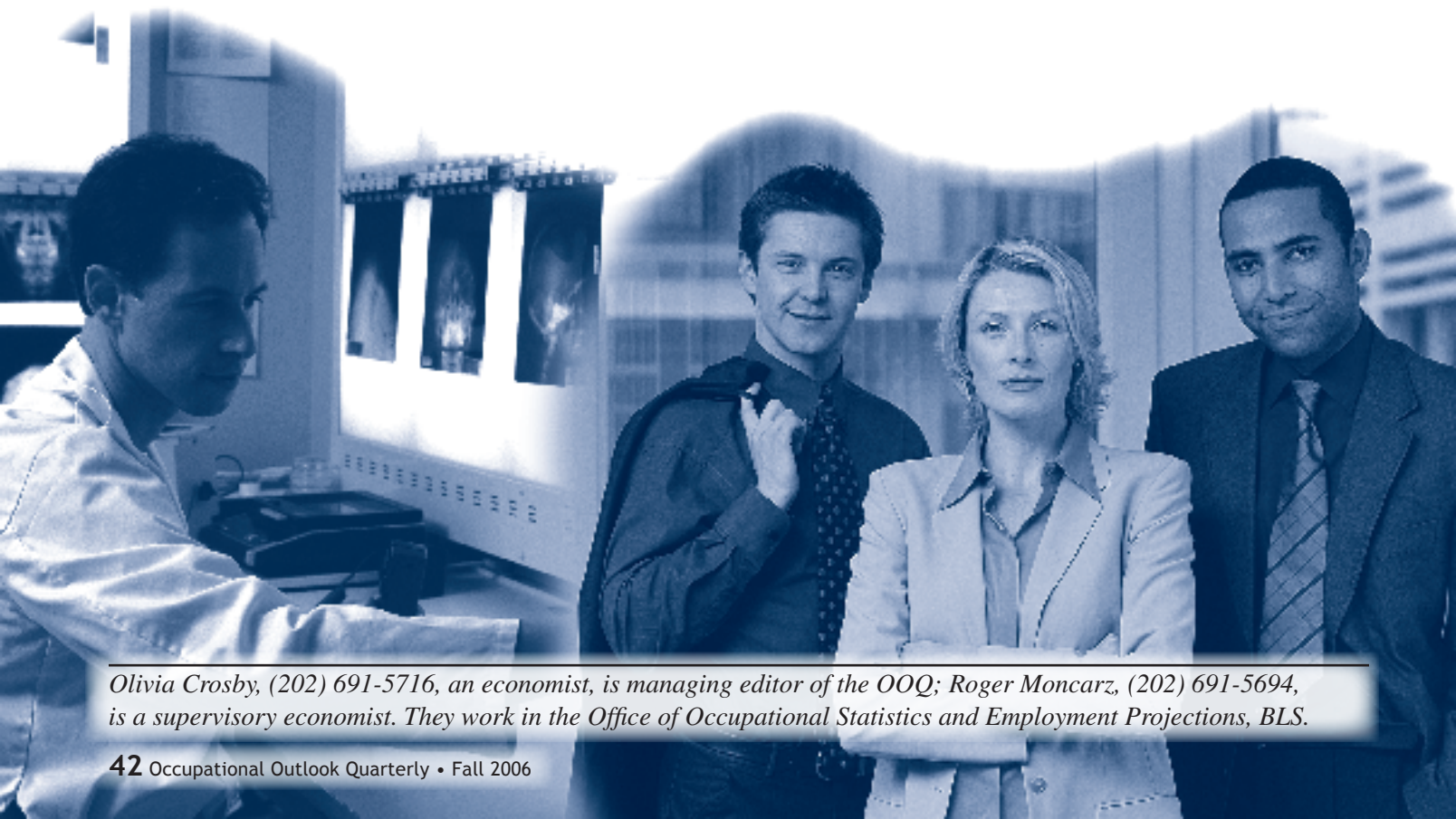


# The 2004-14 job outlook for college graduates

by Olivia Crosby and Roger Moncarz



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The more education you have, the greater your career options will be. If high earnings or many job openings are a priority, you'll need to learn which occupations have the best prospects.

**G**etting a college degree takes years of study. Will that effort pay off in the job market?

It probably will, according to the U.S. Bureau of Labor Statistics (BLS). Bright prospects are expected to continue for college graduates, especially for those who prepare for careers with lots of job openings.

Data consistently show that, on average, college graduates earn more money, experience less unemployment, and have a wider variety of career options than other workers do. A college degree also makes it easier for jobseekers to enter many of the fastest growing, highest paying occupations. What's more, having a degree is the only way to get a start in some careers.

Between 2004 and 2014, almost 14 million job openings are projected to be filled by workers who have a bachelor's or higher degree and who are entering an occupation for the first time. Some occupations will offer more openings and bigger paychecks than others will.

Keep reading to learn about the benefits of having a college degree and the expected demand for college graduates. Find out which occupations are projected to offer the most job openings for graduates who are enter-

