

L 2.3: 2450-8 Dietetics, Nursing, Pharmacy, and Therapy Occupations

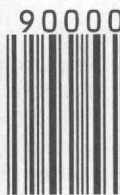


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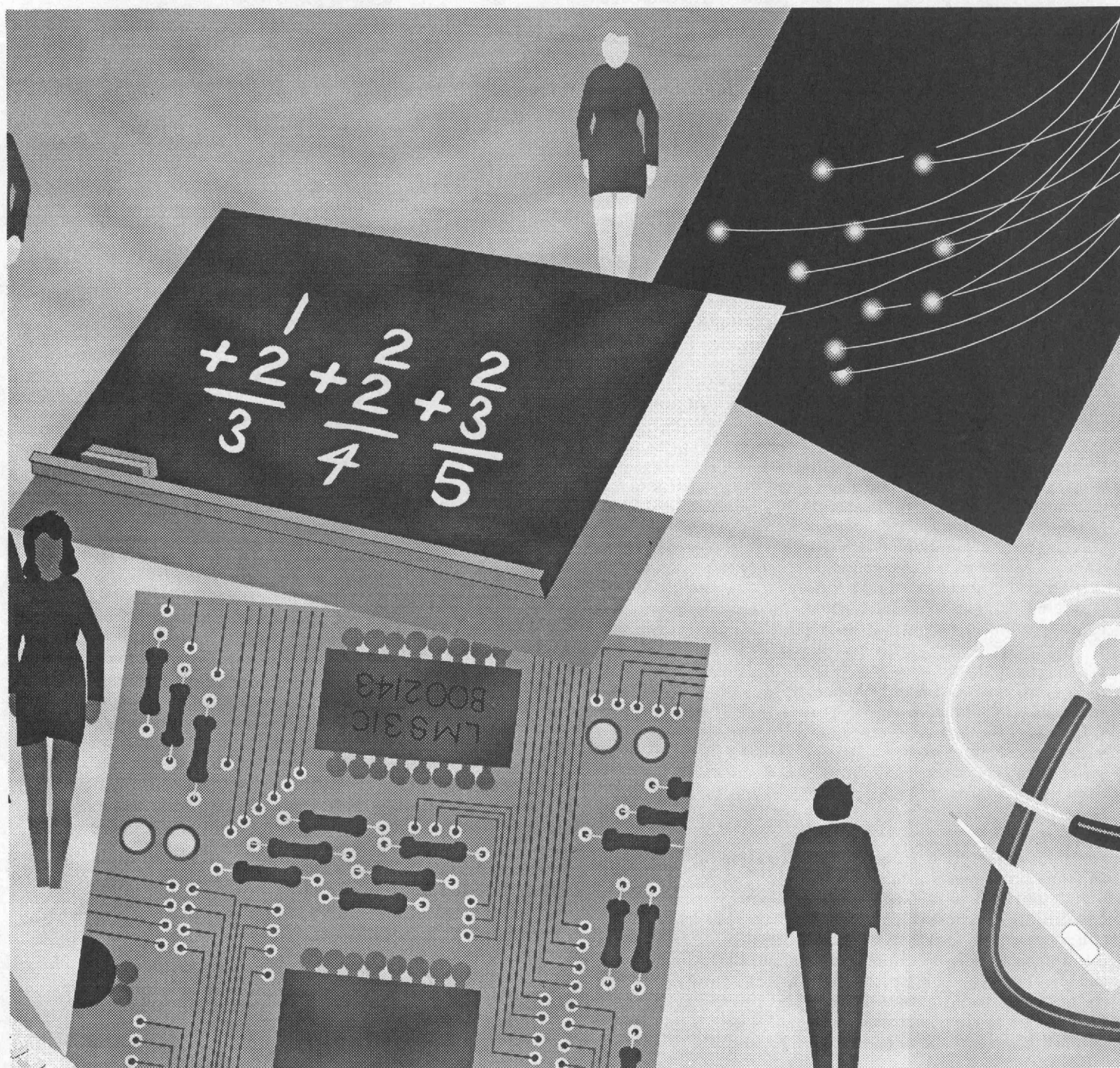
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Dietitians and Nutritionists

(D.O.T. 077 except .117-010 and .124-010)

Nature of the Work

Dietitians and nutritionists plan nutrition programs and supervise the preparation and serving of meals. They help prevent and treat illnesses by promoting healthy eating habits. They scientifically evaluate clients' diets and suggest modifications such as less salt for those with high blood pressure or reduced fat and sugar intake for those who are overweight.

Dietitians run food service systems for institutions such as hospitals and schools and promote sound eating habits through education and research. Major areas of practice are clinical, community, and administrative (management) dietetics. Dietitians also work as educators and researchers.

Clinical dietitians provide nutritional services for patients in institutions such as hospitals and nursing homes. They assess patients' nutritional needs, develop and implement nutrition programs, and evaluate and report the results. They also confer with doctors and other health care professionals in order to coordinate medical and nutritional needs. Some clinical dietitians specialize in the management of overweight patients, care of the critically ill, or care of renal (kidney) and diabetic patients. In addition, clinical dietitians in nursing homes or small hospitals may also manage the food service department.

Community dietitians counsel individuals and groups on nutritional practices designed to prevent disease and to promote good health. Working in such places as public health clinics, home health agencies, and health maintenance organizations, they evaluate individual needs, establish nutritional care plans, and instruct individuals and their families. Dietitians working in home health may also provide instruction on grocery shopping and preparation of special infant formulas.

Popular interest in nutrition has led to opportunities in food manufacturing, advertising, and marketing, where dietitians analyze foods, prepare literature for distribution, or report on issues such as dietary fiber or vitamin supplements.

Administrative or management dietitians oversee large-scale meal planning and preparation in such places as health care facilities, company cafeterias, prisons, and schools. They hire, train, and direct other dietitians and food service workers; budget for and purchase food, equipment, and supplies; enforce sanitary and safety regulations; and prepare records and reports.

Working Conditions

Most dietitians work a regular 40-hour week, although some work weekends. About 1 dietitian in 5 works part time.

Dietitians and nutritionists spend much of their time in clean, well-lighted, and well-ventilated areas. However, some dietitians spend time in hot, steamy kitchens. Dietitians and nutritionists may be on their feet for most of the workday.

Employment

Dietitians and nutritionists held about 50,000 jobs in 1992. About half were in hospitals and nursing homes.

State and local governments provided about 1 job in 6—in prisons, health departments, and other public health related areas. Other jobs were in social service agencies, residential care facilities, diet workshops, physical fitness facilities, school systems, colleges and universities, and the Federal Government—mostly in the Department of Veterans Affairs. Others were employed by firms that provide food services on contract to such facilities as colleges and universities, airlines, and company cafeterias.



Dietitians promote healthy eating habits.

Some dietitians were self-employed, working as consultants to facilities like hospitals and nursing homes and seeing individual clients.

Training, Other Qualifications, and Advancement

The basic educational requirement is a bachelor's degree with a major in dietetics, foods and nutrition, food service systems management, or a related area. Students take courses in foods, nutrition, institution management, chemistry, biology, microbiology, and physiology. Other courses are business, mathematics, statistics, computer science, psychology, sociology, and economics.

Thirty States have laws governing dietetics—19 require licensure, 10 require certification, and 1 requires registration. The Commission on Dietetic Registration of the American Dietetic Association (ADA) awards the Registered Dietitian credential to those who pass a certification exam after completing their academic education and supervised experience.

