

# WORKforce

## BRIEF

## Colorado

### Higher Education & the Workforce

In 2006 a good education is no longer just a way for an individual to get ahead. It is also, and increasingly, the best way a state can get ahead — and therefore a real economic priority. A college degree confers specific, calculable benefits on a state's citizens: the average lifetime income of an individual with a bachelor's degree is \$2.1 million, compared to \$1.2 million for those with just a high school diploma. But the benefits realized by the state are just as impressive as those that an individual sees. Not only does a state with a well-educated populace see increased tax revenues from its (better-paid) citizens, it is also able to use the education level of its citizens as a powerful lure for business and industry — a way to build its economy overall.

For that to happen, however, a state must make sure that all of its citizens have access to a college education. Businesses are no longer simply looking for a small, well-educated elite but instead need to be able to draw upon a labor pool that's both broadly educated and diverse. In fact, a report from the Business-Higher Education Forum, a coalition that includes some of the country's top corporate CEOs, states that an educated and diverse population is an essential competitive asset in today's global economy.

In Colorado, the demand for well-educated employees will only increase over the next several years. In the decade leading up to 2012, healthcare will see strong growth: over 50 percent in professions such as pharmacist and physician assistant. Teachers will be in high demand: over 22,000 educators will need to be hired. Technology-related professions will see their ranks swell by 50 percent and more, depending on the position, with new hires numbering more than 17,000. The growth of these sectors is good news for Colorado's citizens, since wages for jobs in these areas are significantly higher than the average for Colorado in general. But entry into these jobs comes with a price tag: most positions in these fields will require a bachelor's degree or higher. The question for Colorado and other states is how, in a time of tight budgets, to meet the increasing demands on higher education and thereby meet the needs of an increasingly sophisticated economy.

The Western Interstate Commission for Higher Education (WICHE) has had workforce issues at the top of its agenda since its creation in the 1950s. In fact, WICHE was launched specifically to address the shortage of workforce-training opportunities in medicine, dentistry, and other professional fields. Today, WICHE offers a slew of undergraduate, graduate, and professional options that help the West's states educate and train their citizens, building their economies in the process.

### Colorado's Occupational Outlook

Employment in Colorado (including hourly and salaried jobs and self-employment) is projected to grow by 23 percent from 2002 to 2012, adding some 551,630 new jobs to the state's economy and growing the workforce from 2,355,290 to 2,906,920. The rate of growth is much higher than the 15 percent increase projected for the nation as a whole.

Growth will occur in virtually all sectors of Colorado's economy, with the largest number of new jobs occurring in lower-paying fields such as retail sales, cashiering, and food preparation and serving. However, all of Colorado's "top jobs" — those with the fastest growth rate and highest earnings — are professional positions (see Table 1).

**Table 1. Colorado's Top Jobs\***

Network Systems Analysts	Nuclear Medical Tech.
Database Administrators	Material Scientists
Pharmacists	Radiation Therapists
Computer Software Engineers	Dental Hygienists
Environmental Engineers	Occupational Therapists
Physician Assistants	Registered Nurses

\* Jobs with the strongest growth rate (2002-12) and with earnings in the top quartile.

Source: Colorado Department of Labor and Employment.

All of the top jobs listed on Table 1 require considerable education and training. Four of them (dental hygienist, radiation therapist, nuclear medical technologist, and registered nurse) require an associate's degree, while all the rest demand a bachelor's degree or higher.

Strikingly, seven of Colorado's top jobs are in fields related to health. In the decade leading up to 2012, the need for health care professionals will rise steeply in the state. The demand for registered nurses will see a 43 percent increase: over 13,000 new R.N.s will be needed in the state. And Colorado will see strong competition for those nurses: the top five states needing the largest numbers of nurses are all in the West (Colorado is number five). Pharmacists will log growth of 58 percent, with some 180 hires being made each year for new and replacement positions. Physician assistants will see a 52 percent increase in their ranks, with about 80 being hired each year for new positions. Physical therapists will experience a 43 percent increase, while occupational therapists will see a 43 percent boost in their numbers. Colorado will also experience a strong demand for new occupational therapists, radiation therapists and medical/health services managers. One reason for the increase: the aging of the state's population. Colorado is seeing significant growth in its older population: in 2003, 13 percent, or over 600,000, of its citizens were over 60.

Two other areas, technology and education, will also see a large number of hires in the decade leading up to 2012, due to new job

creation and the need for replacement workers. The top technology jobs — network systems/data communications analysts, database administrators, and computer software engineers — will fill over 17,500 new positions in the decade leading up to 2012. Large numbers of teachers at every level from kindergarten through college will be needed. At the primary and secondary levels, close to 12,000 new jobs will be created, with the biggest chunk (some 5,780) slated for elementary school teachers. Over 10,000 new slots in postsecondary education are projected to open up during the decade. In all, some 4,000 hires will have to be made each year to cover new job openings and retirements.