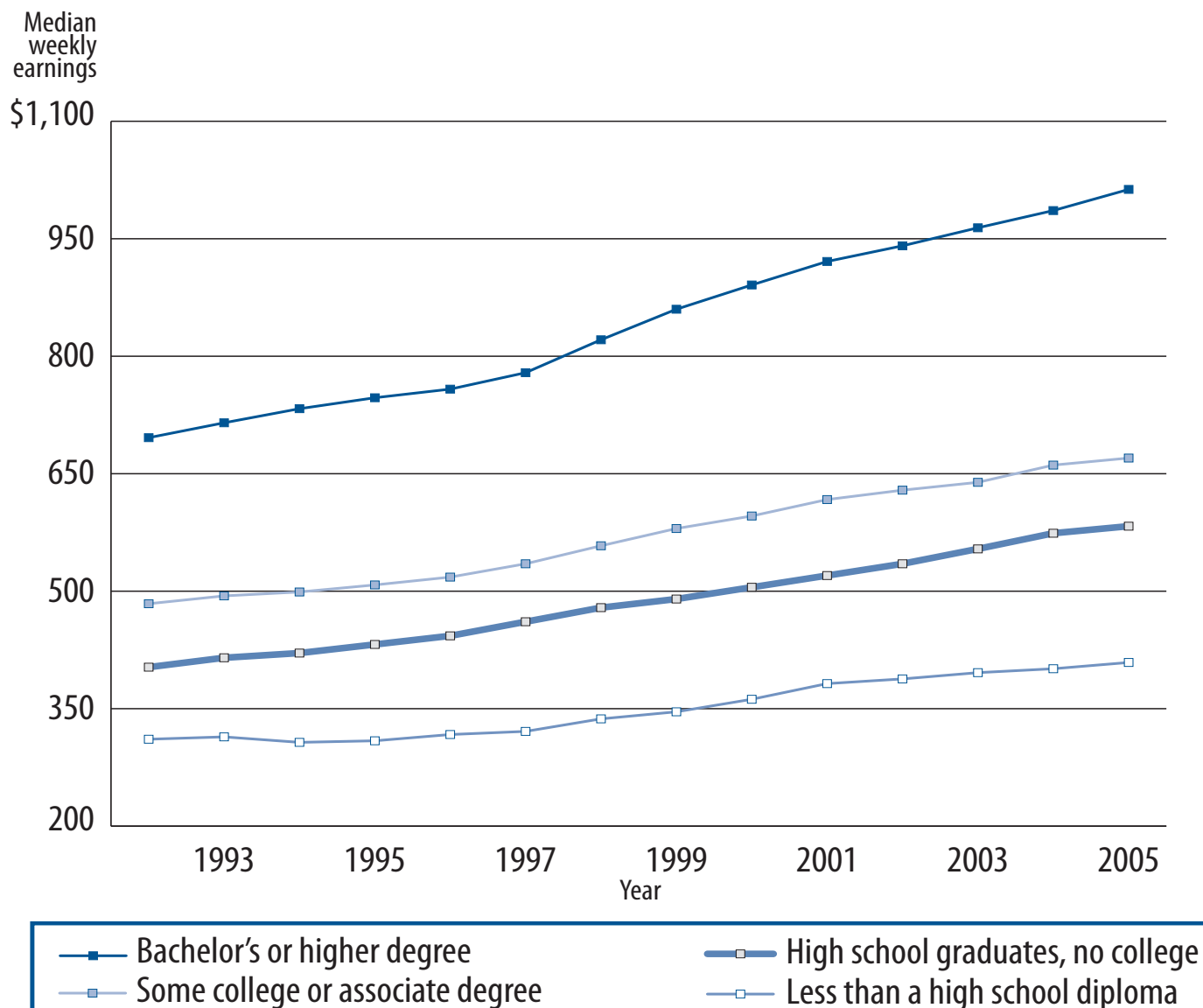
ing them for the first time. And learn about the difficulties of measuring the demand for college graduates and the strengths and limitations of this study's methods.

In this article, a college graduate is defined as a person who has a bachelor's, master's, or doctoral (Ph.D.) degree or a professional degree, such as one in law or medicine. For a discussion of associate degrees and other levels of education, see the companion article, "The 2004-14 job outlook for people who don't have a bachelor's degree," beginning on page 28 in this issue of the *Quarterly*.



**Chart 1**

**Usual median weekly earnings of full-time wage-and-salary workers 25 years and older by educational attainment, including advanced degrees, annual averages 1992-2005**



### College graduates: In demand and doing well

More people are going to college now than ever before, in part because of the advantages that a college degree confers. College-educated workers' higher earnings and lower unemployment are good reasons to go to college, and these benefits are also evidence of the demand for college graduates. Higher earnings show that employers are willing to pay more to have college graduates work for them. And lower unemployment means college graduates are more likely to find a job when they want one.

### More people going to college

The number of people who have a college degree has been increasing steadily. According to Current Popula-

tion Survey data, the number of people aged 25 and older who have a college degree grew from 37 million to 54 million between 1994 and 2006. By mid-2006, more than 28 percent of people aged 25 and older had a bachelor's or higher degree.

### Higher earnings, lower unemployment

As a whole, college-educated workers earn more money than workers who have less education. In 2005, workers who had a bachelor's degree had median weekly earnings of \$937, compared with \$583 a week for high school graduates—that's a difference of \$354 per week, or a 61-percent jump in median earnings. (Median earnings show that half of the workers in the educational category



earned more than that amount, and half earned less.) For workers who had a master's, doctoral, or professional degree, median earnings were even higher. The OoChart on page 60 is a graphic illustration of how education affects earnings.

Higher earnings for college graduates are a long-term trend. The wages of college-educated workers have been rising over the past decade—and they've been rising faster than the earnings of other workers. (See chart 1.)

In addition to earning more money, workers who have more education are also less likely to be unemployed. At 2 percent, the 2005 unemployment rate for workers who have a bachelor's or higher degree is half the rate for high school graduates (4 percent) and less than a third of the rate for dropouts (7 percent).

Higher earnings and less unemployment combine to give graduates substantially higher incomes over a lifetime compared with their less-educated counterparts.

### **The trouble with averages**

Statistics about college graduates paint a rosy—and numerically accurate—picture of overall employment. But the data describe college graduates as a whole. High

*Openings for college graduates are expected in many types of occupations.*

earnings are not guaranteed for individual graduates.

For every graduate who earns more than the median, another earns less. And while unemployment rates are low overall, many college graduates sometimes have trouble finding work, especially if they are waiting for a particular type of job.

People's career prospects depend on many factors besides having a college degree. The local job market, the type of degree, the level of experience and skill, the occupation that a person is trying to enter, and many other considerations play a role in job-search success.

### **Occupations with many openings**

Between 2004 and 2014, BLS projects 55 million job openings for workers who are entering an occupation for the first time. Of these, at least 13.9 million are expected to be filled by college-educated workers. More than half of these openings are expected to come from the need to fill newly created jobs. The rest are projected to come from the need to replace workers who retire or leave an occupation permanently for other reasons. Many of



today's college-educated workers are poised to retire, and replacement needs are expected to be high, especially in large occupations.

In some occupations, most workers have a bachelor's or higher degree. In other occupations, education levels vary. Many occupations that are expected to have the most openings for college graduates relate to business, computers and engineering, education, counseling, or healthcare, but all career types will provide opportunities.