As of 1993, there were 240 ADA-approved bachelor's degree programs. Supervised practice experience can be acquired in two ways. There are 51 ADA-accredited coordinated programs that combine academic and supervised practice experience in a 4-year program. The second option requires completion of 900 hours of supervised practice experience—either in one of the 95 ADA-accredited internships or in one of the 139 ADA-approved preprofessional practice programs. Internships and preprofessional practice programs may be full-time programs lasting 9 to 12 months or part time programs lasting 2 years. Graduate programs are available for those interested in research, advanced clinical positions, or public health—where a graduate degree is usually needed.

Recommended high school courses include biology, chemistry, mathematics, health, and home economics.

Experienced dietitians may advance to assistant, associate, or director of a dietetic department or become self-employed. Some dietitians specialize in areas such as renal or pediatric dietetics. Other dietitians leave the occupation and become sales representatives for equipment or food manufacturers.

Job Outlook

Employment of dietitians is expected to grow as fast as the average for all occupations through the year 2005 as demand grows for meals and nutritional counseling in nursing homes, schools, prisons, community health programs, home health care agencies, diet workshops, and health clubs. Public interest in nutrition and the emphasis on health education and prudent lifestyles will add to the demand. Many job openings will also result from the need to replace experienced workers who leave the occupation.

Employment of dietitians in hospitals is expected to grow slowly because of anticipated slow growth in the number of inpatients (those who stay overnight), and as hospitals contract out food service operations. On the other hand, rapid growth in employment is expected in nursing homes as the number of very old people rises sharply; in contract providers of food services; in residential care facilities; in offices and clinics of physicians; and in other social services.

Earnings

According to the American Dietetic Association, full-time registered dietitians with 5 years or less experience earned a median annual salary of \$28,500 a year in 1991; those with 6-10 years of experience, \$32,900; 11-15 years, \$36,000; 16-20 years, \$38,400; and 20 years or more, \$40,000. Management and self-employed dietitians earned more than clinical and community dietitians. Salaries also vary by educational level, geographic region, and size of community.

According to a University of Texas Medical Branch survey of hospitals and medical centers, the median annual salary of dietitians, based on a 40 hour week and excluding shift or area differentials, was \$29,973 in October 1992. The average minimum salary was \$25,122 and the average maximum was \$37,467.

Related Occupations

Dietitians and nutritionists apply the principles of nutrition in a variety of situations. Workers with duties similar to those of administrative dietitians include home economists and food service managers. Nurses and health educators often provide services related to those of community dietitians.

Sources of Additional Information

For a list of academic programs, scholarships, and other information about dietetics, contact:

☞ The American Dietetic Association, 216 West Jackson Blvd., Chicago, IL 60606-6995.

Licensed Practical Nurses

(D.O.T. 079.374-014)

Nature of the Work

Licensed practical nurses (L.P.N.'s), or licensed vocational nurses (L.V.N.'s) as they are called in Texas and California, care for the sick, injured, convalescing, and handicapped, under the direction of physicians and registered nurses. (The work of registered nurses is described elsewhere in the *Handbook*.)

Most L.P.N.'s provide basic bedside care. They take vital signs such as temperature, blood pressure, pulse, and respiration. They also treat bedsores, prepare and give injections and enemas, apply dressings, give alcohol rubs and massages, apply ice packs and hot water bottles, and insert catheters. L.P.N.'s observe patients and report adverse reactions to medications or treatments. They may collect samples from patients for testing and perform routine laboratory tests. They help patients with bathing, dressing, and personal hygiene, feed them and record food and liquid intake and output, keep them comfortable, and care for their emotional needs. In States where the law allows, they may administer prescribed medicines or start intravenous fluids. Some L.P.N.'s help deliver, care for, and

feed infants. Some experienced L.P.N.'s supervise nursing assistants and aides.

L.P.N.'s in nursing homes, in addition to providing routine bedside care, may also help evaluate residents' needs, develop care plans, and supervise nursing aides. In doctors' offices and clinics, including health maintenance organizations, they may also make appointments, keep records, and perform other clerical duties. L.P.N.'s who work in home health may also prepare meals and teach family members simple nursing tasks.

Working Conditions

Most licensed practical nurses in hospitals and nursing homes work a 40-hour week, but because patients need round-the-clock care, some work nights, weekends, and holidays. They often stand for long periods and help patients move in bed, stand, or walk. They also face the stress of working with sick patients and their families.

Hospital-based L.P.N.'s face hazards from caustic chemicals, radiation, and infectious diseases such as AIDS and hepatitis. L.P.N.'s also are subject to back injuries when moving patients and shock from electrical equipment.

L.P.N.'s employed in nursing homes often face heavy workloads. In addition, the people they take care of may be confused, irrational, agitated, or uncooperative.

In private homes, L.P.N.'s usually work 8 to 12 hours a day and go home at night. Private duty nurses can often set their own work hours.

Employment

Licensed practical nurses held about 659,000 jobs in 1992. About a quarter worked part time. Two out of 5 L.P.N.'s worked in hospitals, almost one-quarter worked in nursing homes, and a tenth in doctors' offices and clinics. Others worked for temporary help agencies, home health care services, or government agencies.

Training, Other Qualifications, and Advancement

All States require L.P.N.'s to pass a licensing examination after completing a State-approved practical nursing program. A high school diploma is usually required for entry, but some programs accept people without a diploma.

In 1991, approximately 1,200 State-approved programs provided practical nursing training. Trade, technical, or vocational schools offered almost half of these programs, while community and junior colleges provided more than a third. Some were offered in high schools, hospitals, and colleges and universities.

Most practical nursing programs last about 1 year and include both classroom study and supervised clinical practice (patient care). Classroom study covers basic nursing concepts and patient-care related subjects, including anatomy, physiology, medical-surgical nursing, pediatrics, obstetrics, psychiatric nursing, administration



Nursing homes will offer the most new jobs for L.P.N.'s.

of drugs, nutrition, and first aid. Clinical practice is usually in a hospital, but sometimes includes other settings.

L.P.N.'s should have a caring, sympathetic nature. They should be emotionally stable because work with the sick and injured can be stressful. As part of a health care team, they must be able to follow orders and work under close supervision.

Job Outlook

Job prospects for L.P.N.'s are expected to be excellent, as employment grows much faster than it has in the past. Because of this growth, the number of new graduates needed will be well above the number graduated in recent years. As in most other occupations, replacement needs will be the main source of job openings.

Employment of L.P.N.'s is expected to increase faster than the average for all occupations through the year 2005, in response to the long-term care needs of a rapidly growing population of very old people and to the general growth of health care.

Nursing homes will offer the most new jobs for L.P.N.'s as the number of aged and disabled persons in need of long-term care rises rapidly. In addition to caring for the aged, nursing homes may be called on to care for the increasing number of patients who have been released from the hospital and have not yet recovered enough to return home.

Very rapid growth is also expected in such residential care facilities as board and care homes, old age homes, and group homes for the mentally retarded, as well as in home health care services.

Employment of L.P.N.'s in hospitals is not expected to increase much, largely because the number of inpatients, with whom most work, is not expected to increase much.

Employment is projected to grow very rapidly in physicians' offices and clinics, including health maintenance organizations.

