Colorado includes proof of satisfactory passage of the national certifying examination administered by the National Commission on Certification of Physician Assistants.

### **Dentists and Dental Hygienists**

Under the Colorado Board of Dental Examiners Rules and Regulations, *Rule III-Licensure of Dentists and Dental Hygienists*, general licensing requirements include evidence of graduation with a DDS or DMD degree or from an accredited dental school or college dental hygiene program that, at the time of the applicant's graduation, is accredited by the American Dental

Association Commission on Dental Accreditation. Accreditation standards associated with American Dental Association Commission on Dental Accreditation include clinical training standards and competencies required for institutions hosting DDS, DMD and dental hygiene programs.

## **Pharmacists**

Colorado Revised Statute, Section 12-22-116 describes requirements for licensure as a practicing pharmacist in Colorado. Under this section, an applicant for licensure must graduate from a school of pharmacy approved by the Colorado State Board of Pharmacy. Furthermore, an applicant for licensure must complete an internship as prescribed by the Board. "Intern" means a person who is attending, or who is in good standing with, an accredited school of pharmacy, has graduated from an accredited school of pharmacy and is completing an internship to satisfy board requirements for licensure. Accreditation standards associated with Accreditation Council for Pharmacy Education include clinical training standards and competencies required for institutions hosting pharmacy programs.

## **Psychologists**

The Colorado State Board of Psychologist Examiners (3 CCR-721-1, Rule 17) describes requirements for licensure as a practicing psychologist in Colorado and for programs hosting degree programs in psychology. Under Rule 17, the applicant for licensure must obtain a doctoral degree from a program accredited by the American Psychological Association (APA). The program must include supervised practicum and internship appropriate to the practice of psychology.

The minimum practicum experience is 400 hours, with at least 150 hours of direct service experience and 75 hours in formally scheduled supervision.

1. Internships in clinical psychology must be full-time experience, either for one calendar year or for two years of half-time experience and encompass at least 1,500 experience hours. They must be accredited by the American Psychological Association (APA) or be substantially equivalent when compared with the guidelines and principles for accreditation of internships published by the APA.

## **Marriage and Family Therapists**

The Colorado State Board of Marriage and Family Therapist Examiners (4 CCR 736-1, Rule 17) describes requirements for licensure as a practicing marriage and family therapist in Colorado and for programs with degree programs in marriage and family therapy. Under Rule 17, the

applicant for licensure must receive a master's or doctoral degree from a program approved by the Commission on Accreditation for Marriage and Family Therapy. If the master's or doctoral degree was awarded in 1979 or after, the applicant must prove that she/he completed a minimum of 300 hours of supervised practicum or internship, or a combination of the two, in the principles and practice of marriage and family therapy. The practicum or internship must include at least 15 hours per week, of which approximately 8-10 hours are spent in face-to-face contact with individuals, couples and families for the purpose of assessment, diagnosis and intervention.

## **Social Workers**

The Colorado State Board of Social Work Examiners (4 CCR 736-1, Rule 17) describes requirements for licensure as a practicing social worker in Colorado and for programs with degree programs in social work. Under Rule 17, the applicant for licensure must obtain a master's degree in social work from a program approved by the Council on Social Work Education (CSWE) or a doctoral degree in social work from a doctoral program within a social work education program accredited by the Council on Social Work Education (CSWE). Applicants must receive a minimum of 96 hours of supervision, at least 48 of which must be face-to-face individual supervision.

## **Counselors**

The Colorado State Board of Licensed Professional Counselor Examiners (4 CCR 737-1, Rule 17) describes requirements for licensure as a practicing counselor in Colorado and for programs hosting degree programs in counseling. Under Rule 17, the applicant for licensure must obtain a master's or doctoral degree from a program approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). For a master's or doctoral degree, the curriculum must encompass a minimum of 48 semester hours or 72 quarter hours of graduate study for the master's degree or a minimum of 96 semester hours or 144 quarter hours of graduate study for the doctoral degree and supervised field experience of not fewer than 700 hours that is counseling in nature.

## Appendix 4 Rural, Statewide and Urban Workforce Initiatives Supporting Colorado’s Health Education and Career Pipeline, 2010

Organization	Number of Workforce Initiatives	Name	Stated Reach
Adams County Education Consortium	4	Adams County Commissioners’ Career Expo	Urban
		Experience 9 to 5	
		Health care Pathways	
		Workforce Connect	
Colorado Area Health Education System	8	9 Health Fair in the Classroom	Urban w/ Rural Capture
		AHEC SHCI	
		Aurora LIGHTS Saturday Academy	
		Aurora LIGHTS Summer Institute	
		Clinical Connections	
		RN and LPN Online Refresher Course	
		Youth for Health Explorer Post #246	
		Workforce Investment Strategy-CREATE Health	
Colorado Center for Nursing Excellence	5	Colorado Consortium for Nursing Leadership Development	Statewide
		Colorado Nursing Clinical Placement Matching System	
		Faculty Development Initiative	
		Nursing Faculty Recruitment and Retention Initiative	
		Work, Education, Life-Long Learning Simulation (WELLS) Center	

