

# Occupational employment

**E**mployment change in occupations affects the opportunities available to jobseekers. Generally, occupations with rapid job growth, many new jobs, or many job openings offer better prospects.

This section shows how employment in occupations is projected to change over the 2004 to 2014 decade.

Most of these charts show which occupations or occupational groups are expected to grow fastest (percent change) or gain the most jobs (numeric change) during the 2004-14 projections decade.

But when it comes to employment prospects, job growth tells only part of the story. Job openings for workers also stem from the need to replace workers who leave an occupation permanently. Two charts show which occupations and occupational groups are expected to have the most openings for workers who are entering the occupation for the first time. These charts show projected openings both from job growth and from replacement needs (the need to replace workers who leave).

Overall employment growth is projected to average 13 percent from 2004 to 2014. This average is shown as a dotted line in some charts.

---

## Growth by occupational group

---

To better explain employment trends, the first charts in this section show employment growth in groups of occupations, categorized according to the tasks that workers in each group perform.

The 10 occupational groups follow in the order of their place in the Standard Occupational Classification:

◆ **Management, business, and financial operations occupations.** Many of these workers direct the activities of business, government, and other organizations and perform tasks related to finance and business. Examples include financial managers, school administrators, accountants, and food service managers.

◆ **Professional and related occupations.** Workers in this group perform a variety of functions throughout the economy in all industries. Examples are physical therapists, engineering technicians, lawyers, photographers, desktop publishers, and computer software engineers.

◆ **Service occupations.** This group includes workers who assist the public. Police, cooks, nursing aides, flight attendants, child care workers, and cosmetologists are examples.



◆ **Sales and related occupations.** Workers in this group are involved in the sale of goods and services, both to businesses and to consumers. Examples include cashiers, insurance sales agents, retail salespersons, telemarketers, and travel agents.

◆ **Office and administrative support occupations.** Workers in this group prepare and file documents, deal with the public, and gather and distribute goods and information. Examples include secretaries, stock clerks, mail carriers, computer operators, and receptionists.

◆ **Farming, fishing, and forestry occupations.** Workers in this group tend and harvest renewable resources. Examples include farmworkers, fishing vessel captains, and logging equipment operators. Workers who manage farms or ranches are counted in the management occupations group rather than this group.

◆ **Construction and extraction occupations.** This group includes workers in construction and building trades, mining, and oil and gas extraction. Examples include carpenters, electricians, roustabouts, and mining machine operators.

◆ **Installation, maintenance, and repair occupations.** Workers in this group install and maintain all types

of goods and equipment. They include avionics technicians, automotive service technicians and mechanics, bicycle repairers, industrial machinery mechanics, and millwrights.

◆ **Production occupations.** Most people in these occupations work as assemblers or machine operators, primarily in manufacturing industries. Examples include computer-controlled machine tool operators, machinists, textile occupations, power plant operators, and chemical equipment operators.

◆ **Transportation and material moving occupations.** Workers in this group include airline pilots, truck drivers, locomotive engineers, and parking lot attendants.

---

## Classification by postsecondary education and training obtained

---

As an aid to jobseekers and counselors, some charts focus on occupations that have similar education and training requirements. For each occupation they analyze, BLS economists choose the education and training category that is most significant for workers in that occupation—

either the category that is most common among workers currently in the occupation or the category that gives new workers the best chance of qualifying for a job. In nearly all occupations, however, workers have a variety of educational backgrounds.

Occupations fall within 1 of 11 education and training categories, ranging from a doctoral degree to short-term on-the-job training.

The postsecondary education and training categories are as follows:

- ◆ **First professional degree.** Completion of a first professional degree, such as a medical or law degree, usually requires at least 3 years of full-time academic study beyond a bachelor's degree.

- ◆ **Doctoral degree.** Completion of a doctoral degree, such as a Ph.D., usually requires at least 3 years of full-time academic study beyond a bachelor's degree.

- ◆ **Master's degree.** Completion of a master's degree usually requires 1 or 2 years of full-time academic study beyond a bachelor's degree.

- ◆ **Work experience, plus a bachelor's or graduate degree.** Occupations in this category usually include workers who have a bachelor's or graduate degree and related experience.

- ◆ **Bachelor's degree.** Completion of a bachelor's degree usually requires at least 4 years of full-time academic study beyond high school.

- ◆ **Associate degree.** Completion of an associate degree usually requires 2 years of full-time academic study beyond high school.

- ◆ **Postsecondary vocational training.** Postsecondary vocational programs vary in length, ranging from several weeks to 1 year or more. Completion of these programs leads to a certificate or other award but not an academic degree.

- ◆ **Work experience in a related occupation.** Occupations in this category are often supervisory and require workers to have experience in the occupation that is being supervised.

- ◆ **Long-term on-the-job training.** Occupations in this category usually require workers to have 1 year or more of on-the-job training. Apprenticeships and employer-sponsored training are classified here.

- ◆ **Moderate-term on-the-job training.** For occupations in this category, workers develop the skills that they need during 1 to 12 months of combined on-the-job experience and informal training.

- ◆ **Short-term on-the-job training.** For occupations in this category, workers develop the skills that they need after a short demonstration of job duties or during 1 month or less of on-the-job experience or instruction.

BLS has another, less specific, educational classification system based entirely on current educational attainment data. That system is featured in other, more technical, BLS publications. (See page 7.)

## Earnings

Many people consider earnings an important job characteristic. Therefore, some charts include earnings rankings based on 2004 data. In these charts, employment is divided into four earnings ranges, or quartiles. The charts identify an occupation's earnings quartile using dollar signs, with \$\$\$\$ indicating that the occupation's median earnings fall within the highest earnings range and \$ indicating that they fall within the lowest. Levels correspond with the following ranges:

Symbol	Earnings quartile	Range
\$\$\$\$	Very high	\$43,600 and higher
\$\$\$	High	\$28,580 to \$43,590
\$\$	Low	\$20,190 to \$28,570
\$	Very low	\$20,180 and lower

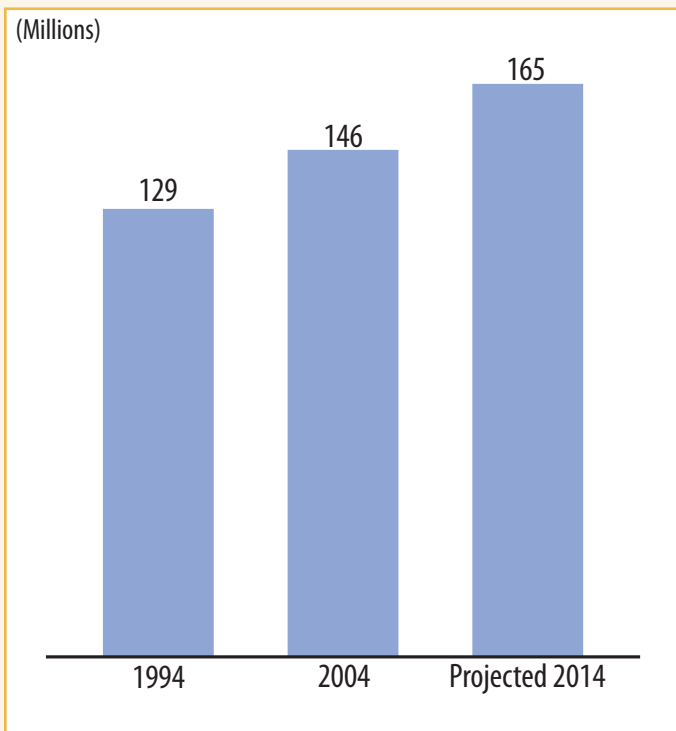
The ranges are structured so that each contains one-fourth of all employment. So, for example, occupations in the highest range have median earnings that fall within the top one-fourth of earnings for all workers.

Rankings are a useful guide, but earnings vary widely within each occupation. For example, paralegals and legal assistants had median annual earnings of \$39,130 in 2004, placing them in the high-earnings quartile (\$\$\$). But the highest paid 10 percent of these workers earned \$61,390 or more, and the lowest paid 10 percent earned \$25,360 or less.

For detailed earnings information about occupations, visit the Division of Occupational Employment Statistics online at [www.bls.gov/oes](http://www.bls.gov/oes), or call (202) 691-6569.

Earnings in these charts are for wage-and-salary workers only. The earnings for self-employed workers are not included in these measurements. But the employment figures and projections include all workers, both wage and salary and self-employed. The chart on page 29 shows the occupations projected to have the most self-employed workers in 2014.