Earnings

Median annual earnings of full-time, salaried L.P.N.'s were \$21,476 in 1992. The middle 50 percent earned between \$18,148 and \$25,948. The lowest 10 percent earned less than \$15,392; the top 10 percent, more than \$31,668.

According to a University of Texas Medical Branch survey of hospitals and medical centers, the median annual salary of L.P.N.'s, based on a 40 hour week and excluding shift or area differentials, was \$22,360 in October 1992. The average minimum salary was \$18,384 and the average maximum was \$26,551.

According to the Buck Survey conducted by the American Health Care Association, L.P.N.'s in chain nursing homes had median annual earnings of approximately \$21,900 in January, 1993. The middle 50 percent earned between \$19,800 and \$24,900 a year.

Related Occupations

L.P.N.'s work closely with people while helping them. So do emergency medical technicians, social service aides, human service workers, and teacher aides.

Sources of Additional Information

A list of State-approved training programs and information about practical nursing are available from:

☞ Communications Department, National League for Nursing, 350 Hudson St., New York, NY 10014.

☞ National Association for Practical Nurse Education and Service, Inc., 1400 Spring St., Suite 310, Silver Spring, MD 20910.

For information about a career in practical nursing, contact:

☞ National Federation of Licensed Practical Nurses, Inc., P.O. Box 18088, Raleigh, NC 27619.

Information about employment opportunities in Department of Veterans Affairs medical centers is available from local VA medical centers and also from:

☞ Title 38 Employment Division, (054D), Department of Veterans Affairs, 810 Vermont Ave. NW., Washington, DC 20420.

For information on nursing careers in long-term care, write:

☞ American Health Care Association, 1201 L St. NW., Washington, DC 20005.

Nursing Aides and Psychiatric Aides

(D.O.T. 354.374-010, .377-010, and .677-010; 355.377-014 and -018, .674-014 and -018, and .677-014)

Nature of the Work

Nursing aides and psychiatric aides help care for physically or mentally ill, injured, disabled, or infirm individuals confined to hospitals, nursing or residential care facilities, and mental health settings. (Homemaker-home health aides, whose duties are similar but who work in clients' homes, are discussed elsewhere in the *Handbook*.)

Nursing aides, also known as nursing assistants or hospital attendants, work under the supervision of nursing and medical staff. They answer patients' call bells, deliver messages, serve meals, make beds, and feed, dress, and bathe patients. Aides may also give massages, provide skin care to patients who cannot move, take temperatures, pulse, respiration, and blood pressure, and help patients get in and out of bed and walk. They may also escort patients to operating and examining rooms, keep patients' rooms neat, set up equipment, or store and move supplies. Aides observe patients' physical, mental, and emotional conditions and report any change to the nursing or medical staff.

Nursing aides employed in nursing homes are sometimes called geriatric aides. They are often the principal caregivers, having far more contact with residents than other members of the staff do. Since residents may stay in a nursing home for months or even years, aides are expected to develop ongoing relationships with them and respond to them in a positive, caring way.

Psychiatric aides are also known as mental health assistants, psychiatric nursing assistants, or ward attendants. They care for mentally impaired or emotionally disturbed individuals. They work under a team that may include psychiatrists, psychologists, psychiatric nurses, social workers, and therapists. In addition to helping patients dress, bathe, groom, and eat, psychiatric aides socialize with them and lead them in educational and recreational activities. Psychiatric aides may play games such as cards with the patients, watch television with them, or participate in group activities such as sports or field trips. They observe patients and report any signs which might be important for the professional staff to know. If necessary, they help restrain unruly patients and accompany patients to and from wards for examination and treatment. Because they have the closest contact with patients, psychiatric aides have a great deal of influence on patients' outlook and treatment.

Working Conditions

Most full-time aides work about 40 hours a week, but because patients need care 24 hours a day, some aides work evenings, nights, weekends, and holidays. Many work part time. Aides spend many



One-half of nursing aides work in nursing homes.

hours standing. Since they may have to move partially paralyzed patients in and out of bed or help them stand or walk, aides must guard against back injury.

Nursing aides often have unpleasant duties; they empty bed pans, change soiled bed linens, and care for disoriented and irritable patients. Psychiatric aides are often confronted with violent patients. While their work can be emotionally draining, many aides gain satisfaction from assisting those in need.

Employment

Nursing aides held about 1,308,000 jobs in 1992, and psychiatric aides held about 81,000 jobs. About one-half of all nursing aides worked in nursing homes, and about one-fourth worked in hospitals. Some worked in residential care facilities, such as halfway houses and homes for the aged or disabled, or in private households. Most psychiatric aides worked in State and county mental institutions, psychiatric units of general hospitals, private psychiatric facilities and community mental health centers.

Training, Other Qualifications, and Advancement

In many cases, neither a high school diploma nor previous work experience is necessary for a job as a nursing or psychiatric aide. A few employers, however, require some training or experience. Hospitals may require experience as a nursing aide or home health aide. Nursing homes often hire inexperienced workers who must complete a minimum of 75 hours of mandatory training and pass a competency evaluation program within 4 months of employment. Aides who complete the program are placed on the State registry of nursing aides. Some States require psychiatric aides to complete a formal training program.

These occupations can offer individuals an entry into the world of work. The flexibility of night and weekend hours also provides high school and college students a chance to work during the school year. The work is also open to middle-aged and older men and women.

Nursing aide training is offered in high schools, vocational-technical centers, many nursing homes, and community colleges. Courses cover body mechanics, nutrition, anatomy and physiology, infection control, and communication skills. Personal care skills such as the bathing, feeding, and grooming of patients are also taught.

Some facilities, other than nursing homes, provide classroom instruction for newly hired aides, while others rely exclusively on informal on-the-job instruction from a licensed nurse or an experienced aide. Such training may last several days to a few months. From time to time, aides may also attend lectures, workshops, and in-service training.

Applicants should be healthy, tactful, patient, understanding, emotionally stable, dependable, and have a desire to help people. They should also be able to work as part of a team, and be willing to perform repetitive, routine tasks.

Opportunities for advancement within these occupations are limited. To enter other health occupations, aides generally need additional formal training. Some employers and unions provide opportunities by simplifying the educational paths to advancement. Experience as an aide can also help individuals decide whether to pursue a career in the health care field.

Job Outlook

Job prospects for nursing aides should be very good through the year 2005. Employment of nursing aides is expected to grow much faster than the average for all occupations in response to an emphasis on rehabilitation and the long-term care needs of a rapidly growing population of those 75 years old and older. Employment will increase as a result of the expansion of nursing homes and other long-term care facilities for people with chronic illnesses and disabling conditions, many of whom are elderly. Also increasing employment of nursing aides will be modern medical technology which, while saving more lives, increases the need for the extended care provided by aides. As a result, nursing and personal care facilities are expected to grow very rapidly and to provide most of the new jobs for nursing aides. Employment also is expected to grow very rapidly in residential care facilities.

Employment of psychiatric aides is expected to grow faster than the average for all occupations. Employment will rise in response to the sharp increase in the number of older persons—many of whom will require mental health services. Employment of aides in private psychiatric facilities and community mental health centers is likely to grow because of increasing public acceptance of formal treatment for drug abuse and alcoholism, and a lessening of the stigma attached to those receiving mental health care. While employment in private psychiatric facilities may grow, employment in public mental hospitals is likely to be stagnant due to constraints on public spending.

Replacement needs will constitute the major source of openings for aides. Turnover is high, a reflection of modest entry requirements, low pay, and lack of advancement opportunities.