Colorado Community Health Network	4	Incentive Program Development	Urban w/ Frontier and Rural Capture
		Job Fairs	
		Navigator Program	
		Residency Presentations	
Colorado Dental Association	2	CDA Dental Workforce Task Force	Urban w/Rural Capture
		Explorers Program	
Colorado Department of Public Health and Environment Oral Health Unit	2	Dental Loan Repayment Program	Statewide
		Colorado Oral Health Workforce Project for the Underserved	
Colorado Department of Public Health and Environment EMTS Section	1	Emergency Medical and Trauma Services Grant Program	Statewide
Colorado Rural Health Center	2	Colorado Provider Recruitment Program	Frontier and Rural focus with Urban Capture
		Colorado Rural Outreach Program	
Commission on Family Medicine	1	Recruitment and Retention of Family Medicine Residents	Statewide
Community Health Association of Mountain/Plains States	3	Distance Learning Program	Frontier and Rural focus with Urban Capture
		Online Job Opportunities Bank	
		Region VIII Health Center Salary, Benefits, Turnover and Vacancy Survey	
Delta County Memorial Hospital	1	Health Professions Initiatives	Rural Focus with Urban Capture
Denver Health Foundation	2	Carol Prishtaschew Scholarship in Nursing	Urban
		Dollars for Scholars	
National Association of Social Workers Colorado Chapter	1	Membership Services	Statewide
Northern Front Range Health Care Consortium	1	Northern Front Range Health Care Consortium	Urban w/ Rural Capture

Office of Health Disparities-Colorado Department of Public Health and Environment	1	Recruiting and Retaining Youth of Color in the Health Professions Task Force	Urban
University of Colorado School of Medicine- Department of Family Medicine	1	Rural Track	Rural
Southeast Colorado Area Health Education Center	1	Pipeline Development	Rural-Frontier

**Appendix 5 Colorado CAP4K Post Secondary and Workforce Readiness Description - Adopted June 30, 2009 by the State Board of Education and the Colorado Commission on Higher Education**

Focus Area	Knowledge Skills and Behaviors Essential for High School Graduates to Enter College and the Workforce and to Compete in the Global Economy
Literacy	<ul style="list-style-type: none"> <li>• Read fiction and non-fiction, understanding conclusions reached and points of view expressed.</li> <li>• Write clearly and coherently for a variety of purposes and audiences.</li> <li>• Use logic and rhetoric to analyze and critique ideas.</li> <li>• Access and use primary and secondary sources to explain questions being researched.</li> <li>• Employ standard English language properly and fluently in reading, writing, listening, and speaking.</li> </ul>
Mathematical Sciences	<ul style="list-style-type: none"> <li>• Think critically, analyze evidence, read graphs, understand logical arguments, detect logical fallacies, test conjectures, evaluate risks, and appreciate the role mathematics plays in the modern world, i.e., be quantitatively literate.</li> <li>• Understand and apply algebraic and geometric concepts and techniques.</li> <li>• Use concepts and techniques of probability and statistics.</li> <li>• Apply knowledge of mathematics to problem solve, analyze issues, and make critical decisions that arise in everyday life.</li> </ul>
Science	<ul style="list-style-type: none"> <li>• Think scientifically and apply the scientific method to complex systems and phenomena.</li> <li>• Use theoretical principles within a scientific field and relevant empirical evidence to make and draw conclusions.</li> <li>• Recognize that scientific conclusions are subject to interpretation and can be challenged.</li> </ul>