Employment, 1994, 2004, and projected 2014

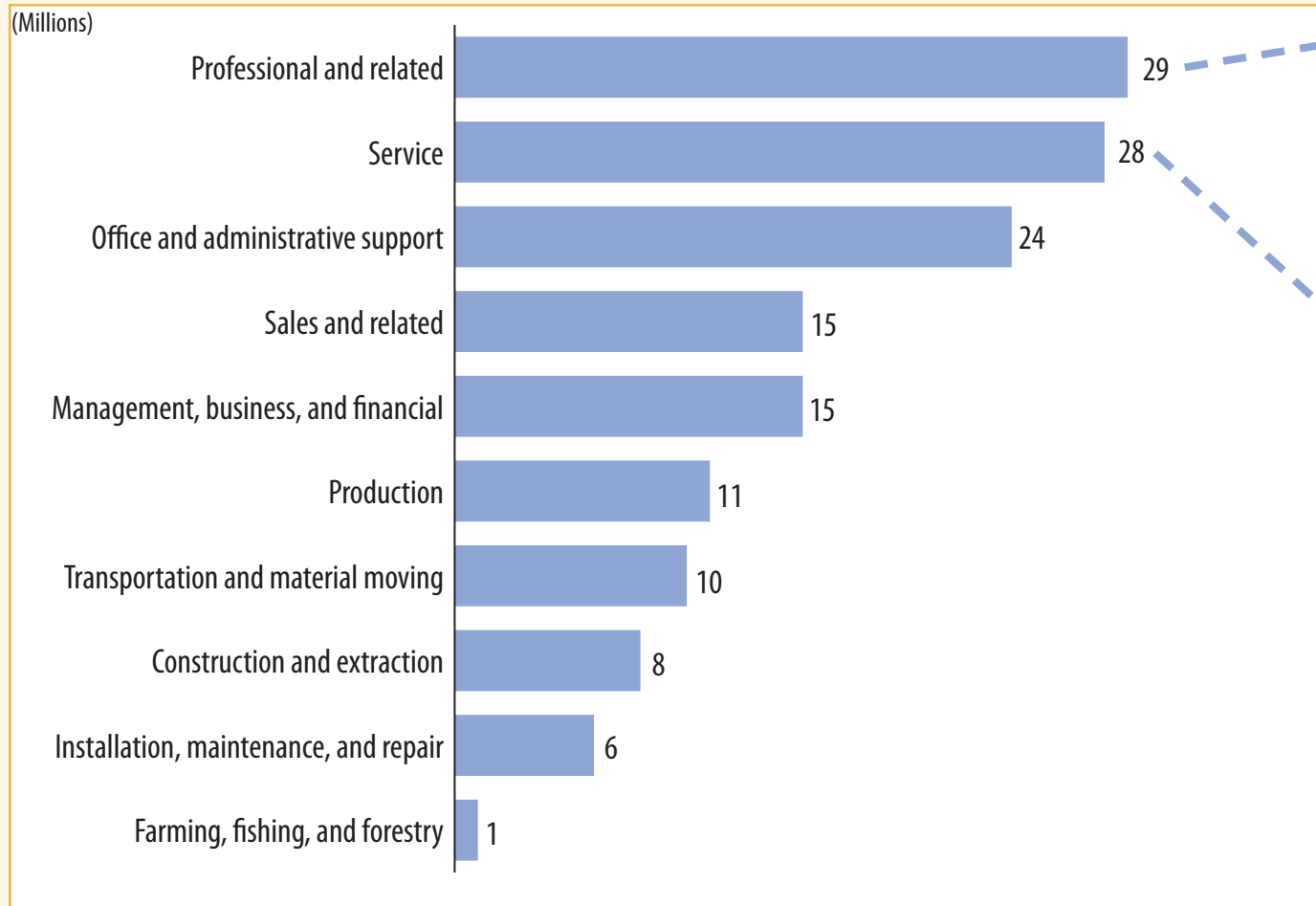


By 2014, the total number of jobs in the United States is projected to reach about 165 million.

# Occupational employment

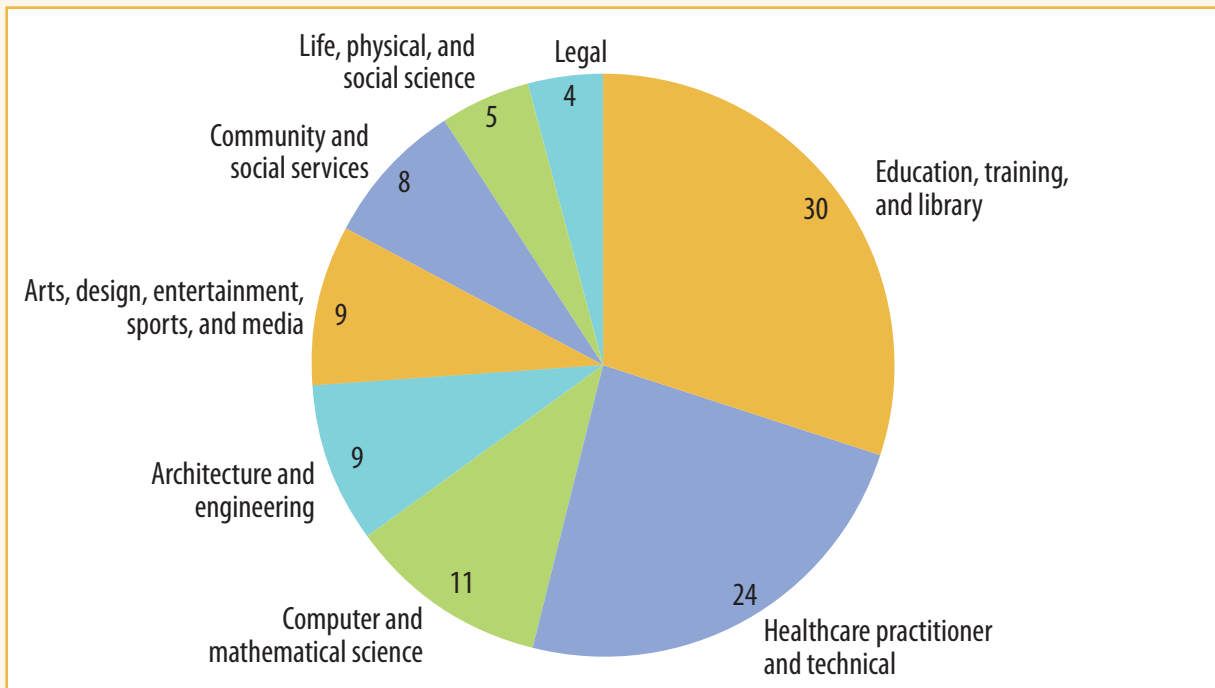
## Employment, 2004

Numeric employment by major occupational group, 2004



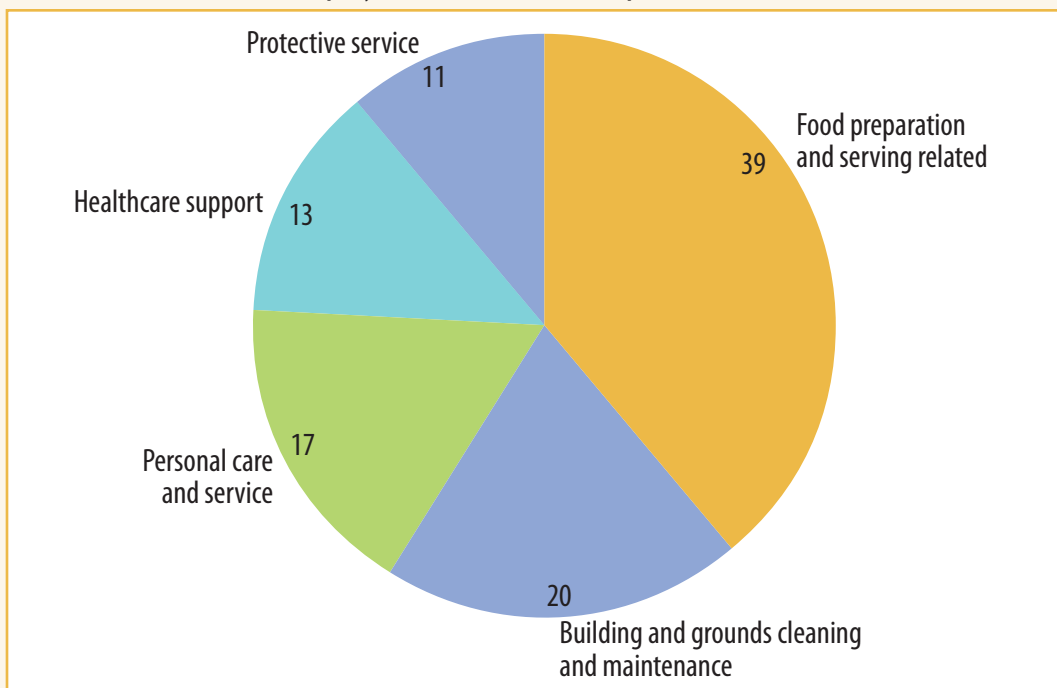
Occupations are grouped broadly, based on the tasks that the workers in them perform. In 2004, the largest of the major groups were professional and related occupations and service occupations.

### Percent distribution of employment in professional and related occupations, 2004



The professional and related group covers a wide range of occupations. Within this category, education, training, and library occupations had the largest share of employment in 2004.

### Percent distribution of employment in service occupations, 2004

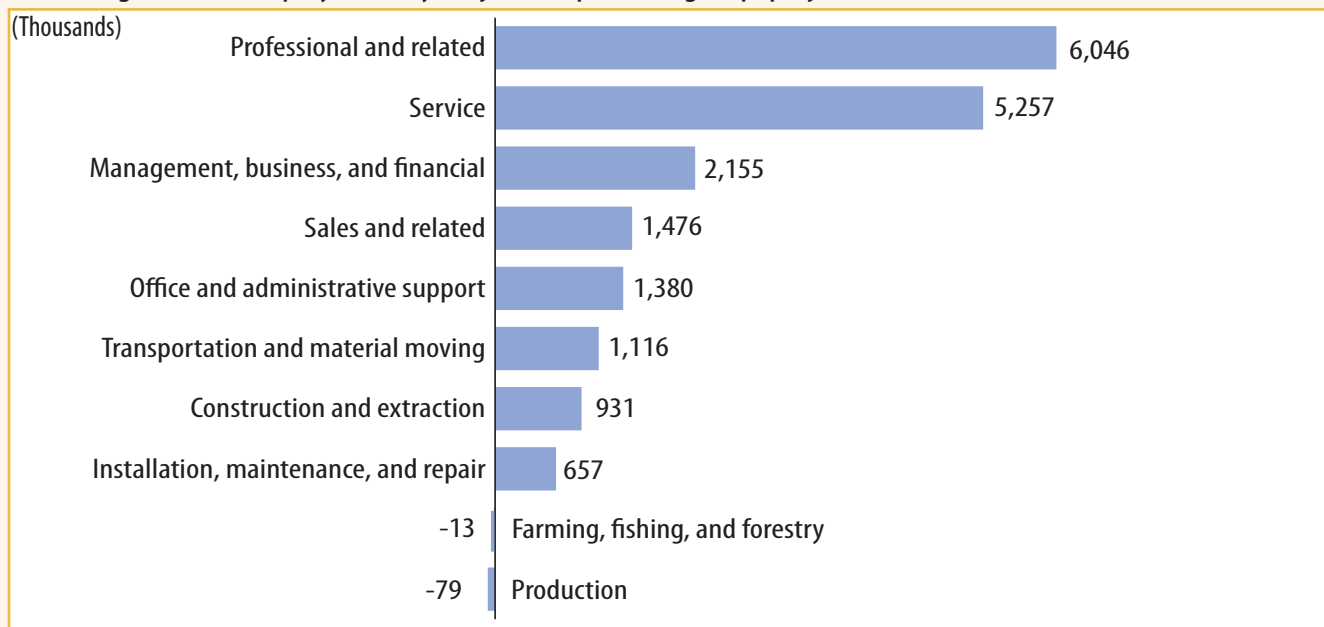


Service occupations are equally diverse. Occupations related to preparing and serving food had the largest share of jobs.