### **“Pure college” occupations**

For this study, analysts assumed that every future job opening in some occupations would be for a college-educated worker. In these “pure college” occupations, at least 60 percent of current workers aged 25-44 have a bachelor's or higher degree, fewer than 20 percent have a high school diploma or less education, and fewer than 20 percent have taken college courses but do not have a bachelor's degree. Even if some workers in these oc-

cupations do not have a bachelor's or higher degree, all openings are counted as being for college-educated workers because that characterization most accurately reflects the job market that new workers face. (For more about the methods used to count job openings, see “How these numbers were developed,” beginning on page 54.)

BLS projects that pure-college occupations will provide about 6.9 million openings over the 2004-14 decade for college graduates who are entering an occupation for the first time. Chart 2 shows the 20 pure-college occupations expected to offer the most openings during the projections decade. Like nearly all pure-college occupations, all of the occupations on the chart had 2004 median earnings above \$28,580, the median for all workers that year.

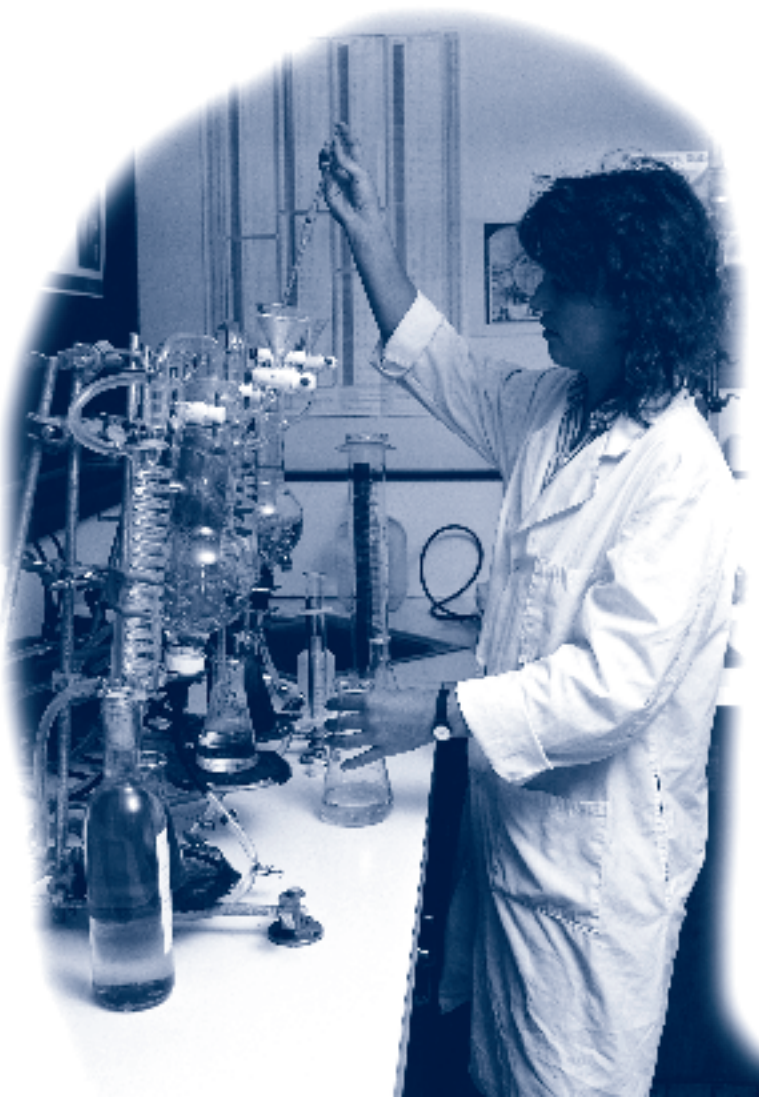
Despite high numbers of job openings, jobseekers can face strong competition when trying to enter some of the occupations on the chart. Occupations that offer high earnings and prestige, such as management analysts, attract many qualified workers. Sometimes, the number of qualified people who want these jobs can be greater than the number of openings.

Many of the occupations on chart 2 require more education than a bachelor's degree. In three of the occupations—lawyers, physicians and surgeons, and pharmacists—a professional degree is required. Similarly, physical therapists now need a master's degree to start.

In other occupations, educational requirements are more flexible. More than one-fourth of computer software engineers had a master's degree in 2005, for example, but most of these workers did not have education beyond a bachelor's degree. School teachers, too, often have a graduate degree, but many teachers earn that degree after they begin their careers. They take graduate-level courses in the evenings and summers to gain skills, qualify for higher salaries, and maintain certification. In many occupations, employment and advancement opportunities improve when a worker gets a graduate degree, even when one is not required.