Earnings

Median annual earnings of nursing and psychiatric aides who worked full time in 1992 were about \$13,800. The middle 50 percent earned between \$11,000 and \$17,900. The lowest 10 percent earned less than \$9,500; the top 10 percent, more than \$23,900.

According to a University of Texas Medical Branch survey of hospitals and medical centers, the median annual salary of nursing aides, based on a 40 hour week and excluding shift or area differentials, was \$15,121 in October 1992.

According to the Buck Survey conducted by the American Health Care Association, nursing aides in chain nursing homes had median annual earnings of approximately \$11,600 in January, 1993. The middle 50 percent earned between \$10,400 and \$13,200 a year.

Aides in hospitals generally receive at least 1 week's paid vacation after 1 year of service. Paid holidays and sick leave, hospital and medical benefits, extra pay for late-shift work, and pension plans also are available to many hospital and some nursing home employees.

Related Occupations

Nursing aides and psychiatric aides help people who need routine care or treatment. So do homemaker-home health aides, childcare attendants, companions, occupational therapy aides, and physical therapy aides.

Sources of Additional Information

For information on nursing careers in long-term care, write: American Health Care Association, 1201 L St. NW., Washington, DC 20005.

Information about employment also may be obtained from local hospitals, nursing homes, psychiatric facilities, and State boards of nursing.

Occupational Therapists

(D.O.T. 076.121-010, 076.167-010)

Nature of the Work

Occupational therapists help individuals with mentally, physically, developmentally, or emotionally disabling conditions to develop, recover, or maintain daily living and work skills. They not only help patients improve basic motor functions and reasoning abilities, but also to compensate for permanent loss of function. Their goal is to help patients have independent, productive, and satisfying lifestyles.

Occupational therapists use activities of all kinds ranging from using a computer to caring for daily needs, such as dressing, cooking, and eating. Practical activities increase strength and dexterity, while paper and pencil games may be used to improve visual acuity and the ability to discern patterns. A patient suffering short-term memory loss, for instance, might be encouraged to make lists to aid recall. One with coordination problems might be given extra tasks to improve eye-hand coordination. Computer programs have been designed to help patients improve decisionmaking, abstract reasoning,

problem solving, and perceptual skills, as well as memory, sequencing, and coordination—all of which are important for independent living.

For those with permanent functional disabilities, such as spinal cord injuries, cerebral palsy, or muscular dystrophy, therapists provide such adaptive equipment as wheelchairs, splints, and aids for eating and dressing. They also design or make special equipment needed at home or at work. Therapists develop and teach patients to operate computer-aided adaptive equipment, such as microprocessing devices that permit individuals with severe limitations to communicate, walk, operate telephones and television sets, and control other aspects of their environment.

Some occupational therapists, called industrial therapists, help patients find and hold a job. They arrange employment, plan work activities and evaluate the patient's progress.

Occupational therapists may work exclusively with individuals in a particular age group or with particular disabilities. In schools, for example, they evaluate children's abilities, recommend therapy, modify classroom equipment, and in general, help children participate as fully as possible in school programs and activities.

Occupational therapists in mental health settings treat mentally ill, mentally retarded, or emotionally disturbed individuals. To treat these problems, therapists choose activities that help people learn to cope with daily life. Activities include time management skills, budgeting, shopping, homemaking, and use of public transportation. They may also work with patients suffering from alcoholism, drug abuse, depression, eating disorders, and stress related disorders.

Recording patient's activities and progress is an important part of an occupational therapist's job. Accurate records are essential for evaluating patients, billing, and reporting to physicians.

Working Conditions

Occupational therapists in hospitals and other health care settings generally work a regular 40-hour week. Those in schools may also participate in meetings and other activities, during and after the school day. In large rehabilitation centers, therapists may work in spacious rooms equipped with machines, tools, and other devices that may generate noise. The job can be tiring because therapists are on their feet much of the time. Those providing home health care may spend several hours a day driving from appointment to appointment. Therapists also face hazards such as backstrain from lifting and moving patients and equipment.

Employment

Occupational therapists held about 40,000 jobs in 1992. The largest number of jobs were in hospitals, including many in rehabilitation and psychiatric hospitals. School systems are the second largest employer of occupational therapists. Other major employers include



Occupational therapists need warmth and the ability to inspire patients to progress.

offices of occupational therapists and other health practitioners, nursing homes, community mental health centers, adult daycare programs, job training services, and residential care facilities.

A small but rapidly growing number of occupational therapists are in private practice. Some are solo practitioners, while others are in group practices. They see patients referred by physicians or other health professionals, or provide contract or consulting services to nursing homes, adult daycare programs, and home health agencies.

Training, Other Qualifications, and Advancement

A bachelor's degree in occupational therapy is the minimal requirement for entry into this field. In addition, 36 states and the District of Columbia require a license to practice occupational therapy. To obtain a license, applicants must have a degree or a post-bachelor's certificate from an accredited educational program and pass a national certification examination given by the American Occupational Therapy Certification Board. Those who pass the test are awarded the title of registered occupational therapist.

In 1992, entry level education was offered in 67 bachelor's degree programs; 10 post-bachelor's certificate programs, for students with a degree other than occupational therapy; and 15 entry level-master's degree programs. Most schools have full-time programs, although a growing number also offer weekend or part-time programs.

Occupational therapy coursework includes physical, biological, and behavioral sciences and the application of occupational therapy theory and skills. Completion of 6 months of supervised clinical internship is also required.

Persons considering this profession should take high school courses in biology, chemistry, physics, health, art, and the social sciences. College admissions offices also look with favor on paid or volunteer experience in the health-care field.

Warmth and patience are needed to inspire both trust and respect. Ingenuity and imagination in adapting activities to individual needs are assets. Individuals working in home health care must be able to successfully adapt to a variety of settings.

Job Outlook

Employment of occupational therapists is expected to increase much faster than the average for all occupations through the year 2005 due to anticipated growth in demand for rehabilitation and long-term care services.

Several factors are increasing the need for rehabilitative services. Medical advances are now making it possible for more patients with critical problems to survive. These patients, however, may need extensive therapy. Also, there is the anticipated demand generated by the baby-boom generation's move into middle age, a period during which the incidence of heart attack and stroke increases. Additional services will also be demanded by the population 75 years of age and above, a rapidly growing age group that suffers from a very high incidence of disabling conditions. Finally, additional therapists will be needed to help prepare handicapped children to enter special education programs, as required by recent Federal legislation.

Due to industry growth and more intensive care, hospitals will continue to employ the largest number of occupational therapists. Hospitals will also need occupational therapists to staff their growing home health care and outpatient rehabilitation programs.

Moderate growth in schools will result from expansion of the school-age population and extended services for handicapped students.

The field of private practice will continue to provide opportunities for occupational therapists. Movement into private practice has been abetted by a legislative change which permits occupational therapists to bill Medicare directly for services provided. Previously, billings were submitted through a hospital, home health agency, or other Medicare-approved facility.

Employment of occupational therapists in the home health field is expected to grow very fast. The rapidly growing number of people age 75 and older who are more likely to need home health care, and the greater use of at-home followup care will encourage this growth.