# Occupational employment

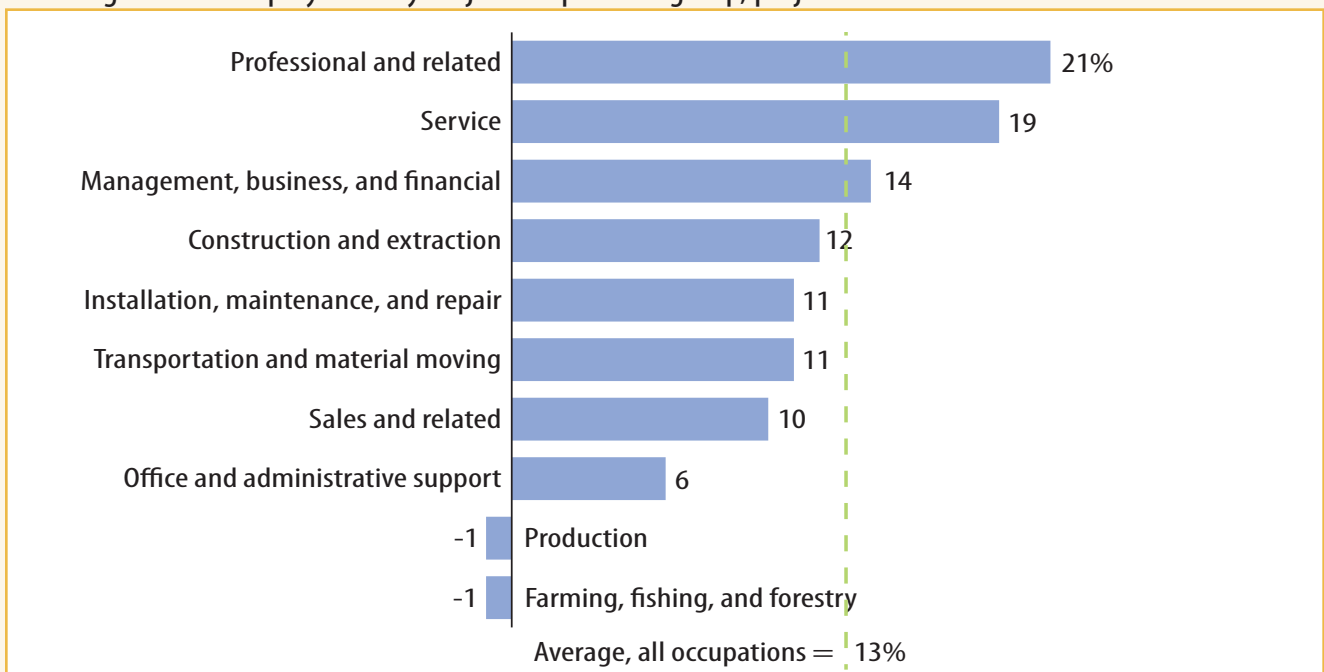
## Employment growth

Numeric growth in employment by major occupational group, projected 2004-14



Professional and related occupations and service occupations are projected to add the most new jobs to the U.S. economy between 2004 and 2014. Two occupational groups are projected to lose jobs, in part because technology is increasing worker productivity.

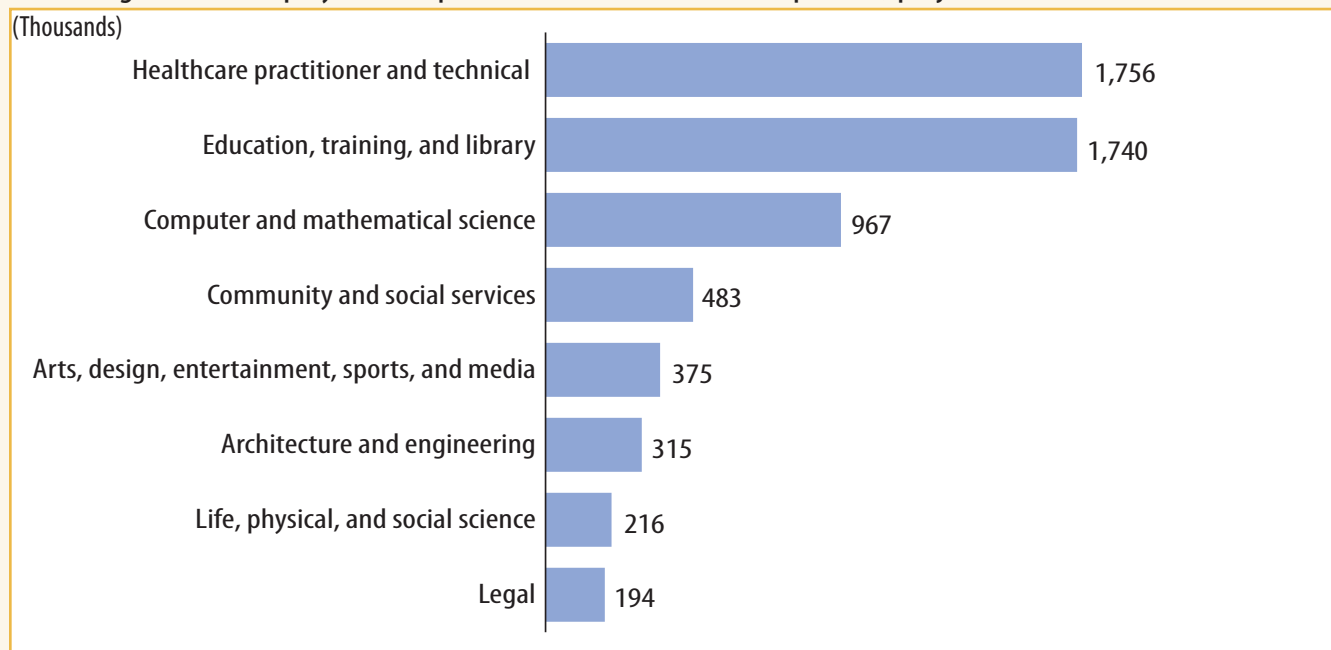
Percent growth in employment by major occupational group, projected 2004-14



Between 2004 and 2014, professional and related occupations and service occupations are expected to grow faster than any other occupational group.

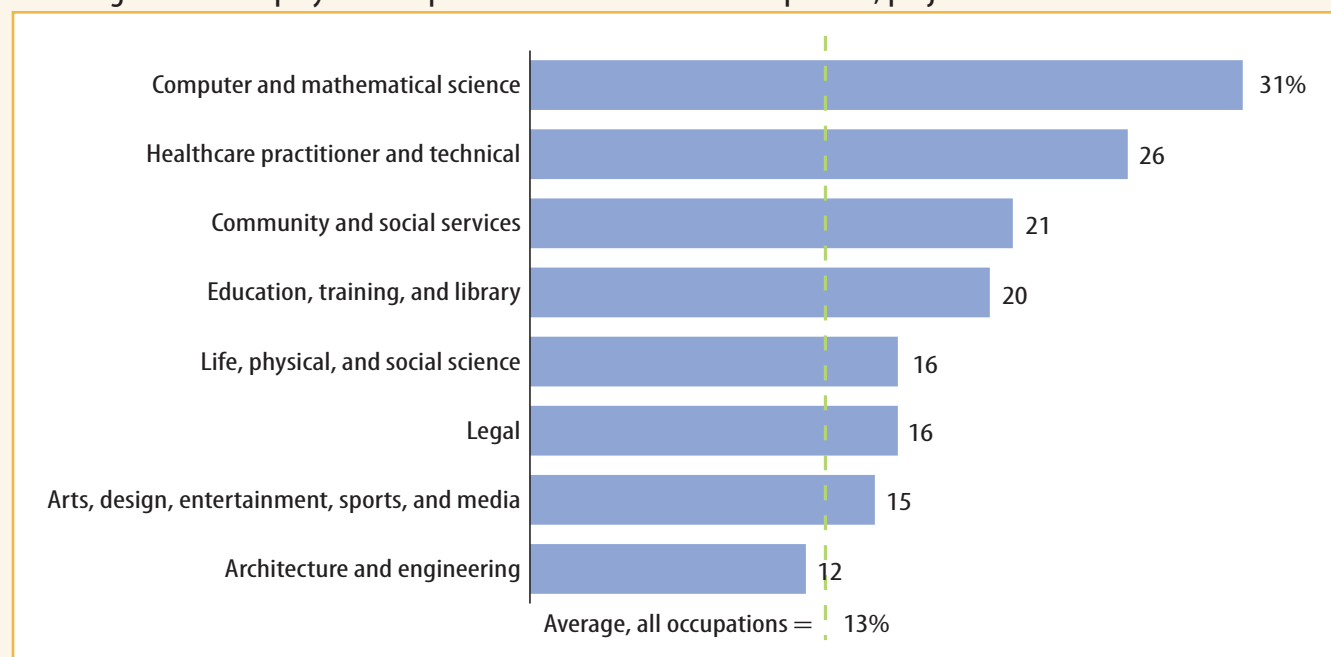
## Employment growth

### Numeric growth in employment in professional and related occupations, projected 2004-14



Within the professional and related group, healthcare practitioner and technical occupations and education, training, and library occupations both are expected to gain more than 1 million new jobs.

### Percent growth in employment in professional and related occupations, projected 2004-14



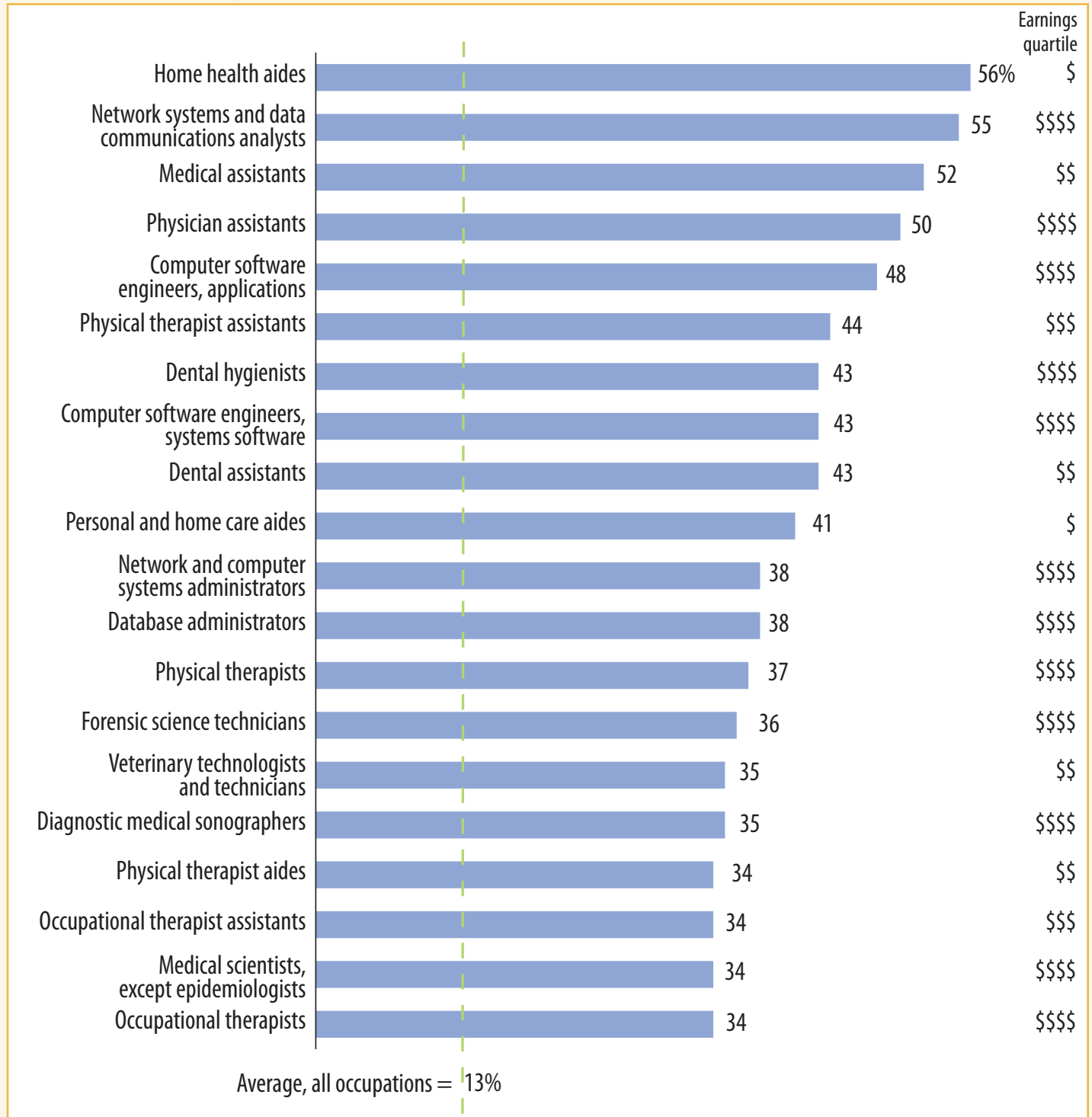
Computer and mathematical science occupations are projected to grow more than twice as fast as the average for all occupations. But growth is projected to be slower than it was during the previous decade as the software industry matures and as routine work is increasingly outsourced abroad.