As Colorado's economy changes, so do the kinds of jobs available to Coloradans. The projections indicate that plenty of jobs will be available for those without formal training beyond high school. However, wages in the sectors hiring those workers — retail sales, cashiering, food preparation and serving will be top employers — fall significantly below the statewide median (\$32,011 a year) and simply don't provide a living wage. Over the next several years, workers who have the most education and training will have the best opportunity for high-paying jobs in growing sectors. In addition, a number of professions requiring education beyond the bachelor's degree are expected to see moderate to strong growth (see Table 2).

**Table 2**  
**Colorado Professional Employment Projections, 2002-2012**

Profession	Number		% Change	Total New Openings
	2002	2012		
All professions	2,355,290	2,906,920	23%	551,630
Architects	2,540	3,310	30%	770
Dentists	2,480	2,780	12%	300
Librarians	2,270	2,720	20%	450
Occupational Therapists	1,640	2,370	45%	730
Optometrists	520	660	27%	140
Pharmacists	3,020	4,780	58%	1,760
Physical Therapists	2,980	4,270	43%	1,290
Physician Assistants	1,470	2,230	52%	760
Physicians and Surgeons	7,470	9,730	30%	2,260
Podiatrists	160	190	19%	30
Registered Nurses	30,350	43,380	43%	13,030
Veterinarians	1,640	2,070	26%	430

Source: Colorado Department of Labor and Employment.

## COLORADO & WICHE's Student Exchange

In 2002, 58 percent of Colorado's new high school grads enrolled in college — and fully 21 percent of them went to school out of state, according to WICHE's Policy Indicators for Higher Education ([www.wiche.edu/Policy/FactBook](http://www.wiche.edu/Policy/FactBook)). One of the most economical ways for them to do that: our Western Undergraduate Exchange (WUE), which allows students to enroll in out-of-state institutions at a reduced tuition level (150 percent of resident tuition). Almost 2,300 Colorado students enrolled in WUE in 2005, saving over \$11.4 million and working toward degrees in fields that are essential to Colorado's economy. Some of the most popular fields of study for Colorado students: elementary education, engineering, business administration, and nursing.

WICHE's Professional Student Exchange Program (PSEP) offers students opportunities to train outside of their home state in 14 highly competitive fields: architecture, dentistry, graduate library studies, medicine, nursing, occupational therapy, optometry, osteopathic medicine, pharmacy, physical therapy, physician assistant, podiatry, public health, and veterinary medicine. In Colorado, employment projections in all these fields are on the rise (see Table 2). Through PSEP, 24 Colorado students are currently studying to be optometrists. In general, at least 60 percent of PSEP students return to their home state to practice.

Colorado students also participate in the Western Regional Graduate Program (WRGP), which offers them the chance to engage in graduate studies and includes 175 distinctive programs in 14 states, such as education, nursing, and business. On the horizon is a distance learning option, NEON (the Northwest Educational Outreach Network), which will provide electronically delivered degree programs in high-demand disciplines, such as a Ph.D. in nursing and a graduate certificate in supply chain management.

## Six Fast-Track Fields

### The Outlook for Colorado & the Nation

From 2002 to 2012, the economy in Colorado and the nation will continue generating jobs for workers at all levels of education and training. But there will be an increasing demand for employees with at least some postsecondary education, preferably a bachelor's degree. Nationwide, during a decade that will witness large numbers of baby boomers moving into retirement, 21.4 million new jobs will be created, an increase of 15 percent. However, in some fields, the increase will be more than triple that. Across the country, competition will be especially stiff for physician assistants, who will see their ranks grow by 49 percent, as well as for physical and occupational therapists (whose fields will experience growth of 35 percent) and pharmacists (30 percent). More than 620,000 new nurses will be needed (an increase of 27 percent) and some 14,500 new veterinarians. Below is a debriefing that focuses on trends in some of Colorado's — and the nation's — fast growing professions.

**Registered Nurses.** Nursing is one of the fastest growing fields in Colorado among occupations requiring some postsecondary education; and it will require more new hires in the decade leading up to 2012 than any other job in that category. Working in the largest healthcare profession, registered nurses held 30,350 jobs in 2002 in Colorado; that number will grow to 43,380 by 2012, a 43 percent increase. Demand for R.N.s is expected to be high for a number of reasons, including the need to replace experienced nurses who leave the field, especially as the median age of the R.N. population continues to rise; a growing elderly population; and an imbalance between the supply of and demand for qualified R.N.s. Nationally, employment of registered nurses is expected to grow by 27 percent in the decade leading up to 2012. Median annual earnings of registered nurses were \$54,680 in 2004; the top 10 percent earned \$71,690 and up (nationally, that number was \$77,170).

