

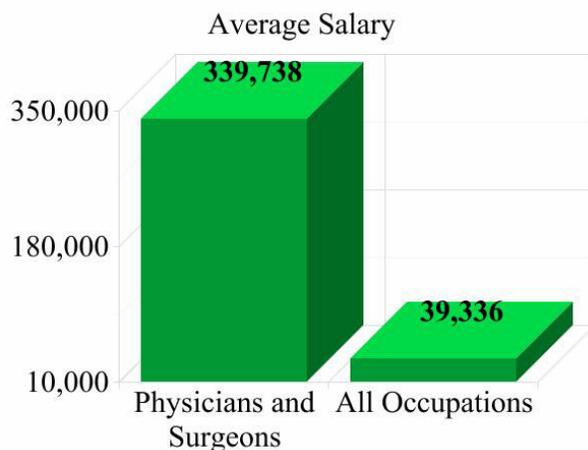
## Physicians and Surgeons

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### WHAT THEY DO

Physicians and surgeons diagnose illnesses and prescribe and administer treatment for people suffering from injury or disease. Physicians examine patients, obtain medical histories, and order, perform, and interpret diagnostic tests. They counsel patients on diet, hygiene, and preventive healthcare.

There are two types of physicians: M.D. (Medical Doctor) and D.O. (Doctor of Osteopathic Medicine). M.D.s also are known as allopathic physicians. While both M.D.s and D.O.s may use all accepted methods of treatment, including drugs and surgery, D.O.s place special emphasis on the body's musculoskeletal system, preventive medicine, and holistic patient care. D.O.s are most likely to be primary care specialists although they can be found in all specialties. About half of D.O.s practice general or family medicine, general internal medicine, or general pediatrics.



Physicians work in one or more of several specialties, including, but not limited to, anesthesiology, family and general medicine, general internal medicine, general pediatrics, obstetrics and gynecology, psychiatry, and surgery.

Surgeons specialize in the treatment of injury, disease, and deformity through operations. Using a variety of instruments, and with patients under anesthesia, a surgeon corrects physical deformities, repairs bone and tissue after injuries, or performs preventive surgeries on patients with debilitating diseases or disorders. Although a large number perform general surgery, many surgeons choose to specialize in a specific area. One of the most prevalent specialties is orthopedic surgery: the treatment of the musculoskeletal system. Others include neurological surgery (treatment of the brain and nervous system), cardiovascular surgery, otolaryngology (treatment of the ear, nose, and throat), and plastic or reconstructive surgery. Like other physicians, surgeons also examine patients, perform and interpret diagnostic tests, and counsel patients on preventive healthcare.

### EDUCATION REQUIRED

Formal education and training requirements for physicians are among the most demanding of any occupation—4 years of undergraduate school, 4 years of medical school, and 3 to 8 years of internship and residency, depending on the specialty selected. A few medical schools offer combined undergraduate and medical school programs that last 6 or 7 years rather than the customary 8 years.

Premedical students must complete undergraduate work in physics, biology, mathematics, English, and inorganic and organic chemistry. Students also take courses in the humanities and the social sciences. Some students volunteer at local hospitals or clinics to gain practical experience in the health professions.

The minimum educational requirement for entry into medical school is 3 years of college; most applicants, however, have at least a bachelor's degree, and many have advanced degrees. In 2008, there were 129 medical schools accredited by the Liaison Committee on Medical Education (LCME). The LCME is the national accrediting body for M.D. medical education programs. The American Osteopathic Association accredits schools that award a D.O. degree; there were 25 schools accredited in 31 locations in 2008.

Acceptance to medical school is highly competitive. Most applicants must submit transcripts, scores from the Medical College Admission Test, and letters of recommendation. Schools also consider an applicant's character, personality, leadership qualities, and participation in extracurricular activities. Most schools require an interview with members of the admissions committee.

Students spend most of the first 2 years of medical school in laboratories and classrooms, taking courses such as anatomy, biochemistry, physiology, pharmacology, psychology, microbiology, pathology, medical ethics, and laws governing medicine. They also learn to take medical histories, examine patients, and diagnose illnesses. During their last 2 years, students work with patients under the supervision of experienced physicians in hospitals and clinics, learning acute, chronic, preventive, and rehabilitative care. Through rotations in internal medicine, family practice, obstetrics and gynecology, pediatrics, psychiatry, and surgery, they gain experience in the diagnosis and treatment of illness.