# Occupational employment

## Fastest growing occupations

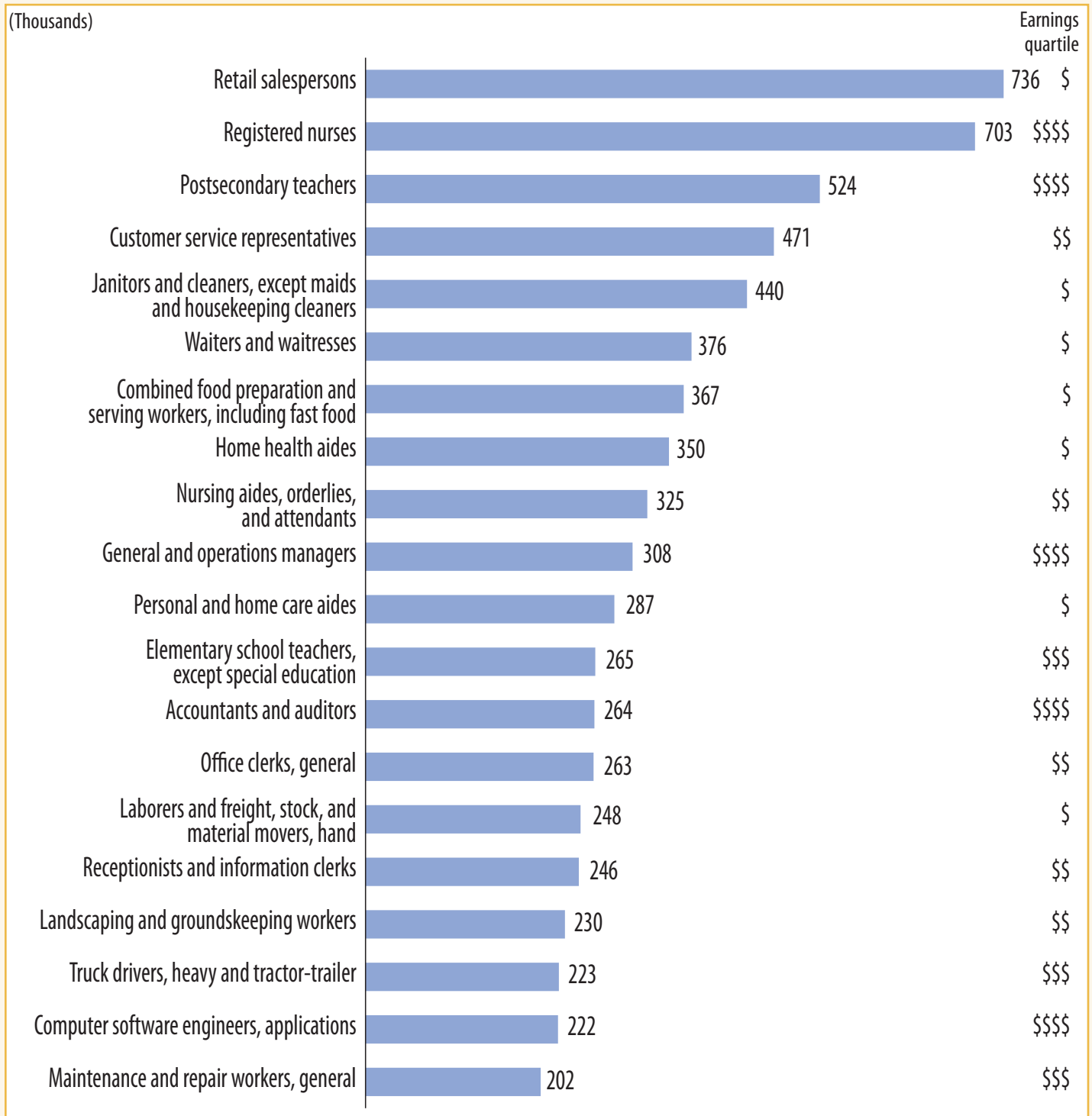
Percent growth in employment, projected 2004-14



Nearly all of the occupations that are projected to grow fastest relate to healthcare or computers. Earnings are highest in the computer-related occupations.

## Most new jobs

Numeric growth in employment, projected 2004-14

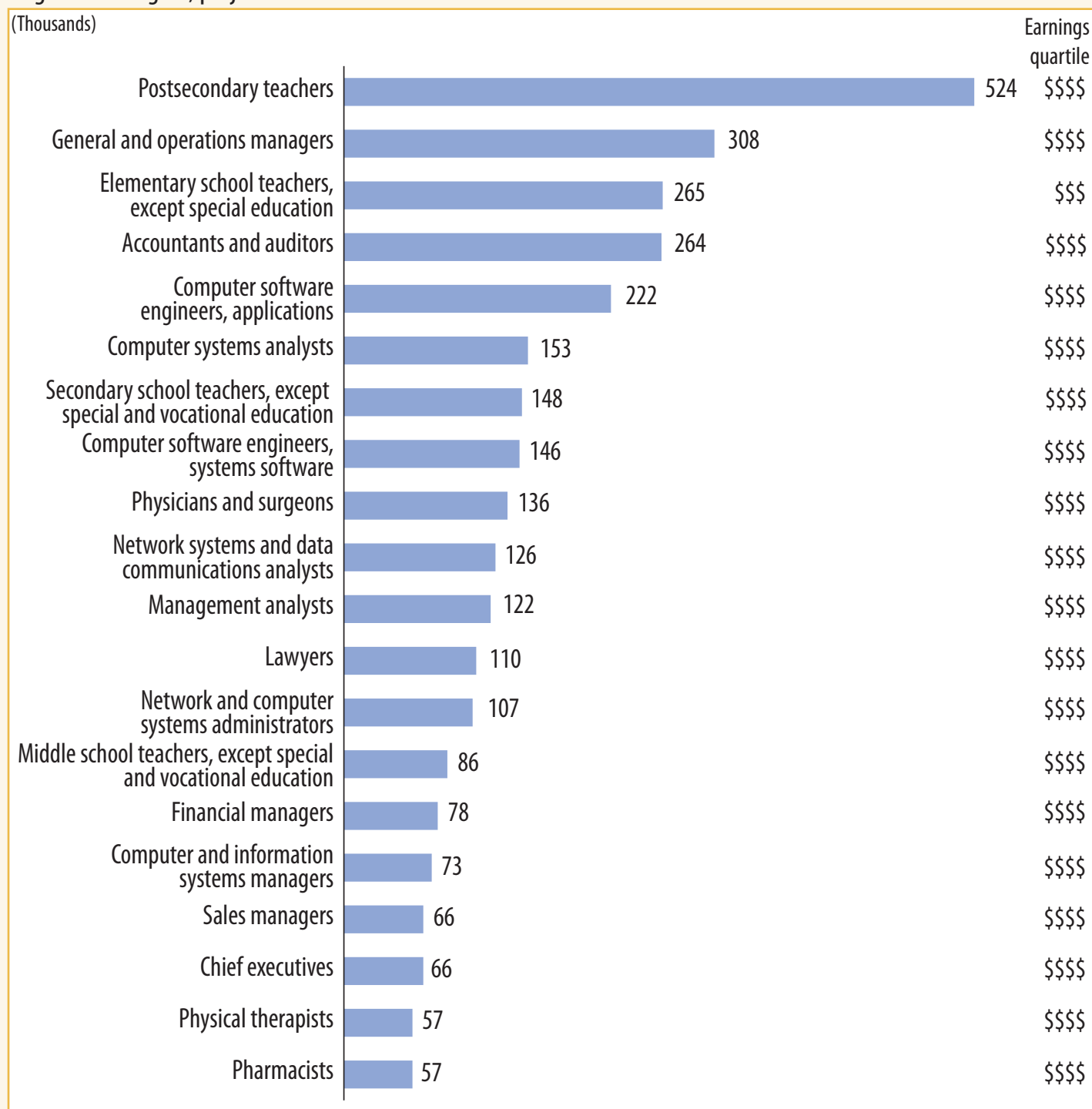


The occupations that are expected to gain the most new jobs have a wide range of earnings, responsibilities, and education and training requirements. Of these occupations, those related to healthcare, education, business, and computers have the highest earnings.