Earnings

According to a national survey of hospitals and medical centers conducted by the University of Texas Medical Branch, the median annual salary for occupational therapists, based on a 40-hour week and excluding shift or area differentials, was \$35,625 in October 1992. The average minimum was \$30,470 and the average maximum was \$44,958. Some States classify occupational therapists employed in public schools as teachers and pay accordingly. According to the National Education Association, elementary school teachers earned an average of about \$34,777 during the 1992-93 school year, and secondary school teachers earned an average of about \$36,509.

Therapists in private practice generally earned more than salaried workers.

Related Occupations

Occupational therapists use specialized knowledge to help individuals perform daily living skills and achieve maximum independence. Other workers performing similar duties include orthotists, prosthetists, physical therapists, chiropractors, speech pathologists and audiologists, rehabilitation counselors, recreational therapists, art therapists, music therapists, dance therapists, horticultural therapists, and manual arts therapists.

Sources of Additional Information

For more information on occupational therapy as a career, a list of education programs, and requirements for certification, write to:

American Occupational Therapy Association, P.O. Box 1725, 1383 Piccard Dr., Rockville, MD 20849-1725.

Pharmacists

(D.O.T. 074.161-010 and -014)

Nature of the Work

Pharmacists dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. They advise physicians and other health practitioners on the selection, dosages, and side effects of medications. Pharmacists must understand the use, composition, and effects of drugs. Compounding—the actual mixing of ingredients to form powders, tablets, capsules, ointments, and solutions—is only a small part of a pharmacist's practice, because most medicines are produced by pharmaceutical companies in a standard dosage and form.

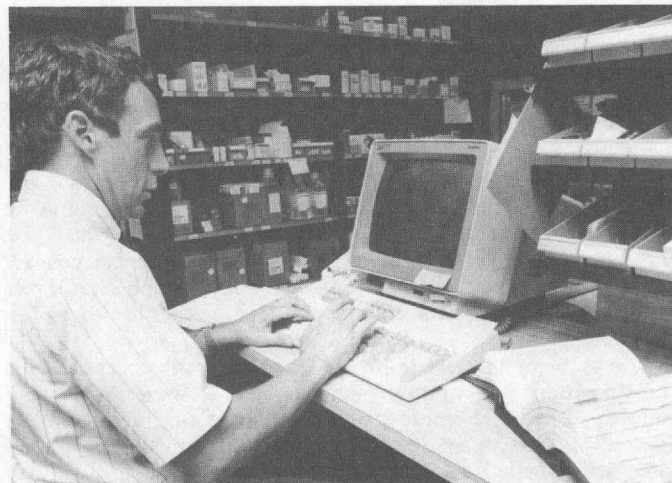
Pharmacists in community (retail) pharmacies answer customers' questions about prescription drugs, such as possible adverse reactions and interactions. They answer questions about over-the-counter drugs and make recommendations after asking a series of health questions, such as whether the customer is on any other medication. They also give advice about durable medical equipment and home health care supplies. Those who own or manage community pharmacies may buy and sell nonhealth-related merchandise, hire and supervise personnel, and oversee the general operation of the pharmacy.

Pharmacists in hospitals and clinics dispense medications and advise the medical staff on the selection and effects of drugs, in some cases making rounds with them. They may make sterile solutions and buy medical supplies. They also monitor drug regimens, advise patients on the use of drugs when they are discharged from the hospital, and evaluate drug use patterns in the hospital.

Pharmacists who work in home health care prepare medications for use in the home and monitor drug therapy.

Most pharmacists keep computerized records of patients' drug therapies to insure that harmful drug interactions do not occur. They may also teach health professions students.

Some pharmacists specialize in specific aspects of drug therapy, such as drugs for psychiatric disorders, intravenous nutrition, or the diagnostic use of radiopharmaceuticals.



Pharmacists keep computerized records of patients' drug therapies.

Working Conditions

Pharmacists usually work in clean, well-lighted, and well-ventilated areas. Many pharmacists spend most of their time on their feet. When working with potentially dangerous or sterile pharmaceutical products, pharmacists wear gloves and masks and work with special protective equipment. Many community and hospital pharmacies are open long hours or around the clock, so pharmacists may work evenings, nights, weekends, and holidays. Pharmacists who consult may travel to nursing homes or other facilities.

About 1 out of 7 pharmacists worked part time in 1992. Most full-time salaried pharmacists worked about 40 hours a week. Some however, worked more than 50 hours a week. Most self-employed pharmacists worked more than 50 hours a week.

Employment

Pharmacists held about 163,000 jobs in 1992. Three out of 5 worked in community pharmacies, either independently owned, part of a drug store chain, or part of a grocery or department store. Most community pharmacists were salaried, but a substantial number were self employed. More than one-quarter worked in hospitals, and some worked for health maintenance organizations (HMO's), clinics, nursing homes, and the Federal Government.

Some pharmacists hold more than one job. They may work a standard week in their primary work setting and also work part time elsewhere.

Training, Other Qualifications, and Advancement

A license to practice pharmacy is required in all States, the District of Columbia, and U.S. territories. To obtain a license, one must graduate from an accredited college of pharmacy (a few States allow graduation from certain foreign pharmacy programs), pass a State examination, and serve an internship under a licensed pharmacist. In 1993, all States except California and Florida usually granted a license without extensive reexamination to qualified pharmacists already licensed by another State. Many pharmacists are licensed to practice in more than one State. Most States require continuing education for license renewal.

At least 5 years of study beyond high school are required to graduate from programs accredited by the American Council on Pharmaceutical Education. Five years are needed for a Bachelor of Science (B.S.) in Pharmacy, the degree received by most graduates. A Doctor of Pharmacy (Pharm.D.) normally requires at least 6 years, during which an intervening bachelor's degree may not be awarded. Those who already hold the bachelor's degree may enter Pharm.D. programs, but the combined period of study is usually longer than 6 years. Of the 75 colleges of pharmacy that conferred degrees in 1992-93, 61 conferred the B.S. in Pharmacy and 58 awarded the Pharm.D., either as a first professional or postbaccalaureate degree.

Requirements for admission to colleges of pharmacy vary. A few colleges admit students directly from high school. Most colleges of

pharmacy, however, require 1 or 2 years of college-level prepharmacy education. Entry requirements usually include mathematics and basic sciences, such as chemistry, biology, and physics, as well as courses in the humanities and social sciences. Some colleges require the applicant to take the Pharmacy College Admissions Test (P-CAT).

All colleges of pharmacy offer courses in pharmacy practice, designed to teach students to dispense prescriptions, communicate with patients and other health professionals, and to strengthen their understanding of professional ethics and practice management responsibilities. Pharmacists' training increasingly emphasizes direct patient care as well as consultative services to other health professionals.

The bachelor's degree in pharmacy is generally acceptable for most positions in community pharmacies. However, a growing number of hospital employers prefer that a pharmacist have a Pharm.D. degree. A master's or Ph.D. degree in pharmacy or a related field usually is required to do research, and a Pharm.D. with additional residency or fellowship training, master's, or Ph.D. usually is necessary for administrative or faculty positions.

In 1992-93, 61 colleges of pharmacy awarded the Master of Science degree or the Ph.D. degree. Although a number of pharmacy graduates interested in further training pursue an advanced degree in pharmacy, there are other options. Some enter 1- or 2-year residency programs or fellowships. Pharmacy residencies are organized, directed, postgraduate training programs in a defined area of pharmacy practice, such as pediatrics, cardiology, oncology, or hospital pharmacy management. Pharmacy fellowships are directed, highly individualized programs designed to prepare participants to do independent research.