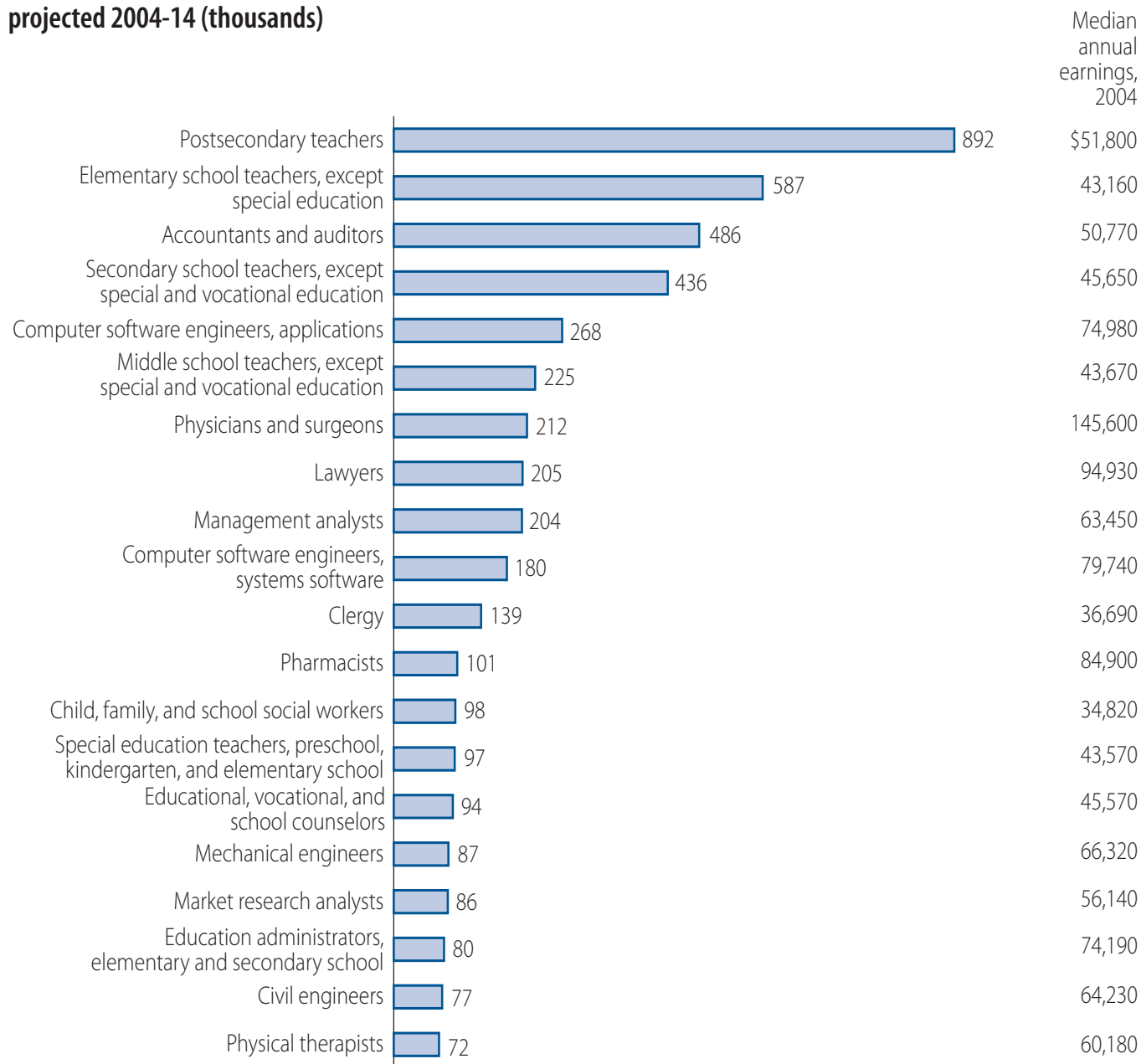
Education level may also determine the type of work a person can do in an occupation. Psychologists, for example, usually need a doctoral degree to do independent, clinical work, but some school psychologists do not need this level of education. Social workers can get some jobs

*Degrees in science often prepare workers for “pure college” occupations, or those in which most workers have a bachelor's or higher degree.*



**Chart 2**

**“Pure college” occupations with the most job openings for college graduates, projected 2004-14 (thousands)**



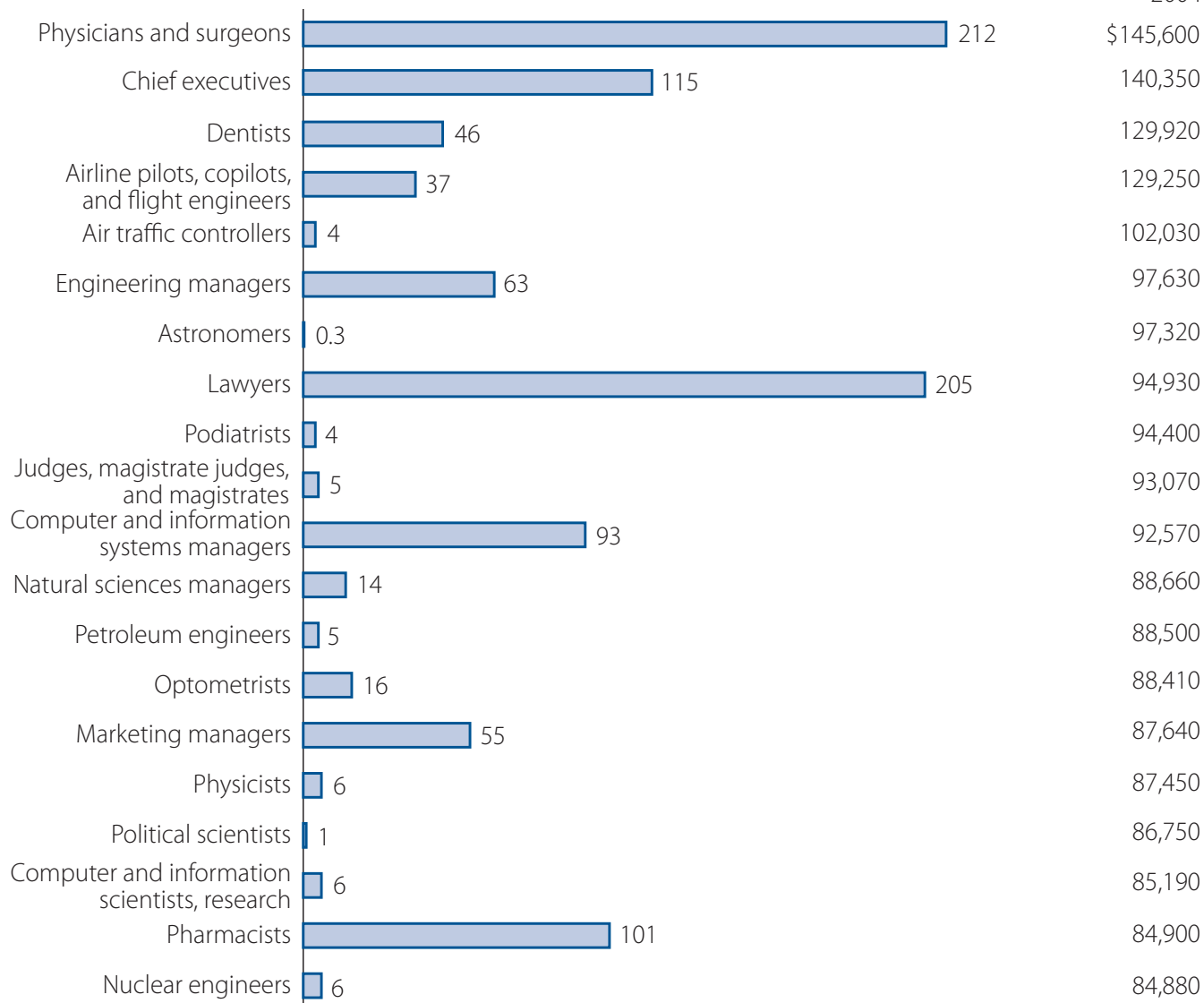
with a bachelor’s degree, but they often need a graduate degree to work in a clinical setting.