# Occupational employment

## Most new jobs, highest paying: Bachelor's or graduate degree

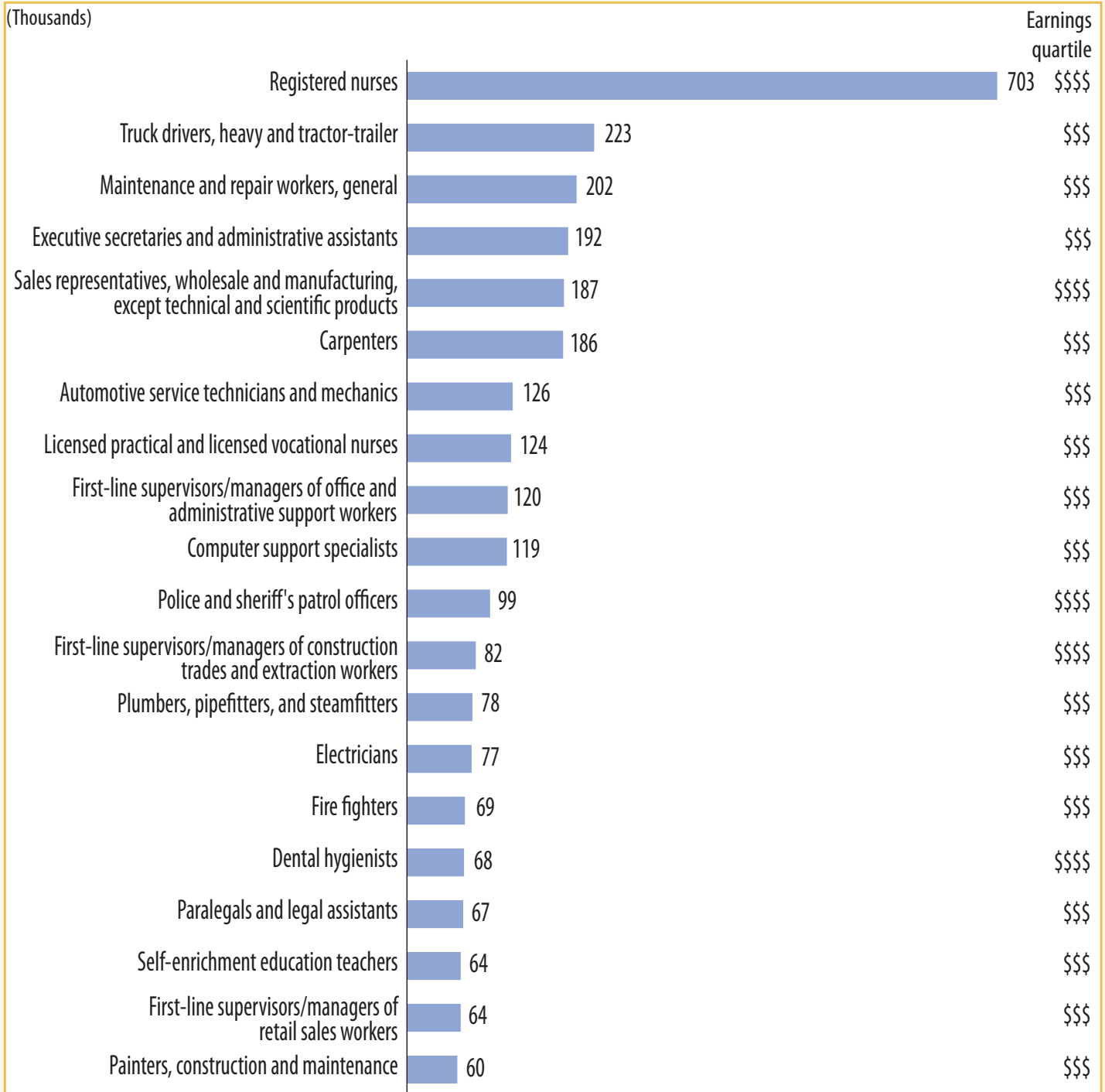
Numeric change in employment in the top 20 large-growth, high-paying occupations that often require a bachelor's or graduate degree, projected 2004-14



Each of these occupations is projected to gain at least 50,000 new jobs over the projections decade. In many of these high-paying occupations, workers usually have experience along with a bachelor's degree. In some of these occupations, workers have a graduate degree.

## Most new jobs, highest paying: Less than a bachelor's degree

Numeric change in employment in the top 20 large-growth, high-paying occupations that often require less education than a bachelor's degree, projected 2004-14

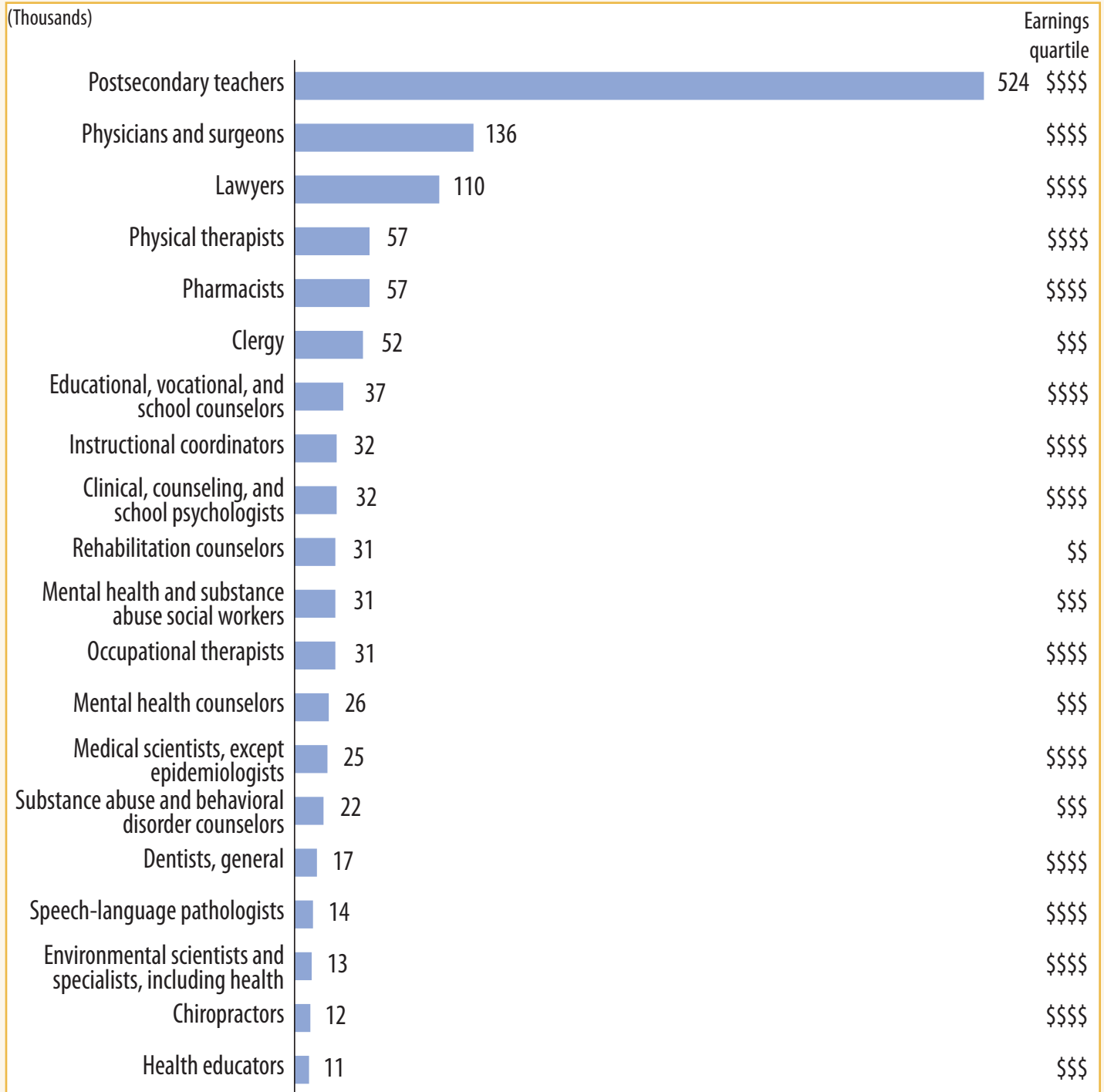


Many large-growth, high-paying occupations are projected to provide jobs for workers who have on-the-job training or some education other than a bachelor's degree.

# Occupational employment

## Most new jobs: Graduate degree

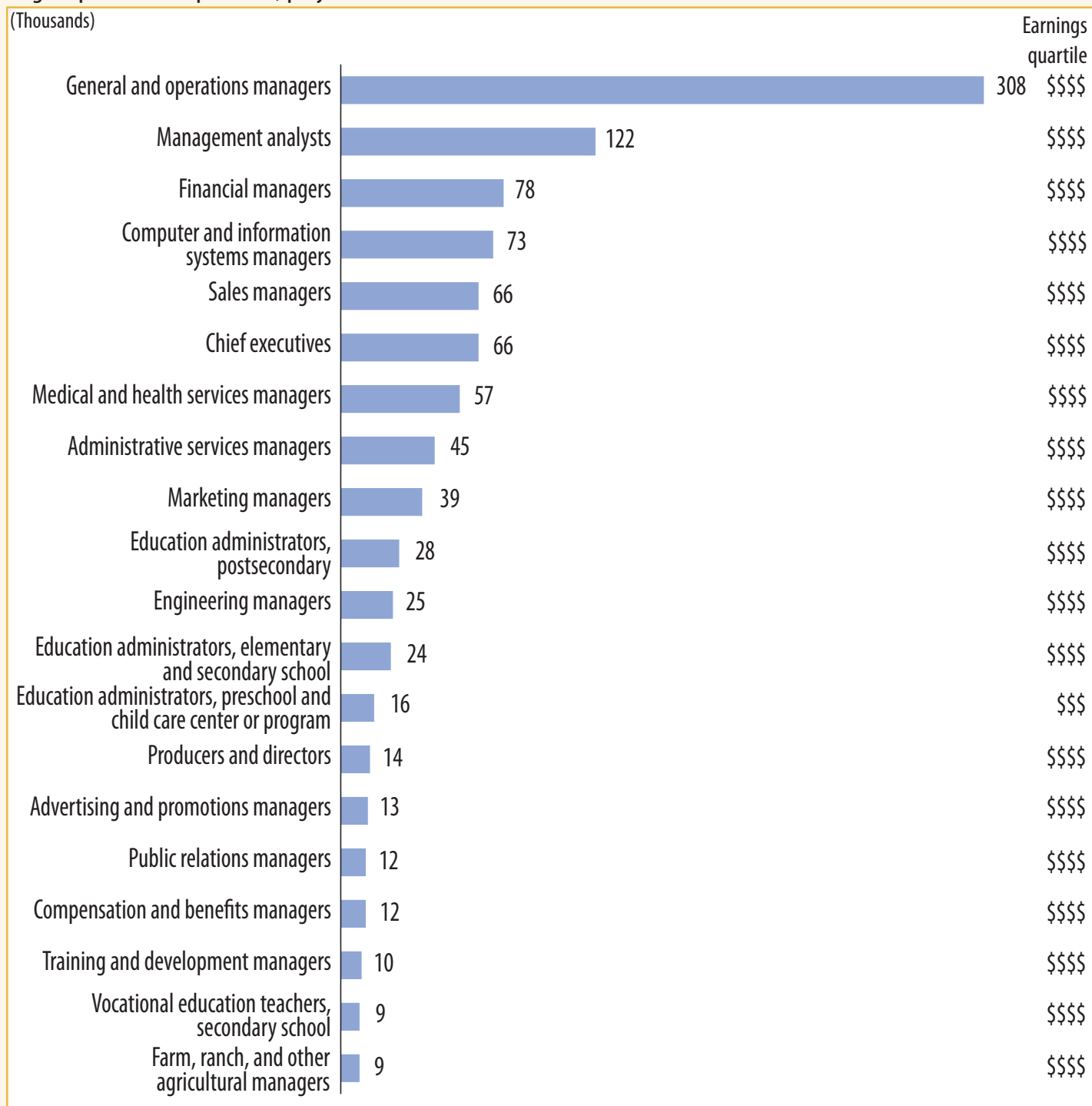
Numeric change in employment in the top 20 large-growth occupations that often require a master's, doctoral, or first professional degree, projected 2004-14



Job growth in these occupations, most of which are among the highest paid in the economy, is expected to be greatest in occupations related to healthcare and to counseling. The large projected increase in the number of postsecondary teachers reflects expanding college enrollments.