Areas of graduate study include pharmaceuticals and pharmaceutical chemistry (physical and chemical properties of drugs and dosage forms), pharmacology (effects of drugs on the body), and pharmacy administration, including social-behavioral aspects of patient care.

Prospective pharmacists should have scientific aptitude, manual dexterity, and good interpersonal skills.

In community pharmacies, pharmacists usually begin as employees. After they gain experience and secure the necessary capital, many become owners or part owners of pharmacies. Pharmacists in chain drug stores may be promoted to supervisory pharmacist at the store level and then at the district level, and later to an executive position within the chain's headquarters.

Hospital pharmacists may advance to director of pharmacy services or to other administrative positions. Pharmacists in the pharmaceutical industry may advance in marketing, sales, research, quality control, production, packaging, and other areas.

Job Outlook

Employment of pharmacists is expected to grow faster than the average for all occupations through the year 2005, due to the increased pharmaceutical needs of a larger and older population and greater use of medication. As in other occupations, most job openings will result from the need to replace pharmacists who leave the profession.

The increased number of middle-aged and elderly people will spur demand in all practice settings. Projected rapid growth in the elderly population is especially important because the number of prescriptions influences demand for pharmacists, and the elderly use more prescription drugs, on the average, than younger people.

Other factors likely to increase demand for pharmacists through the year 2005 include the likelihood of scientific advances that will make more drug products available; new developments in administering medication; and increasingly sophisticated consumers seeking more information about drugs.

The number of pharmacists in hospitals is expected to grow as pharmacists consult more and become more actively involved in patient drug therapy decision-making. The increased severity of the typical hospital patient's illness, together with rapid strides in drug therapy, is likely to heighten demand for pharmacists in hospitals, HMO's, and other health care settings.

Earnings

Median annual earnings of full-time, salaried pharmacists were \$45,000 in 1992. Half earned between \$37,600 and \$51,400. The lowest 10 percent earned less than \$26,100 and the top 10 percent more than \$59,500.

Pharmacists working in chain drug stores had an average base salary of \$49,800 per year in 1992, while pharmacists working in independent drug stores averaged \$45,300, discount stores averaged \$53,200, supermarkets averaged \$51,200, health maintenance organizations (HMO's) averaged \$52,300, and hospital pharmacists averaged \$50,300, according to a survey by *Drug Topics* magazine published by Medical Economics Publishing, Inc. The same survey showed that pharmacists employed in the West earned higher incomes than pharmacists in other regions of the country. Also, pharmacists employed by chain drug stores, supermarkets, discount stores, and HMO's receive more benefits than those in independent drug stores. Pharmacists who were owners of pharmacies often earn considerably more than salaried pharmacists.

Related Occupations

Persons in other professions who work with pharmaceutical compounds are pharmaceutical chemists and pharmacologists.

Sources of Additional Information

For information on pharmacy as a career, preprofessional and professional requirements, programs offered by all the colleges of pharmacy, and student financial aid, contact:

☞ American Association of Colleges of Pharmacy, 1426 Prince St., Alexandria, VA 22314.

Information on requirements for licensure in a particular State is available from the Board of Pharmacy of the State or from:

☞ National Association of Boards of Pharmacy, 700 Busse Hwy., Park Ridge, IL 60068.

Information on specific college entrance requirements, curriculums, and financial aid is available from the dean of any college of pharmacy.

Physical Therapists

(D.O.T. 076.121-014)

Nature of the Work

Physical therapists improve the mobility, relieve the pain, and prevent or limit the permanent physical disabilities of patients suffering from injuries or disease. Their patients include accident victims and disabled individuals with conditions such as multiple sclerosis, cerebral palsy, nerve injuries, burns, amputations, head injuries, fractures, low back pain, arthritis, and heart disease.

Therapists evaluate a patient's medical history; test and measure their strength, range of motion, and ability to function; and develop written treatment plans. These plans, which may be based on physician's orders, describe the treatments to be provided, their purpose, and their anticipated outcomes. As treatment continues, they document progress, conduct periodic re-evaluations, and modify treatments, if necessary.

Treatment often includes exercise for patients who have been immobilized and lack flexibility. Using a technique known as passive exercise, therapists increase the patient's flexibility by stretching and manipulating stiff joints and unused muscles. Later in the treatment, they encourage patients to use their own muscles to further increase flexibility and range of motion before finally advancing to weights and other exercises to improve strength, balance, coordination, and endurance.

Physical therapists also use electricity, heat, cold, or ultrasound to relieve pain or improve the condition of muscles or related tissues or to reduce swelling. They may use traction or deep-tissue massage to relieve pain and restore function. Therapists also teach and motivate patients to use crutches, prostheses, and wheelchairs to perform day-to-day activities and show them exercises to do at home.

Physical therapists document evaluations, daily progress, medical team conferences, and reports to referring practitioners and insurance companies. Such documentation is used to track the patient's progress, identify areas requiring more or less attention, justify billings, and for legal purposes.

Some physical therapists treat a wide variety of problems; others specialize in such areas as pediatrics, geriatrics, orthopedics, sports physical therapy, neurology, and cardiopulmonary physical therapy.

Working Conditions

Physical therapists work in hospitals, clinics, and private offices that have specially equipped facilities, or they treat patients in hospital rooms, homes, or schools.

Most physical therapists work a 40-hour week, which may include some evenings and weekends. The job can be physically demanding because therapists often have to stoop, kneel, crouch, lift, and stand for long periods of time. In addition, therapists move heavy equipment and lift patients or help them turn, stand, or walk.

Employment

Physical therapists held about 90,000 jobs in 1992; about 1 in 4 worked part time.

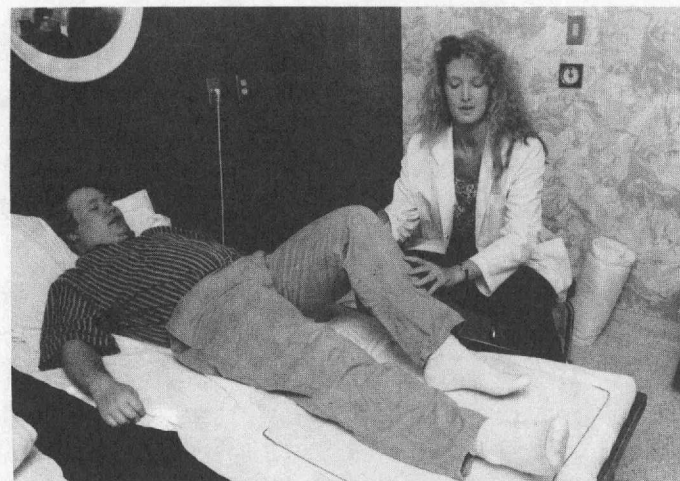
Hospitals employed one-third and offices of other health practitioners, including those of physical therapists, one-quarter of all salaried physical therapists in 1992. Other jobs were in offices of physicians, home health agencies, nursing homes, and schools. Some physical therapists are in private practice, providing services to individual patients or contracting to provide services in hospitals, rehabilitation centers, nursing homes, home health agencies, adult day-care programs, and schools. These self-employed therapists may be in solo practice or be part of a consulting group. Some physical therapists teach in academic institutions and conduct research.

Training, Other Qualifications, and Advancement

All States require physical therapists to pass a licensure exam after graduating from an accredited physical therapy program.