As a whole, occupations that employ mostly college graduates are expected to gain new jobs faster than occupations that employ workers who have less education. Between 2004 and 2014, pure-college occupations are projected to grow 19 percent overall, faster than the 13-percent average growth projected for all occupations. Sixteen of the 20 pure-college occupations on chart 2 are projected to grow faster than the average. And three—postsecondary teachers, computer applications software

engineers, and physical therapists—are projected to grow more than twice as fast as the average.

Chart 3 shows the college-level occupations with the highest 2004 median earnings, along with their projected openings. All are pure-college occupations, and all require a graduate degree or work experience or both. Several of the occupations, including lawyers and physicians and surgeons, have many self-employed workers. But because the earnings data are for wage-and-salary workers only, the earnings of the self-employed are not included.

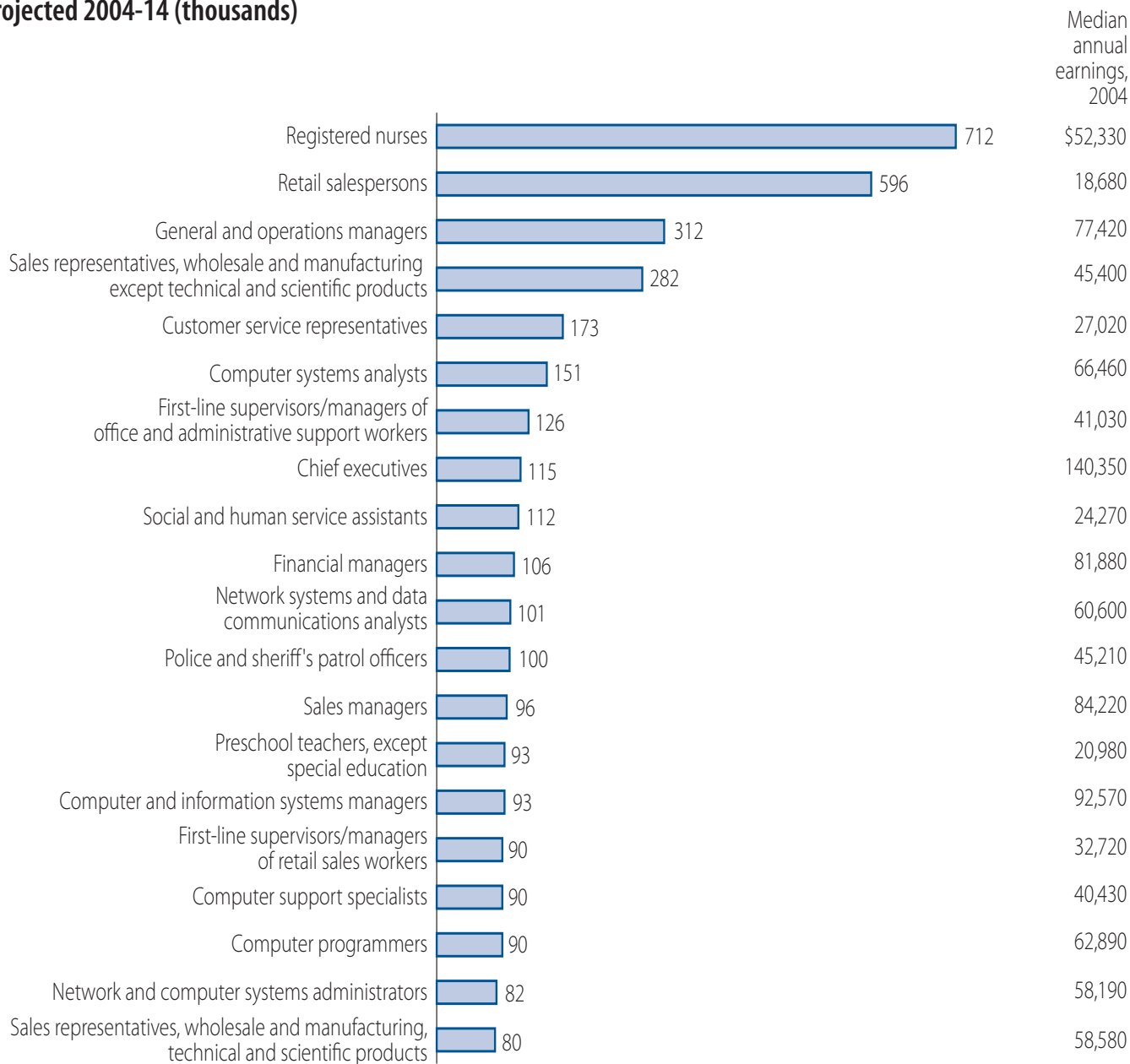


**Chart 3****Highest paying occupations and job openings for college graduates  
(openings in thousands, projected 2004-14)**Median  
annual  
earnings,  
2004**“Mixed education” occupations**

Many college graduates work in occupations that employ workers who have a variety of education levels. Over the 2004-14 decade, about 15.6 million openings are projected to be in occupations in which the number of college-educated workers is significant—20 percent or more—but which also employ a significant number of workers with other levels of education. Of the 15.6 million job openings in these “mixed education” occupations, BLS expects 7 million to be filled by college graduates based on current educational patterns within occupations.

Chart 4 shows the mixed-education occupations that are expected to provide the most openings over the projections decade for college graduates who are entering the occupation for the first time. The chart shows the openings that are expected to be filled by college graduates; it does not show total openings. For example, of the 1.2 million job openings projected for registered nurses, about 700,000 are projected to be filled by bachelor’s or higher degree holders based on nurses’ current levels of education.

In many mixed-education occupations, including

**Chart 4****“Mixed education” occupations with the most job openings for college graduates, projected 2004-14 (thousands)**

registered nurses, police and sheriff's patrol officers, and wholesale and manufacturing sales representatives, education levels have been rising, so the openings shown here might be underestimates.

Some employers prefer their new hires for certain occupations to be college graduates, even though many existing workers do not have a degree. A degree may qualify workers to take on more complex tasks or may increase opportunities for advancement and responsibility. Human and social service assistants, for example, are more likely to run a group home, coordinate projects, or

provide counseling if they have a college degree.

In other occupations—such as retail salespersons—a degree is less likely to affect job duties. Many college graduates choose these occupations for the plentiful opportunities and flexible hours that they offer.