## Most new jobs: Bachelor's or graduate degree plus experience

Numeric change in employment in the top 20 large-growth occupations that often require a bachelor's or graduate degree plus work experience, projected 2004-14

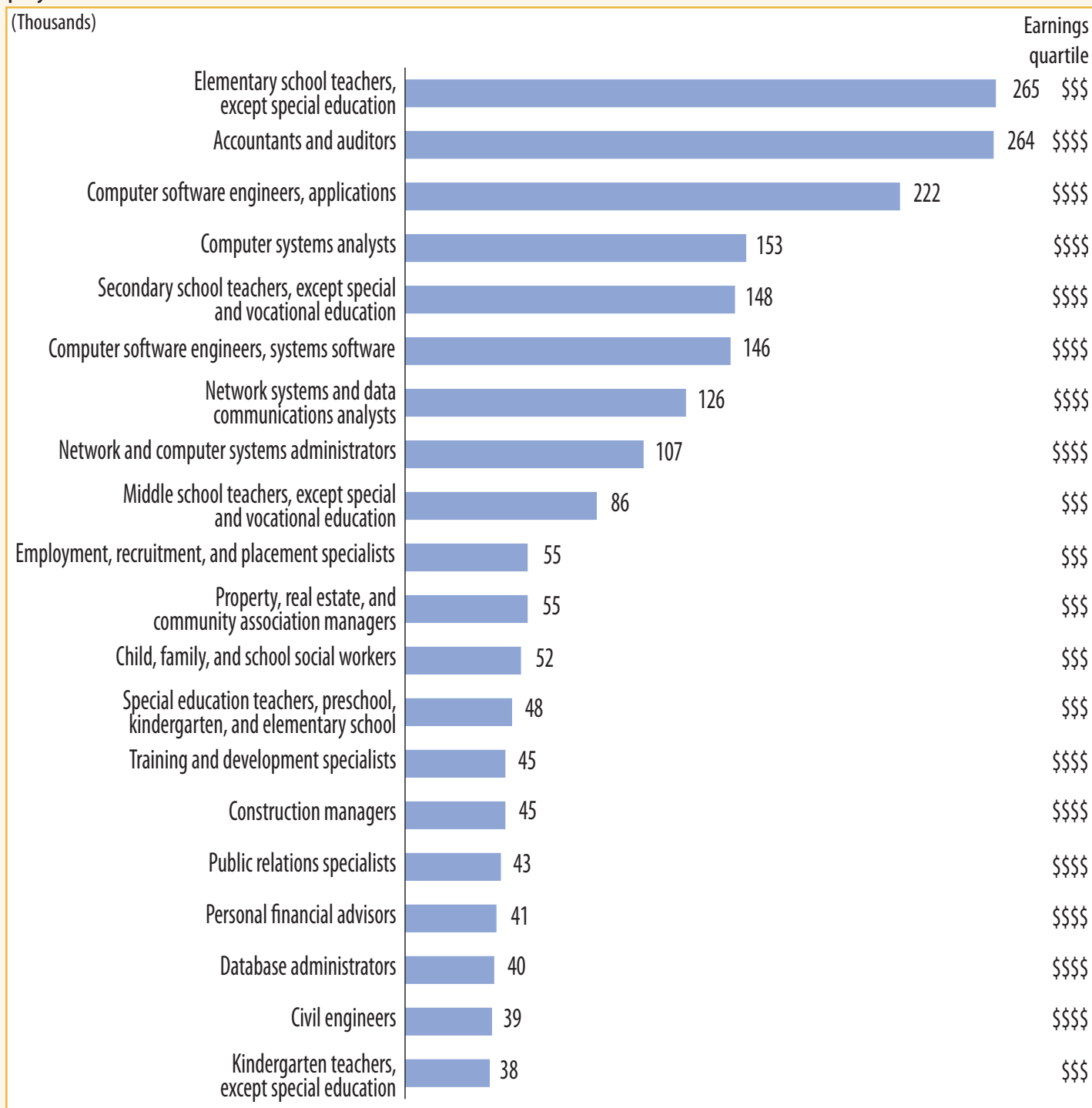


Nearly all of these occupations have managerial responsibilities and very high earnings. Rising business activity is one reason for job growth in these occupations.

# Occupational employment

## Most new jobs: Bachelor's degree

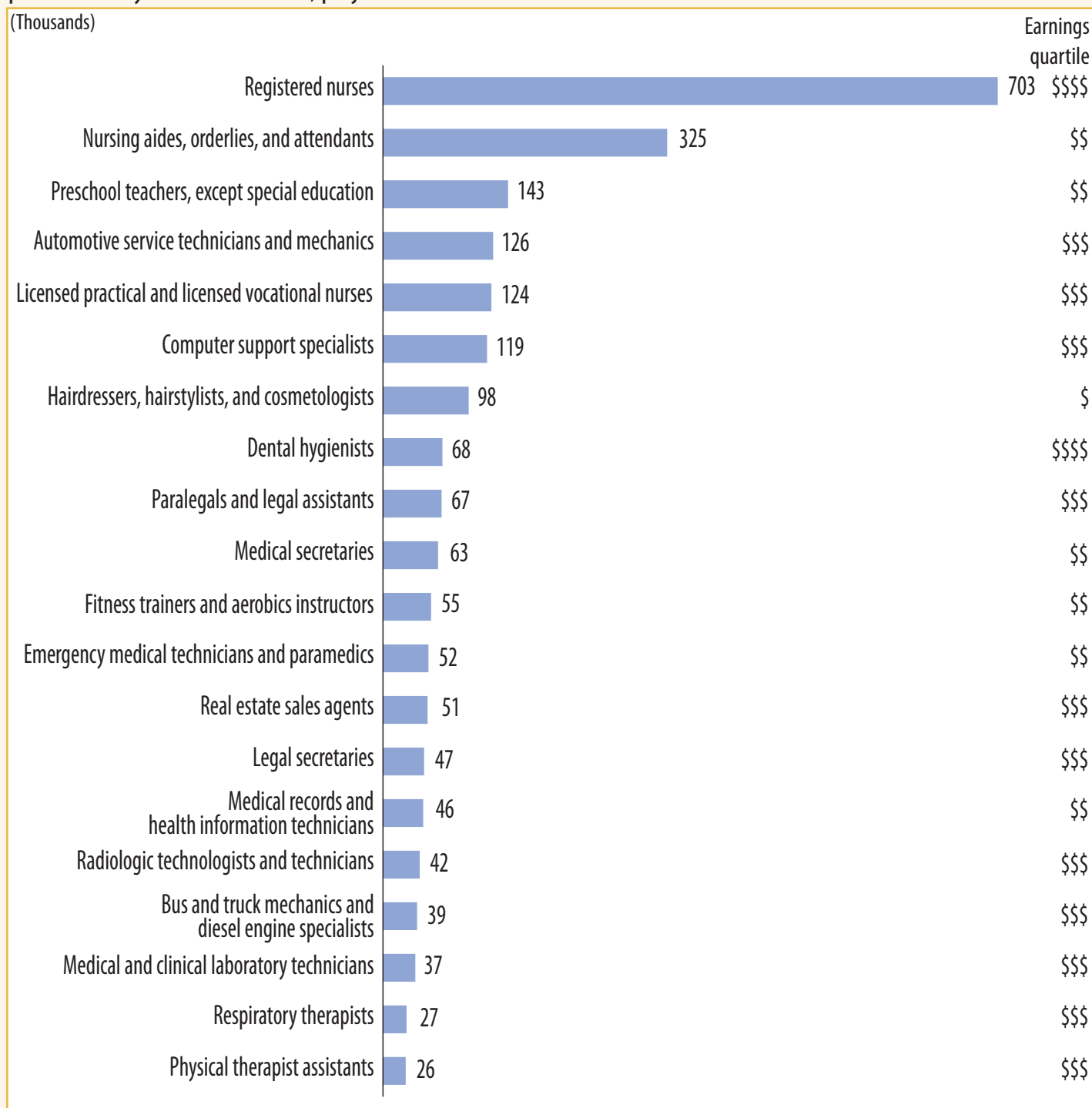
Numeric change in employment in the top 20 large-growth occupations that often require a bachelor's degree, projected 2004-14



Most of these occupations relate to business, computers, and education. All have high or very high earnings.