Following medical school, almost all M.D.s enter a residency—graduate medical education in a specialty that takes the form of paid on-the-job training, usually in a hospital. Most D.O.s serve a 12-month rotating internship after graduation and before entering a residency, which may last 2 to 6 years.

A physician's training is costly. According to the Association of American Medical Colleges, in 2007 85 percent of public medical school graduates and 86 percent of private medical school graduates were in debt for educational expenses.

## Physicians and Surgeons - Continued

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### OTHER USEFUL SKILLS

People who wish to become physicians must have a desire to serve patients, be self-motivated, and be able to survive the pressures and long hours of medical education and practice.

Physicians also must have a good bedside manner, emotional stability, and the ability to make decisions in emergencies. Prospective physicians must be willing to study throughout their career to keep up with medical advances.

### HOW TO ADVANCE

Some physicians and surgeons advance by gaining expertise in specialties and subspecialties and by developing a reputation for excellence among their peers and patients.

Physicians and surgeons may also start their own practice or join a group practice. Others teach residents and other new doctors, and some advance to supervisory and managerial roles in hospitals, clinics, and other settings.

### WORK ENVIRONMENT

Many physicians—primarily general and family practitioners, general internists, pediatricians, OB/GYNs, and psychiatrists—work in small private offices or clinics, often assisted by a small staff of nurses and other administrative personnel. Increasingly, physicians are practicing in groups or healthcare organizations that provide backup coverage and allow for more time off.

Physicians in a group practice or healthcare organization often work as part of a team that coordinates care for a number of patients; they are less independent than the solo practitioners of the past.

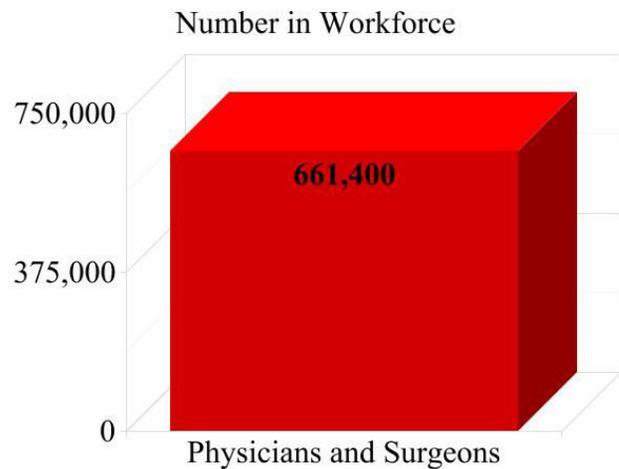
Surgeons and anesthesiologists usually work in well-lighted, sterile environments while performing surgery and often stand for long periods. Most work in hospitals or in surgical outpatient centers.

Many physicians and surgeons work long, irregular hours. In 2008, 43 percent of all physicians and surgeons worked 50 or more hours a week. Nine percent of all physicians and surgeons worked part-time.

Physicians and surgeons travel between office and hospital to care for their patients. While on call, a physician will deal with many patients' concerns over the phone and make emergency visits to hospitals or nursing homes.

### JOB GROWTH

Employment of physicians and surgeons is projected to grow 22 percent from 2008 to 2018, much faster than the average for all occupations. Job growth will occur because of continued expansion of healthcare-related industries. The growing and aging population will drive overall growth in the demand for physician services, as consumers continue to demand high levels of care using the latest technologies, diagnostic tests, and therapies. Many medical schools are increasing their enrollments based on perceived new demand for physicians.



Despite growing demand for physicians and surgeons, some factors will temper growth. For example, new technologies allow physicians to be more productive. This means physicians can diagnose and treat more patients in the same amount of time. The rising cost of healthcare can dramatically affect demand for physicians' services. Physician assistants and nurse practitioners, who can perform many of the routine duties of physicians at a fraction of the cost, may be increasingly used. Furthermore, demand for physicians' services is highly sensitive to changes in healthcare reimbursement policies. If changes to health coverage result in higher out-of-pocket costs for consumers, they may demand fewer physician services.

Opportunities for individuals interested in becoming physicians and surgeons are expected to be very good. In addition to job openings from employment growth, openings will result from the need to replace the relatively high number of physicians and surgeons expected to retire over the 2008-18 decade.

Job prospects should be particularly good for physicians willing to practice in rural and low-income areas because these medically underserved areas typically have difficulty attracting these workers. Job prospects will also be especially good for physicians in specialties that afflict the rapidly growing elderly population.