Mixed-education occupations make it difficult to measure with certainty the demand for college graduates. Defining a college-level occupation is subjective. Some openings in an occupation might require a degree; for other openings, a degree might be useful; and for still other openings, a degree might not matter as much.



**Table 1**  
Selected art and writing occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Public relations specialists	70	\$43,830	Bachelor's degree	5%	15%	81%
Writers and authors	50	44,350	Bachelor's degree	5	12	83
Editors	50	43,890	Bachelor's degree	5	11	84
Graphic designers	42	38,030	Bachelor's degree	16	30	54
Multi-media artists and animators	23	50,360	Bachelor's degree	18	27	55
Actors	21	23,462	Long-term on-the-job training	12	16	72
Photographers	21	26,080	Long-term on-the-job training	24	27	49
Producers and directors	21	52,840	Bachelor's plus experience	6	20	73
Technical writers	20	53,490	Bachelor's degree	5	22	73
Reporters and correspondents	16	31,320	Bachelor's plus experience	3	7	90

### Career fields with promise

Many people who decide to earn a college degree already have some idea of the subjects they'd like to study and the career fields they'd like to prepare for. College graduates can qualify for most occupations with a range of majors; qualification may hinge on traits including evidence of interest and hard work, previous experience and internships, and specific coursework that demonstrates job skills.

Still, college subjects do correspond to particular

occupations, and studying those subjects can give you an edge. This section describes seven career areas expected to have openings for college graduates. For each area, a table shows a few of the related occupations and their expected openings, usual education level, and 2004 median earnings. There are many other career areas for college graduates and many other occupations within each area.

*Artists and writers.* Many openings for college graduates are expected in occupations that relate directly to writing and the arts. Communications technology and

**Table 2**  
Selected business, finance, and sales occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Accountants and auditors	486	\$50,770	Bachelor's degree	7%	18%	75%
Sales representatives, wholesale and manufacturing, except technical and scientific products	282	45,400	Moderate-term on-the-job training	24	27	50
Management analysts	204	63,450	Bachelor's plus experience	8	16	76
First-line supervisors/managers of retail sales workers	90	32,720	Work experience in a related occupation	41	34	25
Sales representatives, wholesale and manufacturing, technical and scientific products	80	58,580	Moderate-term on-the-job training	24	27	50
Financial analysts	63	61,910	Bachelor's degree	5	10	85
Personal financial advisors	61	62,700	Bachelor's degree	5	13	82
Employment, recruitment, and placement specialists	57	41,190	Bachelor's degree	16	27	57
Insurance sales agents	56	41,720	Bachelor's degree	21	33	46
Marketing managers	55	87,640	Bachelor's plus experience	12	22	66

**Table 3**  
Selected computer and engineering occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Computer software engineers, applications	268	\$74,980	Bachelor's degree	4%	13%	83%
Computer software engineers, systems software	180	79,740	Bachelor's degree	4	13	83
Computer systems analysts	151	66,460	Bachelor's degree	9	25	66
Network systems and data communications analysts	101	60,600	Bachelor's degree	9	31	60
Computer support specialists	90	40,430	Associate degree	17	42	41
Computer programmers	90	62,890	Bachelor's degree	6	22	72
Mechanical engineers	87	66,320	Bachelor's degree	4	16	80
Network and computer systems administrators	82	58,190	Bachelor's degree	13	35	51
Civil engineers	77	64,230	Bachelor's degree	3	9	87
Industrial engineers	54	65,020	Bachelor's degree	9	22	70

the expansion of media outlets are driving job growth in these areas, and the need to replace retiring workers is expected to create additional opportunities for new graduates.

Table 1 shows some of the occupations related to writing and the arts that are expected to have numerous openings during the 2004-14 decade. Earnings vary widely, and strong competition for jobs is expected in nearly all of these occupations.

**Business, finance, and sales.** The growing complexity of business is expected to increase the demand for college graduates who have formal business training. These graduates will be needed to manage rising personal incomes and growing competition among businesses and to comply with increased regulation of financial activity.

Sales occupations, too, are expected to grow along

with the overall economy. Many workers in sales occupations do not have a college degree, but many others do. Having a degree is especially valued in occupations involving the sale of scientific or technical products.

Table 2 shows several occupations that are expected to have numerous openings for college graduates between 2004 and 2014. Coursework in business-related subjects is good preparation for all of them. For some occupations, such as accountant and auditor, specific business courses are required for licensure.

**Computers and engineering.** The demand for new products and new technology is expected to continue to drive growth in computer and engineering occupations. Occupations in emerging engineering specialties, including biotechnology and environmental engineering, are expected to gain jobs rapidly over the projections decade. However, these specialties are expected to remain small and to provide fewer openings than larger engineering specialties, such as mechanical and computer engineering.

Table 3 shows the computer and engineering occupations that are projected to have the most openings over the 2004-14 decade. For the computer occupations shown, a computer-related degree is preferred but often is not required. The engineering occupations, however, usually require specific engineering coursework.

*“Mixed education” occupations include sales workers, who have varied levels of education and experience.*



**Table 4**  
Selected counseling and social science occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Clergy	139	\$36,690	Master's degree	11%	14%	75%
Police and sheriff's patrol officers	100	45,210	Long-term on-the-job training	20	50	30
Child, family, and school social workers	98	34,820	Bachelor's degree	8	16	76
Educational, vocational, and school counselors	94	45,570	Master's degree	11	16	72
Market research analysts	86	56,140	Bachelor's degree	6	15	79
Clinical, counseling, and school psychologists	68	54,950	Doctoral degree	0	1	99
Rehabilitation counselors	61	27,870	Master's degree	11	16	72
Mental health and substance abuse social workers	51	33,920	Master's degree	8	16	76
Mental health counselors	48	32,960	Master's degree	11	16	72
Substance abuse and behavioral disorder counselors	39	32,130	Master's degree	11	16	72

**Counseling and social science.** Several trends are projected to increase the need for counselors, social workers, and psychologists over the 2004-14 decade: More schools are hiring trained counselors, and more people are seeking counseling for family problems, substance abuse, and mental disorders.

The occupations on table 4 are expected to have the most openings for workers who have education in counseling and social science. But openings will also exist in

occupations that relate to other social science specialties, including geography and economics.