## Most new jobs: Associate degree or postsecondary vocational award

Numeric change in employment in the top 20 large-growth occupations that often require an associate degree or postsecondary vocational award, projected 2004-14



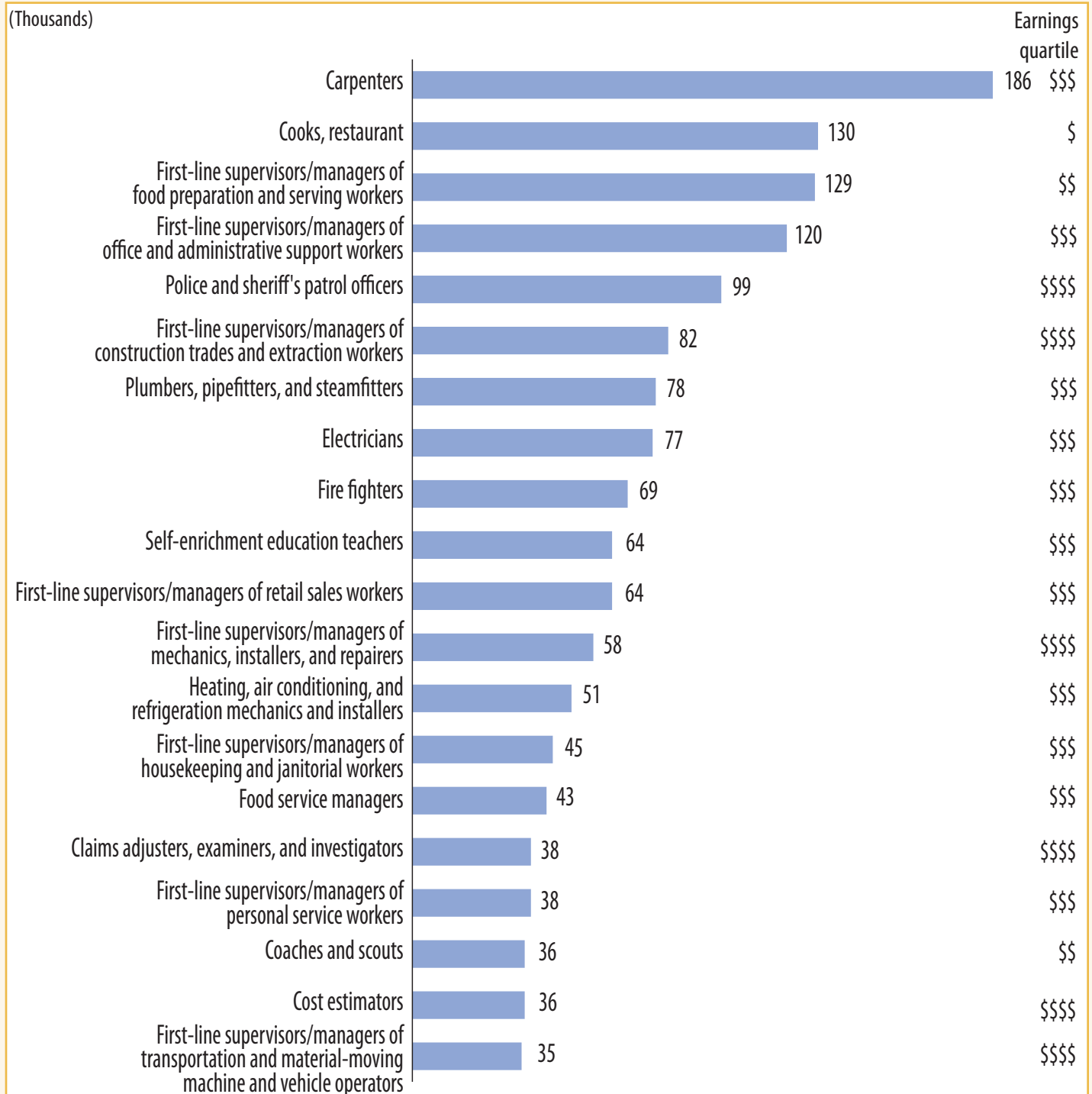
At this level of training, more than half of the occupations that are projected to gain the most jobs relate to healthcare, reflecting the growing medical needs of an aging population.



# Occupational employment

## Most new jobs: Work experience or long-term on-the-job training

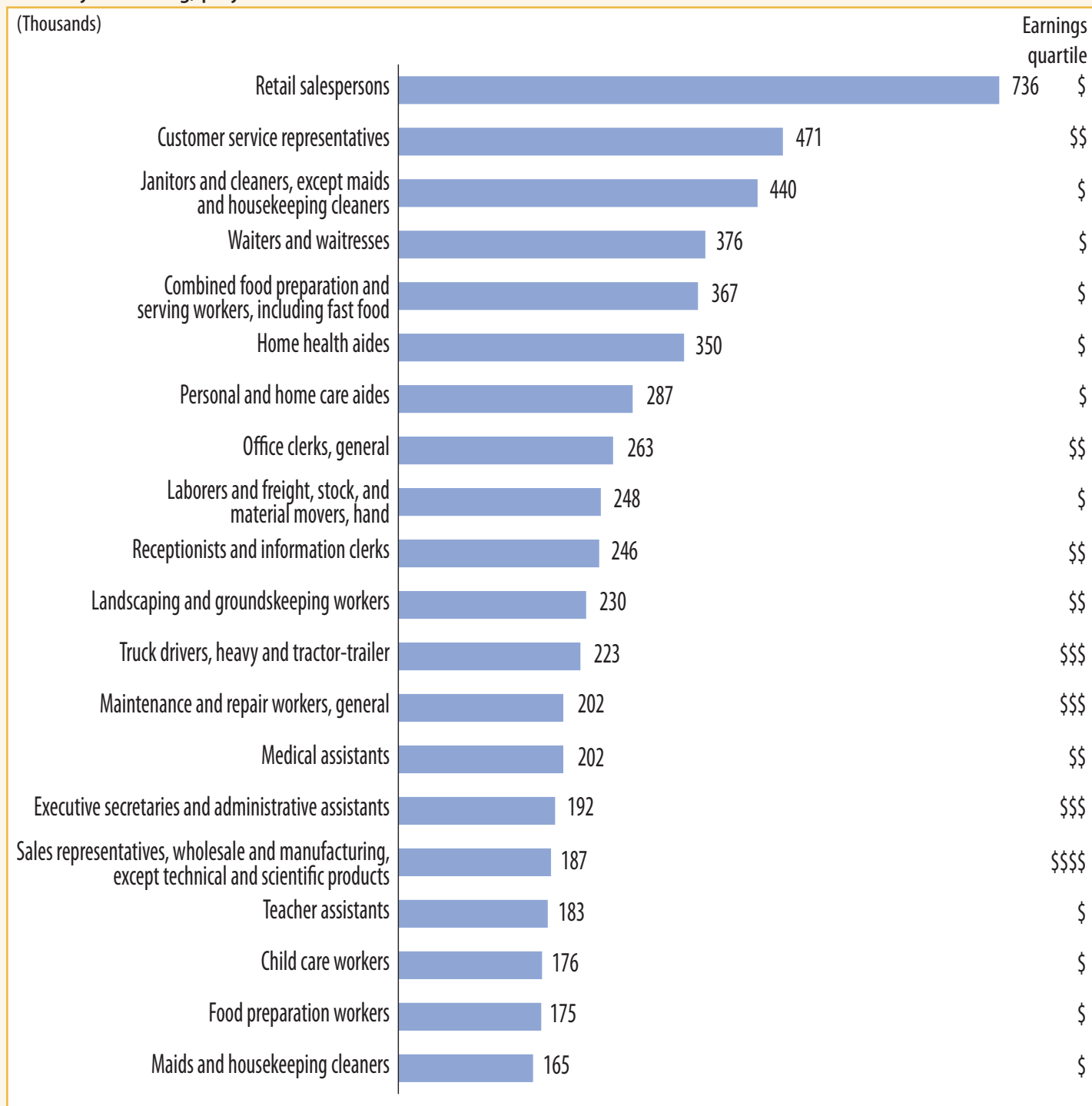
Numeric change in employment in the top 20 large-growth occupations that often require work experience or long-term on-the-job training, projected 2004-14



Supervisory occupations, which often require work experience, are projected to gain many jobs over the projections decade. Most of these occupations have high earnings; several have very high earnings. Increased activity in building and remodeling is expected to create growth in construction occupations.

## Most new jobs: Short- or moderate-term on-the-job training

Numeric change in employment in the top 20 large-growth occupations that often require short- or moderate-term on-the-job training, projected 2004-14

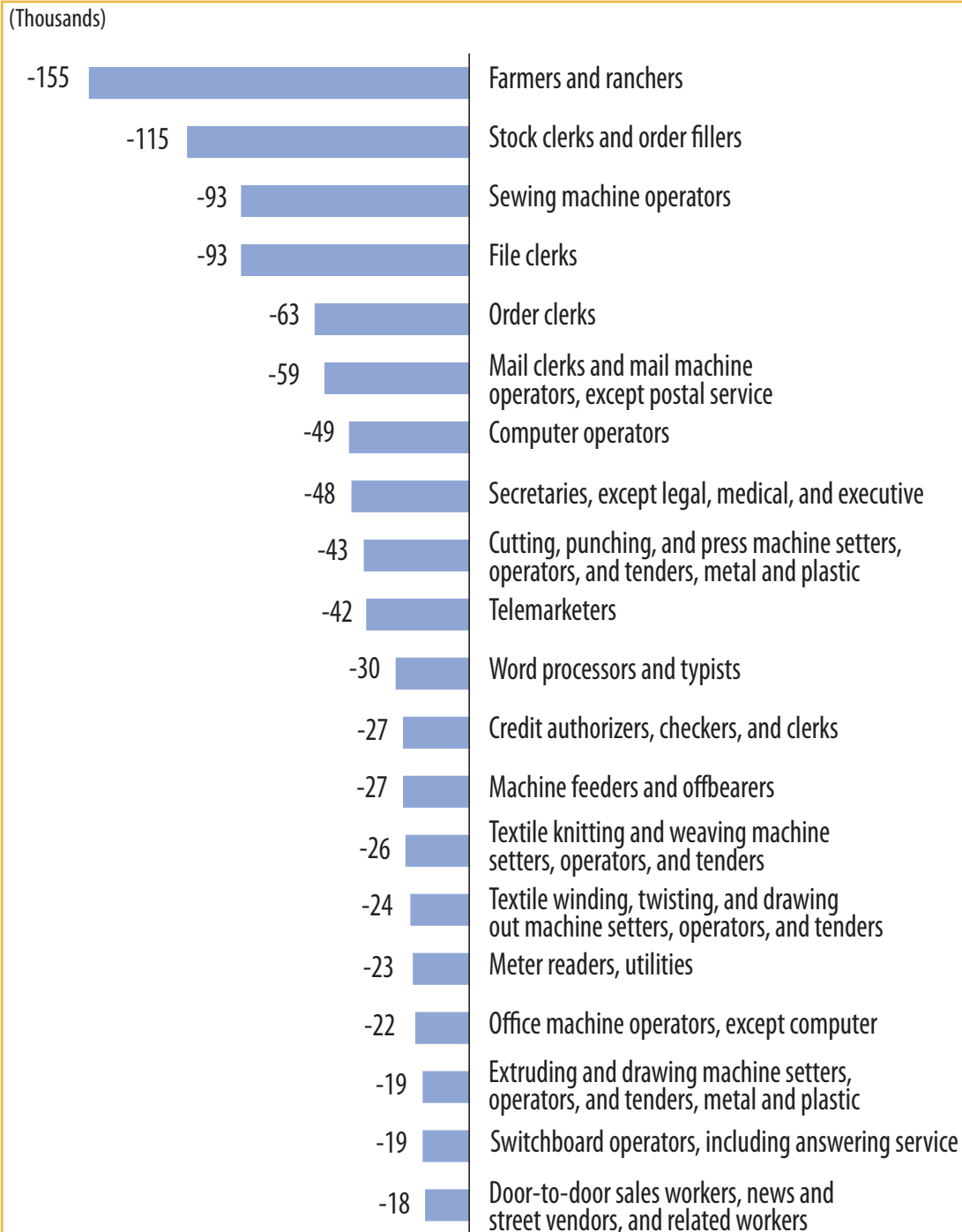


Each of the occupations shown here is projected to gain more than 100,000 new jobs over the 2004-14 decade. Projected growth in occupations related to sales and customer service reflects an expected increase in business activity.