	<ul style="list-style-type: none"> <li>• Understand the core scientific concepts, principles, laws, and vocabulary, and how scientific knowledge is extended, refined, and revised over time.</li> </ul>
<b>Social Studies and Social Sciences</b>	<ul style="list-style-type: none"> <li>• Identify and describe historical, social, cultural, political, geographical, and economic concepts.</li> <li>• Interpret sources, and evaluate evidence and competing ideas.</li> <li>• Build conceptual frameworks based on an understanding of themes and the overall flow of events.</li> <li>• Understand how government works in the United States and in other countries, the varying roles individuals may play in society, and the nature of civic responsibility.</li> <li>• Interpret information from a global and multicultural perspective.</li> </ul>
<b>Arts and Humanities</b>	<ul style="list-style-type: none"> <li>• Understand and appreciate how the arts and humanities (expressions of culture and identity through language, movement, sound, and visual representation) contribute to and shape culture and our understanding of culture.</li> <li>• Understand how the arts and literature are used as instruments of social and political thought.</li> <li>• Identify leading innovators in the arts and humanities and the contributions they have made to their respective art forms.</li> </ul>
<b>Critical Thinking and Problem Solving</b>	<ul style="list-style-type: none"> <li>• Apply logical reasoning and analytical skills.</li> <li>• Conduct research using acceptable research methods.</li> <li>• Understand different research approaches.</li> <li>• Collect and analyze quantitative and qualitative data and research.</li> <li>• Evaluate the credibility and relevance of information, ideas, and arguments.</li> <li>• Discern bias, pose questions, marshal evidence, and present solutions.</li> </ul>
<b>Use of Information and Information Technology</b>	<ul style="list-style-type: none"> <li>• Select, integrate, and apply appropriate technology to access and evaluate new information.</li> <li>• Understand the ethical uses of information.</li> <li>• Provide citations for resources.</li> </ul>
<b>Creation and Innovation</b>	<ul style="list-style-type: none"> <li>• Demonstrate intellectual curiosity.</li> <li>• Generate, evaluate, and implement new ideas and novel approaches.</li> <li>• Develop new connections where none previously existed.</li> </ul>
<b>Global and Cultural Awareness</b>	<ul style="list-style-type: none"> <li>• Appreciate the arts, culture, and humanities</li> <li>• Interact effectively with and respect the diversity of different individuals, groups, and cultures</li> <li>• Recognize the interdependent nature of our world</li> </ul>

	<ul style="list-style-type: none"> <li>• Understand how communicating in another language can improve learning in other disciplines and expand professional, personal, and social opportunities</li> </ul>
<b>Civic Responsibility</b>	<ul style="list-style-type: none"> <li>• Recognize the value of civic engagement and its role in a healthy democracy and civil society.</li> <li>• Be involved in the community and participate in its political life.</li> <li>• Balance personal freedom with the interests of a community.</li> </ul>
<b>Work Ethic</b>	<ul style="list-style-type: none"> <li>• Plan and prioritize goals.</li> <li>• Manage time effectively.</li> <li>• Take initiative, and follow through.</li> <li>• Learn from instruction and criticism.</li> <li>• Take responsibility for completion of work.</li> <li>• Act with maturity, civility, and politeness.</li> <li>• Demonstrate flexibility and adaptability.</li> </ul>
<b>Personal Responsibility</b>	<ul style="list-style-type: none"> <li>• Balance self-advocacy with the consideration of others</li> <li>• Possess financial literacy and awareness of consumer economics.</li> <li>• Behave honestly and ethically.</li> <li>• Take responsibility for actions.</li> <li>• Understand the relevance of learning to postsecondary and workforce readiness.</li> <li>• Demonstrate awareness of and evaluate career options.</li> <li>• Attend to personal health and wellness.</li> </ul>
<b>Communication</b>	<ul style="list-style-type: none"> <li>• Read, write, listen and speak effectively.</li> <li>• Construct clear, coherent, and persuasive arguments.</li> <li>• Communicate and interact effectively with people who have different primary languages.</li> </ul>
<b>Collaboration</b>	<ul style="list-style-type: none"> <li>• Work effectively with others.</li> <li>• Acknowledge authority and take direction.</li> <li>• Cooperate for a common purpose.</li> <li>• Use teamwork and leadership skills effectively.</li> </ul>

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Adams County Education Consortium

CDPHE Center for Healthy Families and Communities, Children and Youth, School-based Health Center Program

CDPHE Office of Health Disparity

CDPHE Primary Care Office

Children’s Hospital Colorado

ClinicNET

Colorado Academy of Family Physicians

Colorado Area Health Education System

Colorado Behavioral Health Council

Colorado Community College System

Colorado Center for Nursing Excellence

Center for Research Strategies

Colorado Coalition for the Medically Underserved

Colorado Commission on Family Medicine

Colorado Community Health Network  
Colorado Dental Association

Colorado Department of Labor and Employment

Colorado Department of Higher Education

Colorado Health Care Professions Policy Collaborative

Colorado Health Institute

Colorado Medical Society

Colorado Nurses Association

Colorado Rural Health Center-State Office of Rural Health

Colorado Rural Recruitment and Retention Network

Community Health Association of the Mountain Plans States

Denver School of Nursing

Denver Area Health Care Recruiters Association

Engaged Public

Kaiser Permanente-Colorado

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Mesa State College Nursing Program

Red Rocks Community College Physicians Assistant Program

Regis University School of Physical Therapy

Regis University, Loretto Heights School of Nursing

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University of Colorado School of Medicine, Physicians Assistant Program

University of Colorado School of Dental Medicine

Western Interstate Commission for Higher Education

# Author 2014 Document Update

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# Endnotes

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