**Education.** Education-related occupations are expected to provide plentiful opportunities for college graduates. (See table 5.) Most openings will come from the need to replace the thousands of teachers and administrators expected to retire. Additional positions will come from efforts to reduce class sizes and from the increasing enrollments at colleges and universities.

**Table 5**  
Selected education occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Postsecondary teachers	892	\$51,800	Doctoral degree	2%	5%	93%
Elementary school teachers, except special education	587	43,160	Bachelor's degree	3	5	92
Secondary school teachers, except special and vocational education	436	45,650	Bachelor's degree	2	3	95
Middle school teachers, except special and vocational education	225	43,670	Bachelor's degree	3	5	92
Special education teachers, preschool, kindergarten, and elementary school	97	43,570	Bachelor's degree	3	5	92
Preschool teachers, except special education	93	20,980	Postsecondary vocational award	21	31	48
Self-enrichment education teachers	59	30,880	Work experience in a related occupation	14	33	53
Special education teachers, secondary school	58	45,700	Bachelor's degree	3	5	92
Instructional coordinators	50	48,790	Master's degree	2	11	87
Librarians	46	45,900	Master's degree	5	10	85



**Table 6**  
Selected healthcare occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Registered nurses	712	\$52,330	Associate degree	2%	40%	58%
Physicians and surgeons	212	145,600	First professional degree	1	2	97
Pharmacists	101	84,900	First professional degree	1	2	97
Physical therapists	72	60,180	Master's degree	2	8	90
Medical and clinical laboratory technicians	44	30,840	Associate degree	18	34	48
Occupational therapists	43	54,660	Master's degree	0	15	85
Medical and clinical laboratory technologists	43	45,730	Bachelor's degree	18	34	48
Speech-language pathologists	38	52,410	Master's degree	<1	<1	99
Physician assistants	29	69,410	Bachelor's degree	6	26	69
Veterinarians	25	66,590	First professional degree	3	1	95

Workers in education-related occupations train in a variety of subjects. Some have education degrees, but many others take courses or train on the job after earning a degree in another subject. Postsecondary teachers usually have an advanced degree in the subject that they teach, and nearly all librarians have a graduate degree in library or information science.

**Healthcare.** The need for healthcare—and healthcare practitioners—will increase as the population ages, providing job openings for people who have the appropriate education.

As shown on table 6, earnings vary widely in healthcare occupations, with those that require more education offering higher salaries on average. The table lists an

associate degree as the most significant form of training for registered nurses and clinical and medical laboratory technicians, but these workers sometimes have more opportunities for advancement if they have a bachelor's degree.

**Science.** Many scientists will retire during the projections decade, and the need to replace them is projected to create openings in science-related occupations. Additional openings are expected from the need to create new products and explore problems, such as bioterrorism.

Opportunities span scientific disciplines and exist for workers with a variety of education levels, as table 7 shows. Competition for the most attractive science jobs can be keen.

**Table 7**  
Selected science occupations

Occupation	Net job openings for college graduates, projected 2004-14 (thousands)	Median annual earnings, 2004	Most significant source of postsecondary education or training	Percent of workers aged 25 to 44 with...		
				High school diploma or less	Some college or associate degree	Bachelor's or higher degree
Medical scientists, except epidemiologists	37	\$61,320	Doctoral degree	1%	1%	98%
Chemists	33	56,060	Bachelor's degree	3	3	94
Environmental scientists and specialists, including health	26	51,080	Master's degree	3	4	93
Biological technicians	13	33,210	Associate degree	31	9	59
Biochemists and biophysicists	8	68,950	Doctoral degree	1	3	96
Microbiologists	7	54,840	Doctoral degree	1	3	96
Zoologists and wildlife biologists	7	50,330	Bachelor's degree	1	3	96
Geoscientists, except hydrologists and geographers	7	68,730	Master's degree	3	4	93
Conservation scientists	7	52,480	Bachelor's degree	6	9	85
Physicists	6	87,450	Doctoral degree	3	5	92

### **How these numbers were developed**

There are many ways to measure job outlook by education, and each method has strengths and limitations. This analysis focuses on future job openings because job openings show how many new workers will be able to enter an occupation.

Deciding which job openings will be filled by college graduates is more complicated. Counselors and jobseekers often ask which occupations are “college level.” But answering that question is difficult because workers in most occupations come from many different educational backgrounds. This analysis uses the education levels of current workers as an objective way to account for this variation.

Like any analysis based on projections and estimates, though, this one has limitations to its accuracy. Understanding these limitations helps people better use the results.

*Thousands of opportunities in education-related occupations will come from the need to replace teachers and administrators who retire.*

### **Methods used**

To estimate the demand for college graduates between 2004 and 2014, BLS analysts got specific. First, they projected the number of job openings for workers entering each of more than 500 occupations over the decade. Next, analysts estimated how many of these openings would be filled by college graduates.

**Measuring job openings.** Job openings come from two sources: the need to fill newly created jobs and the need to replace workers who retire or leave an occupation permanently for other reasons.

To estimate the number of newly created jobs, analysts projected how much each occupation would grow or decline between 2004 and 2014. An occupation might gain jobs for many reasons. Sometimes, the demand for a specific good or service creates the need for additional workers in an occupation, such as when an increased use of computer software creates a greater need for software engineers. The way a good is produced or a service is provided can also lead to more jobs in an occupation. Rather than relying solely on teachers and administrators to guide and educate students, for example, more schools are hiring counselors and psychologists, creating more



openings for those workers. In the same way, a decrease in the demand for a good or service or a change in production methods can reduce the numbers of jobs and openings in an occupation.

The second source of job openings is replacement needs. To estimate how many workers will need to be replaced during the projections decade, BLS analysts studied the ages of current workers and the length of time that workers in each occupation usually remain. In occupations that require high levels of training, workers tend to stay longer. In other occupations, especially those that have shorter training periods, workers tend to leave or retire more quickly.

**Job openings for college graduates.** After analysts projected the number of job openings for workers entering an occupation, they estimated how many of those openings would be for college graduates. Using information from 2000-04 Current Population Survey data, analysts classified current workers' educational attainment into one of three categories: a high school diploma or less, some college but no bachelor's or higher degree, or a bachelor's or higher degree. If at least 20 percent of workers in an occupation belonged to a given educational category, that level was deemed significant. Expected openings were divided among each of these significant education categories, according to how common each category was.