# Occupational employment

## Most job losses

Numeric decline in employment, projected 2004-14

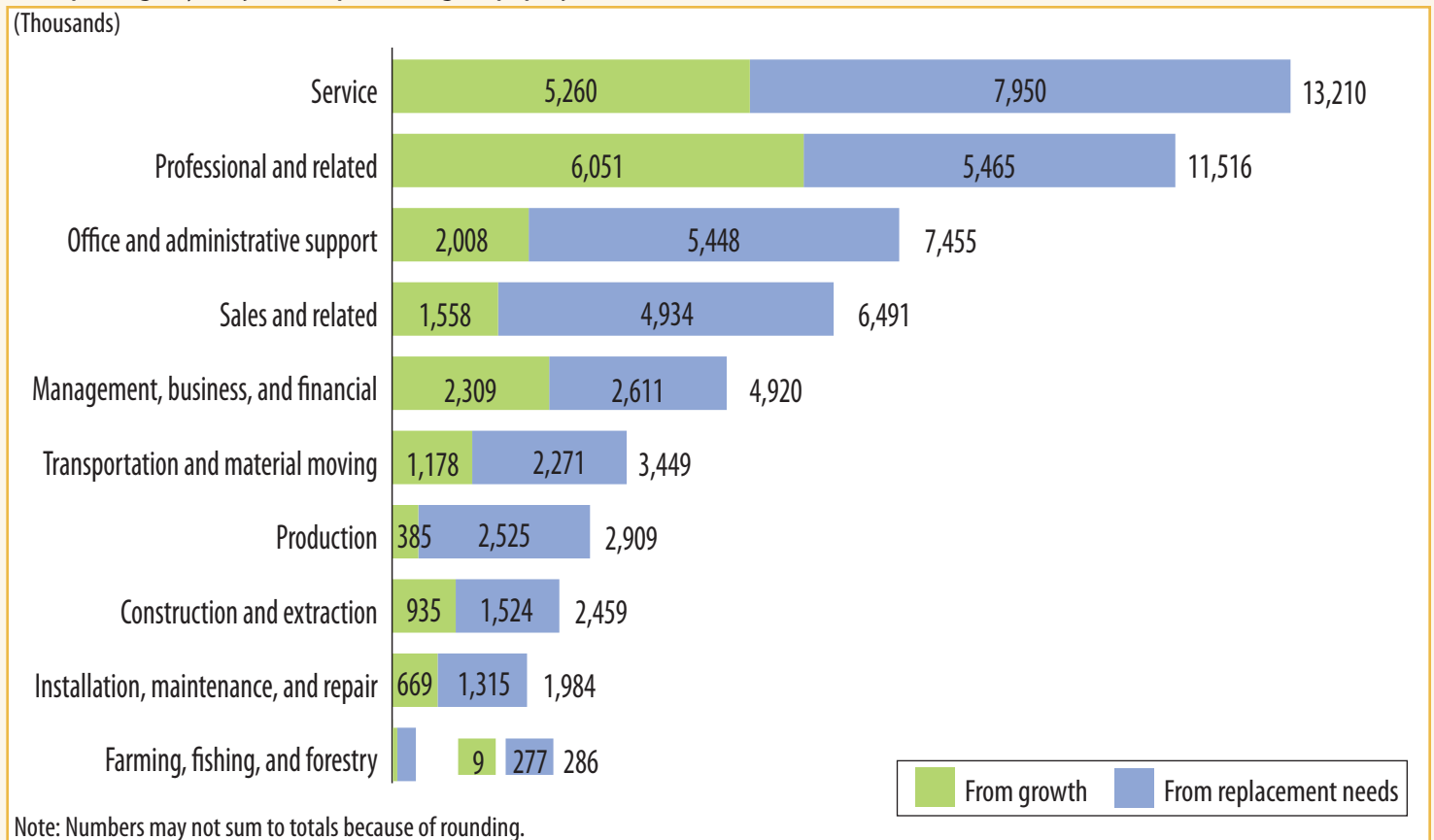


The occupations that are expected to have the largest employment declines include farming and lower skilled production occupations—in part because technology is increasing worker productivity.

Although declining employment may lead to unfavorable job prospects, the need to replace workers who leave these occupations often creates some job openings.

## Job openings

Job openings by major occupational group, projected 2004-14



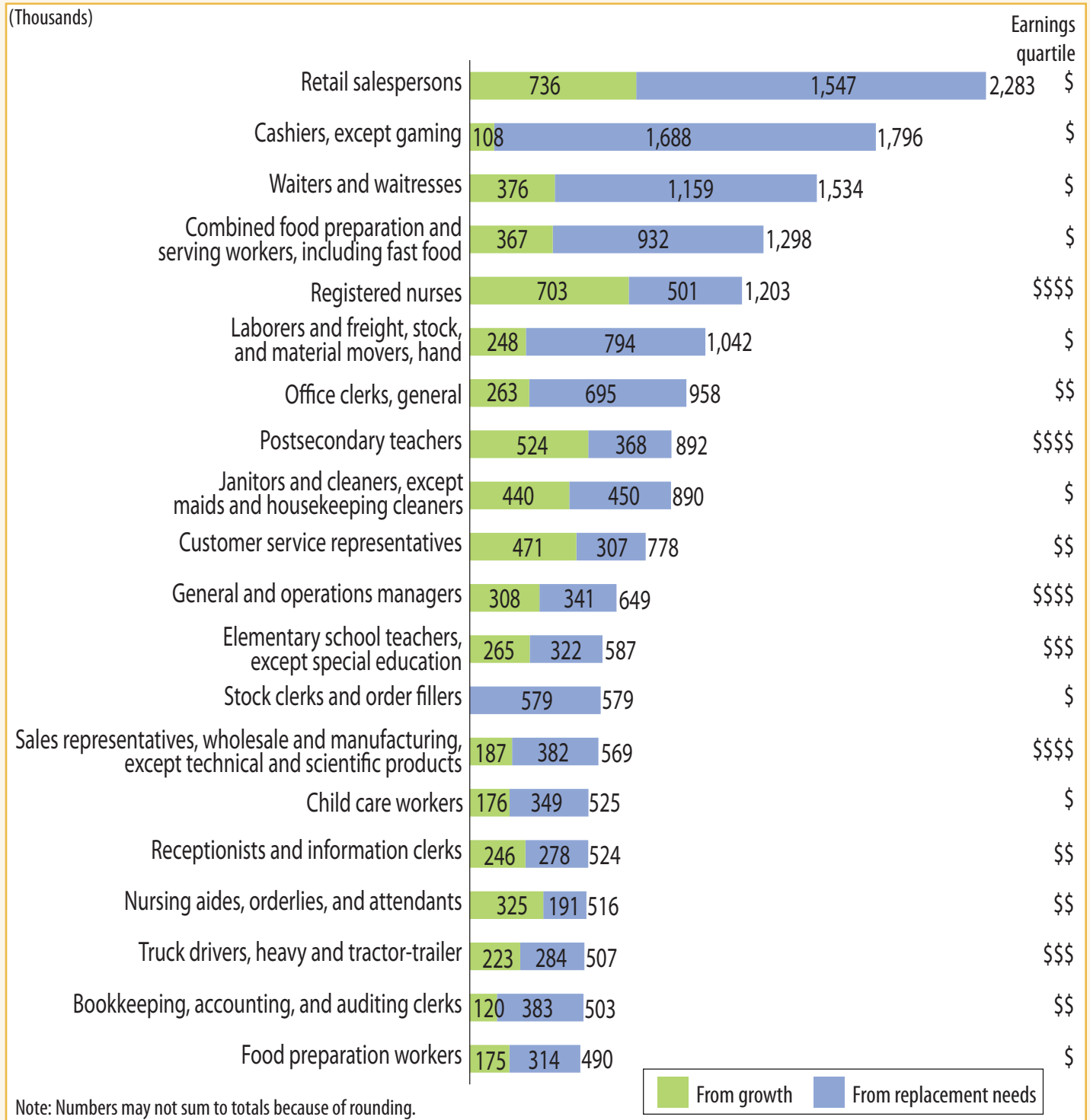
Employment prospects depend on more than job growth. Openings for new workers occur not only when jobs are added to the economy but also when current workers leave an occupation permanently. In fact, the need to replace workers who leave an occupation is expected to create more openings than job growth will.

This chart shows the jobs projected to be available for workers who are new to an occupation. The number of job openings due to growth may be higher than the overall job growth shown in previous charts because, here, job losses are not subtracted from growth. Instead, these losses are reflected in the number of workers needed to replace those who have left an occupation permanently.

# Occupational employment

## Most job openings for workers new to an occupation

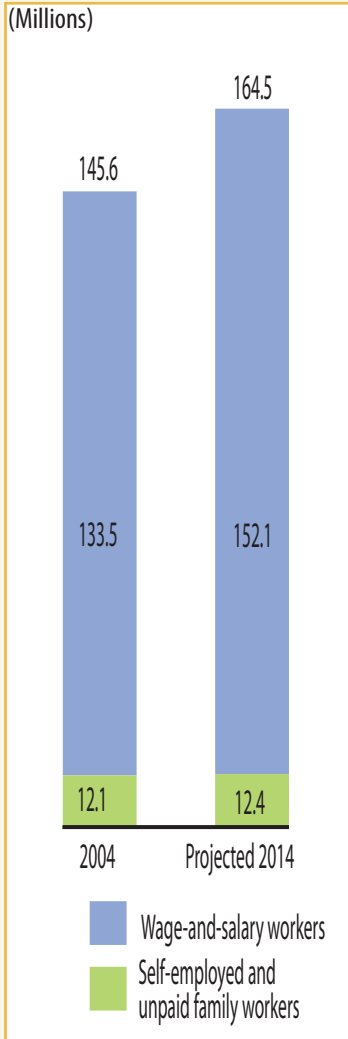
Job openings due to growth and net replacement needs, projected 2004-14



Most openings for registered nurses and postsecondary teachers are projected to result from high job growth. For the other occupations listed, most of the openings are expected to come from replacement needs.

# Self-employment

Employment by class of worker, 2004 and projected 2014



Most of the new jobs added to the economy are expected to be for wage-and-salary workers. Employment of these workers is expected to increase from more than 133 million to 152 million, a gain of about 19 million jobs. Employment of self-employed and unpaid family workers is projected to change little through 2014.

Occupations with the most self-employed workers, projected 2014



In 2014, farmers and ranchers are projected to have the highest levels of self-employment. But self-employment is also expected to be common in business, service, and other types of occupations.