**Teachers.** When it comes to the number of new hires, teaching is the top profession among occupations requiring a B.A. Primary, secondary, and special ed teachers held 51,400 jobs in 2002 in Colorado; that number will grow to 66,160 by 2012, a 29 percent increase. In the decade leading up to 2012, Colorado will also have to find 10,096 new postsecondary teachers for its colleges and universities. In addition, it will have to hire over 20,000 educators at all levels to cover retirements and separations. Nationally, the demand for teachers will vary, ranging from 38 percent for postsecondary teachers down to 9 percent for middle school teachers. Median annual earnings ranged from \$41,180 for the state's primary teachers to \$42,840 for secondary in 2004; the top 10 percent earned \$63,330 and \$65,190 and up, respectively (nationally, those figures were \$68,930 and \$72,110).

**Pharmacists.** In Colorado, this is the third fastest growing profession among all occupations requiring a bachelor's degree or higher. Pharmacists held 3,020 jobs in 2002, a number slated to jump to 4,780 in 2012, a 58 percent increase. Competition for pharmacists is expected to be steep over the 2002-12 period due to the increased pharmaceutical needs of a larger and older population. In addition, the number of degrees granted in pharmacy is expected to be lower than the number of job openings created by employment growth and replacement needs. Nationally, the number of pharmacists is expected to grow by 30 percent. Median annual earnings of Colorado's pharmacists in 2004 were \$87,890; the top 10 percent earned \$110,130 and up (nationally, that figure was \$112,530).

**Physician Assistants.** This is the seventh fastest growing profession in Colorado among all occupations requiring a bachelor's degree or higher. Physician assistants held 1,470 jobs in 2002; that number is projected to grow to 2,230 in 2012, a 52 percent increase. Demand will be strong for P.A.s, particularly in places that have difficulty attracting physicians, such as rural areas and inner city clinics. In addition, physicians and institutions are expected to employ more P.A.s to provide primary care and assist with medical and surgical procedures. Nationally, the number of physician assistants is expected to grow by 49 percent: over 4,000 new physician assistants will be needed each year. Median annual earnings of physician assistants in Colorado were \$67,600 in 2004; the top 10 percent earned \$88,510 and up (nationally, that figure was \$94,840).

**Occupational Therapists.** Occupational therapy is the tenth fastest growing profession in Colorado among all occupations requiring a bachelor's degree or higher. O.T.s held 1,640 jobs in 2002 in Colorado; that number is projected to grow to 2,370 by 2012, a 45 percent increase. The baby boom's movement into middle and old age and the resulting rise in the incidence of heart attack and stroke, as well as age-related disabilities, will increase the demand for therapeutic services. Nationally, the number of occupational therapists is expected to grow by 35 percent. Median annual earnings of occupational therapists in Colorado were \$49,400 in 2004; the top 10 percent earned \$68,830 and up (nationally, that figure was \$83,150).

**Physical Therapists.** This is the twelfth fastest growing profession among all occupations requiring a bachelor's degree or higher in Colorado. Physical therapists held 2,980 jobs in 2002, a number that will climb 43 percent to 4,270 in 2012. Thanks to a rapidly growing elderly population that's particularly vulnerable to chronic conditions

requiring therapeutic services — as well as to the use of physical therapists at the workplace, to evaluate worksites, develop exercise programs, and teach safe work habits to employees - the demand for P.T.s will be strong throughout the 2002-12 decade. Nationally, the number of physical therapists is expected to grow by 36 percent. In Colorado, median annual earnings of physical therapists were \$53,860 in 2004; the top 10 percent earned \$71,000 and up (nationally, that number was \$89,830).

## The Regional Outlook

Seven of the top 10 states in terms of projected job growth are in the West: Nevada, Utah, Idaho, Arizona, Colorado, New Mexico, and California. In the 15 WICHE states, an additional 5.9 million jobs will be added in the decade leading up to 2012. While California has the greatest numerical growth in the region, with some 270,000 new jobs being created each year, the states seeing the fastest job growth are Nevada (41 percent), Utah (31 percent), Idaho (24 percent), and Arizona and Colorado (23 percent). Most of the region's fastest growing professions are in the health and computer sectors.

## Sources: Workforce Report Data

All information used in the text and tables of this report is available from the Colorado Department of Labor and Employment ([www.coworkforce.com](http://www.coworkforce.com)) and the U.S. Department of Labor's Bureau of Labor Statistics ([www.bls.gov/emp](http://www.bls.gov/emp)).

## WICHE

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WICHE and its 15 member states — Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming — work collaboratively to expand educational access and excellence for all citizens of the West. By promoting innovation, cooperation, resource sharing, and sound public policy among states and institutions, WICHE strengthens higher education's contributions to the region's social, economic, and civic life.

For more information on WICHE's Student Exchange Programs, contact Margo Schultz at 303-541-0214 or [mschultz@wiche.edu](mailto:mschultz@wiche.edu) or write to:

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