For example, the occupation of real estate sales agents includes workers in each educational category: About 20 percent have a high school diploma or less, 40 percent have some college coursework or an associate degree but no bachelor's degree, and 40 percent have a bachelor's or higher degree. Projected openings were divided among the education categories using those percentages.

For some occupations, a bachelor's or higher degree was the only education level common enough to be significant. At least 60 percent of workers in the occupation were college graduates, and fewer than 20 percent of workers belonged to the other two educational categories. In these pure-college occupations, every projected opening was considered to be for a college graduate.

In addition to using the three educational attainment categories, this article provides specific information about the types of degrees commonly required in some occupations. This type of information comes from the occupational analyses conducted for the *Occupational*

*Outlook Handbook*.

**Earnings data.** This analysis uses earnings data from two surveys: the Current Population Survey and the Occupational Employment Statistics survey. Earnings data from the Current Population Survey were used to compare earnings by education. Earnings data from the Occupational Employment Statistics survey provide median earnings for each occupation as a whole.

The two surveys are different. The Current Population Survey is a household survey that asks workers themselves to give earnings, occupational, educational, and other types of information. The Occupational Employment Statistics survey, an establishment survey, asks employers to provide earnings and occupational information about their workers; it does not include the self-employed.

### **Limitations of the data**

To measure job openings for college graduates, BLS analysts needed to make assumptions about the future. First, analysts assumed that the education levels in each occupation would remain roughly the same over the 2004-14 decade. In reality, the educational characteristics of some occupations change over time. Many occupations—such as registered nurses and police officers—have had a gradual increase in the number of workers who have a bachelor's degree.

Analysts also ignored education levels that were uncommon in an occupation; as stated previously, at least 20 percent of workers in an occupation had to have a given level of education for it to be considered significant. So, for example, even though almost 18 percent of engineering technicians have a college degree, none of that occupation's projected openings were counted as openings for college graduates.

Another limitation of this study is that it focuses on the number of job openings projected in an occupation. But job openings give only a partial view of the prospects that workers can expect. The number of people who will compete for openings is also important. For most occupations, however, BLS analysts do not have enough information to gauge the competitiveness of the job market.

Finally, the accuracy of this study is limited by its use of survey data. Surveys are always subject to some error because they do not count every worker and because the information that they gather is sometimes incorrect. In addition, the education levels of many occupations,



including some in the tables, could not be determined with statistical accuracy because the number of workers surveyed was too small. In those cases, analysts substituted the education levels of similar occupations or groups of occupations that had larger numbers of workers.

Even with its assumptions and limitations, however, there is evidence that the method described here produces accurate results. When existing jobs are separated into educational categories using this method, the results closely match current numbers.

### For more information

This article shows expected job openings in only a few of the occupations available to workers who have a college degree. To learn about the expected job openings in every occupation studied, see the 2006-07 *Occupational Projections and Training Data* bulletin, which also explains in greater detail the methods used in this analysis. The bulletin is online at [www.bls.gov/emp/optd/home.htm](http://www.bls.gov/emp/optd/home.htm).

To learn more about the occupations described in this article and in the bulletin, see the 2006-07 *Occupational Outlook Handbook*. The *Handbook* describes job outlook, education and training requirements, job duties, and more for nearly 275 occupations; it is available in many libraries and career centers. It is also online at [www.bls.gov/oco](http://www.bls.gov/oco).

Other issues of the *Quarterly* offer more information about some of those occupations and about other occupations that are popular with college graduates. See, for example, “Project managers stay in charge and out front,” in the summer 2006 issue (see the article online at [www.bls.gov/opub/ooq/2006/summer/art03.pdf](http://www.bls.gov/opub/ooq/2006/summer/art03.pdf)); “Groupmakers and grantmakers: Jobs in advocacy, grant-making, and civic organizations,” in the fall 2005 issue (see [www.bls.gov/opub/ooq/2005/fall/art04.pdf](http://www.bls.gov/opub/ooq/2005/fall/art04.pdf)); and “Geography jobs,” in the spring 2005 issue (see [www.bls.gov/opub/ooq/2005/spring/art01.pdf](http://www.bls.gov/opub/ooq/2005/spring/art01.pdf)).

To order these publications from BLS, call the U.S. Government Printing Office toll-free, 1 (866) 512-1800.

BLS is not the only organization that gathers data on

the demand for and earnings of college graduates. Associations, both professional ones for specific occupations and general ones such as the National Association of Colleges and Employers, often conduct surveys on employers’ hiring needs, workers’ education levels, and workers’ earnings. Find contact information for these associations in the *Occupational Outlook Handbook* or in the resource section of your local library.


For those considering college, the U.S. Department of Education provides additional information and assistance, including tips on financial aid. Most college students receive some form of financial aid through programs administered by the Department of Education. The Department provides applications for grants and loans, lists resources for finding scholarships, and maintains a searchable database of colleges and universities by location, available majors, enrollment, and other characteristics. Write to the Federal Student Aid Information Center, P.O. Box 84, Washington, D.C. 20044-0084; call the financial aid hotline toll-free, 1 (800) 4FED-AID (433-3243); or visit online at [www.studentaid.ed.gov](http://www.studentaid.ed.gov).

School and career counselors can help you apply for Federal aid and other forms of financial assistance. They can also help you to identify additional career options beyond those described here.

Projections and education statistics are only a few of the factors to consider when deciding on a career. Other considerations, including working conditions, personal interests and strengths, and local labor market conditions, are also important. Career centers and labor market information offices can help you explore these matters. Find your local One-Stop Career Center and labor market information office by visiting America’s Service Locator online at [www.servicelocator.org](http://www.servicelocator.org) or by calling the U.S. Department of Labor’s toll-free career hotline, 1 (877) US2-JOBS (872-5627).

Choosing an occupation that is projected to have many opportunities can ease your way into employment. But in the end, it takes only one job opening to start a satisfying career.



A man in a white lab coat is seated at a workstation in a medical imaging room. He is looking at a monitor and holding a film. The room contains several monitors displaying medical images, a control panel with buttons, and a desk with a keyboard and mouse. The overall scene is in a cool, blue-toned color palette.

*In healthcare, as in many fields, openings are projected for workers at different levels of education—but higher earning occupations usually require more education.*