Entry level education in physical therapy is available in 70 bachelor's degree and 64 master's degree programs. The bachelor's degree curriculum usually starts with basic science courses such as biology, chemistry, and physics, and then introduces specialized courses such as biomechanics, neuroanatomy, human growth and development, manifestations of disease and trauma, evaluation and assessment techniques, research, and therapeutic procedures. Besides classroom and laboratory instruction, students receive supervised clinical experience in hospitals.

Individuals who have a 4-year degree in a related field, such as genetics or biology, and want to be a physical therapist, should enroll in a master's level physical therapy program. A master's degree is



Physical therapists treat and rehabilitate persons with injuries and disabilities.

also recommended for those with a bachelor's degree in physical therapy who are interested in promotion to an administrative position. For research and teaching jobs, a master's degree is required.

Competition for entry to physical therapy programs is keen, so interested students should attain superior grades in high school and college, especially in science courses. Courses useful when applying to physical therapy programs include anatomy, biology, chemistry, social science, mathematics, and physics. Many education programs also require experience as a volunteer in the physical therapy department of a hospital or clinic for admission.

Physical therapists should be patient, persuasive, resourceful, emotionally stable, and tactful to help patients understand the treatments and adjust to their disabilities. Similar traits are also needed to deal with the patient's family. Physical therapists should also have manual dexterity and physical stamina.

Physical therapists should expect to continue to develop professionally by participating in continuing education courses and workshops from time to time. A number of States require continuing education for maintaining licensure.

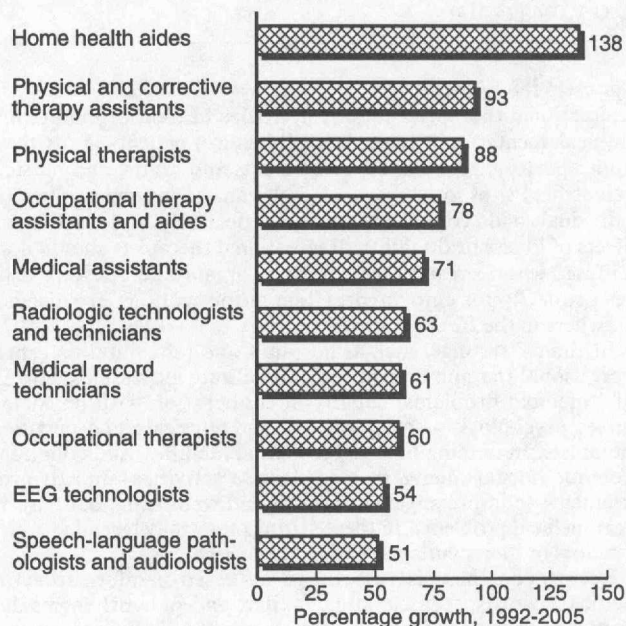
Job Outlook

Employment of physical therapists is expected to grow much faster than the average for all occupations through the year 2005. Growth will occur as new medical technologies save more people, who then need therapy; as new technologies permit more disabling conditions to be treated; and as the population grows and ages.

The rapidly growing elderly population is particularly vulnerable to chronic and debilitating conditions that will require more therapeutic services. At the same time, the baby-boom generation will enter the prime age for heart attack and strokes, increasing the demand for cardiac and physical rehabilitation. More young people will also need physical therapy as medical advances save the lives of a larger proportion of newborns with severe birth defects. Future medical developments will also permit a higher percentage of trauma victims to survive, creating additional demand for rehabilitative care.

Growth will also result from advances in medical technology which permit treatment of more disabling conditions. In the past, for example, the development of hip and knee replacements for

Employment in physical therapy occupations is expected to grow faster than in most other health care occupations.



Source: Bureau of Labor Statistics

those with arthritis gave rise to employment for physical therapists to improve flexibility and strengthen weak muscles.

The widespread interest in health promotion should also increase demand for physical therapy services. A growing number of employers are using physical therapists to evaluate worksites, develop exercise programs, and teach safe work habits to employees in the hope of reducing injuries.

Job prospects in physical therapy are expected to be excellent. There have been shortages of physical therapists in recent years. However, this situation may ease eventually as the number of physical therapy education programs increases and more students graduate.

Earnings

In 1992, median annual earnings of salaried physical therapists who usually work full time were \$35,464. The middle 50 percent earned between \$26,624 and \$43,628. The top 10 percent earned at least \$52,468 and the bottom 10 percent earned less than \$17,784.

According to a University of Texas Medical Branch national survey of hospitals and medical centers, the median annual salary of physical therapists, based on a 40 hour week and excluding shift or area differentials, was \$37,638 in October 1992. The average minimum salary was \$31,887 and the average maximum salary was \$47,288. Physical therapists in private practice tend to earn more than salaried workers.

Related Occupations

Physical therapists treat and rehabilitate persons with physical or mental disabilities. Others who work in the rehabilitation field include occupational therapists, corrective therapists, recreational therapists, manual arts therapists, speech pathologists and audiologists, orthotists, prosthetists, respiratory therapists, chiropractors, acupuncturists, and athletic trainers.

Sources of Additional Information

Additional information on a career as a physical therapist and a list of accredited educational programs in physical therapy are available from:

☞ American Physical Therapy Association, 1111 North Fairfax St., Alexandria, VA 22314.

Recreational Therapists

(D.O.T. 076.124-014)

Nature of the Work

Recreational therapists employ activities to treat or maintain the physical, mental, and emotional well-being of patients. Activities include sports, games, dance, drama, arts and crafts, and music, as well as field trips for sightseeing, ball games, or picnics. They help individuals build confidence, socialize effectively, and remediate the effects of illness or disability. Recreational therapists should not be confused with recreation workers, who organize recreational activities primarily for enjoyment. (Recreation workers are discussed elsewhere in the *Handbook*.)

In clinical settings, such as hospitals and rehabilitation centers, recreational therapists treat and rehabilitate individuals with specific medical problems, usually in cooperation with physicians, nurses, psychologists, social workers, and physical and occupational therapists. In nursing homes, residential facilities, and community recreation departments, they use leisure activities—mostly group oriented—to improve general health and well-being, but may also treat medical problems. In these settings they may be called activity directors or therapeutic recreation specialists.

Recreational therapists assess patients based on information from medical records, medical staff, family, and patients themselves. They then develop and carry out therapeutic activity programs consistent with patient needs and interests. For instance, patients having trouble socializing may be helped to play games with others, a

right-handed person with a right-side paralysis may be helped to use their left arm to throw a ball or swing a racket. They may instruct patients in relaxation techniques to reduce stress and tension, in stretching and limbering exercises, and in individual and group sports.

Community based recreational therapists work in park and recreation departments, special education programs, or programs for the elderly or disabled. In these programs therapists help patients develop leisure activities and provide them with opportunities for exercise, mental stimulation, creativity, and fun.

Recreational therapists observe and record patients' participation, reactions, and progress. These records are used by the medical staff and others, to monitor progress, to justify changes or end treatment, and for billing.

Working Conditions

Recreational therapists often plan events and keep records in offices and provide services in special activity rooms. In community settings they might also work with clients in a recreation room, on a playing field, or in a swimming pool.

Therapists often lift and carry equipment as well as participate in activities. Recreational therapists generally work a 40-hour week, which may include some evenings, weekends, and holidays.

Employment

Recreational therapists held about 30,000 jobs in 1992. About one-half were in hospitals and one-third were in nursing homes. Others were in residential facilities, community mental health centers, adult day care programs, correctional facilities, community programs for people with disabilities, and substance abuse centers. Some therapists were self-employed, generally contracting with nursing homes or community agencies to develop and oversee programs.

Training, Other Qualifications, and Advancement

A bachelor's degree in therapeutic recreation (or in recreation with an option in therapeutic recreation) is the usual requirement for hospital and other clinical positions. An associate degree in recreational therapy; training in art, drama, or music therapy; or qualifying work experience may be sufficient for activity director positions in nursing homes.

The National Council for Therapeutic Recreation Certification certifies therapeutic recreation specialists. Specialists must have a bachelor's degree and pass a certification exam. Some employers require individuals to be certified; others prefer it.

There are 105 programs that prepare recreational therapists. As of 1993, 54 programs were accredited by the National Council on Accreditation. Most offer bachelor's degrees, although some offer associate or master's degrees.



Recreational therapists may prepare periodic reports on patients.

In addition to therapeutic recreation courses in clinical practice and helping skills, program design, management, and professional issues, students study human anatomy, physiology, abnormal psychology, medical and psychiatric terminology, characteristics of illnesses and disabilities, and the concepts of mainstreaming and normalization. Courses cover professional ethics, assessment and referral procedures, and the use of adaptive and medical equipment. In addition, 360 hours of internship under the supervision of a certified therapeutic recreation specialist are required.

Recreational therapists should be comfortable working with disabled people and be patient, tactful, and persuasive. Ingenuity and imagination are needed in adapting activities to individual needs and good physical coordination is necessary when demonstrating or participating in recreational events.

Job Outlook

Employment of recreational therapists is expected to grow faster than the average for all occupations through the year 2005, because of anticipated expansion in long-term care, physical and psychiatric rehabilitation, and services for the disabled.

Hospitals will provide a large number of recreational therapy jobs through the year 2005. A growing number of these will be in hospital-based adult day care and out-patient programs, or in units offering short-term mental health and alcohol or drug abuse services. Long-term rehabilitation and psychiatric hospitals will provide additional jobs.

The rapidly growing number of older people is expected to spur job growth for activity directors in nursing homes, retirement communities, adult day care programs, and social service agencies. Continued growth is expected in community residential facilities as well as day care programs for people with disabilities.

Job prospects are expected to be favorable for those with a strong clinical background.

Earnings

According to a survey of American Therapeutic Recreation Association members, the average salary for recreational therapists was \$25,557 in 1991. According to limited data from a survey conducted by the National Association of Activity Professionals, the average salary of activity directors in nursing homes was between \$15,000 and \$25,000 a year in 1990.

The average annual salary for all recreational therapists in the Federal Government in nonsupervisory, supervisory, and managerial positions was about \$33,499 in 1993.

Related Occupations

Recreational therapists design activities to help people with disabilities lead more fulfilling and independent lives. Other workers who have similar jobs are orientation therapists for the blind, art therapists, drama therapists, dance therapists, music therapists, occupational therapists, and rehabilitation counselors.

Sources of Additional Information

For information on how to order materials describing careers and academic programs in recreational therapy, write to:

☞ American Therapeutic Recreation Association, C.O. Associated Management Systems, P.O. Box 15215, Hattiesburg, MS 39402-5215.

☞ National Therapeutic Recreation Society, 2775 S. Quincy St., Suite 300, Arlington, VA 22206-2204.

Certification information may be obtained from:

☞ National Council for Therapeutic Recreation Certification, P.O. Box 479, Thiells, NY 10984-0479.

Registered Nurses

(D.O.T. 075.124-010 and -014, .127-014, -026, -030 and -034, .137-010 and -014, .167-010 and -014, .264-010 and -014, .364-010, .371-010, .374-014, -018, and -022)

Nature of the Work

Registered nurses (R.N.'s) care for the sick and injured and help people stay well. They are typically concerned with the "whole person," providing for the physical, mental, and emotional needs of their patients. They observe, assess, and record symptoms, reactions, and progress; assist physicians during treatments and examinations; administer medications; and assist in convalescence and rehabilitation. R.N.'s also develop and manage nursing care plans; instruct patients and their families in proper care; and help individuals and groups take steps to improve or maintain their health. While State laws govern the tasks R.N.'s may perform, it is usually the work setting which determines day-to-day job duties.

Hospital nurses form the largest group of nurses. Most are staff nurses, who provide bedside nursing care and carry out the medical regimen prescribed by physicians. They may also supervise licensed practical nurses and aides. Hospital nurses usually are assigned to one area such as surgery, maternity, pediatrics, emergency room, intensive care, or treatment of cancer patients or may rotate among departments.

Nursing home nurses manage nursing care for residents with conditions ranging from a fracture to Alzheimer's disease. Although they generally spend most of their time on administrative and supervisory tasks, R.N.'s also assess residents' medical condition, develop treatment plans, supervise licensed practical nurses and nursing aides, and perform difficult procedures such as starting intravenous fluids. They also work in specialty-care departments, such as long-term rehabilitation for stroke and head-injury patients.

Public health nurses work in government and private agencies and clinics, schools, retirement communities and other community settings. They instruct individuals and families and other groups in health education, disease prevention, nutrition, child care, and home care of the sick or disabled. They arrange for immunizations, blood pressure testing, and other health screening. These nurses also work with community leaders, teachers, parents, and physicians in community health education. Some work in home health care, providing periodic services prescribed by a physician and instructing patients and families.

Private duty nurses care for patients needing constant attention. They work directly for families on a contract basis or for a nursing or temporary help agency which assigns them to patients. They provide services in homes, hospitals, nursing homes, and rehabilitation centers.

Office nurses assist physicians in private practice, clinics, surgicenters, emergency medical centers, and health maintenance organizations (HMO's). They prepare patients for and assist with examinations, administer injections and medications, dress wounds and incisions, assist with minor surgery, and maintain records. Some also perform routine laboratory and office work.

Occupational health or industrial nurses provide nursing care at worksites, to employees, customers, and others with minor injuries and illnesses. They provide emergency care, prepare accident reports, and arrange for further care if necessary. They also offer health counseling, assist with health examinations and inoculations, and work on accident prevention programs.

Head nurses or nurse supervisors direct nursing activities. They plan work schedules and assign duties to nurses and aides, provide or arrange for training, and visit patients to observe nurses and to insure that care is proper. They may also insure that records are maintained and that equipment and supplies are ordered.

Working Conditions

Most nurses work in well-lighted, comfortable medical facilities. Public health nurses travel to patients' homes and to schools, community centers, and other sites. Nurses may spend considerable



Advancement opportunities are broader for nurses with a B.S.N.

time walking and standing. They need emotional stability to cope with human suffering, emergencies, and other stresses. Because patients in hospitals and nursing homes require 24-hour care, nurses in these institutions may work nights, weekends, and holidays. Office, occupational health, and public health nurses are more likely to work regular business hours.

Nursing has its hazards, especially in hospitals and clinics where nurses may care for individuals with infectious diseases such as hepatitis and AIDS. Nurses must observe rigid guidelines to guard against these and other dangers such as radiation, chemicals used for sterilization of instruments, and anesthetics. In addition, nurses face back injury when moving patients, shocks from electrical equipment, and hazards posed by compressed gases.

Employment

Registered nurses held about 1,835,000 jobs in 1992. About 2 out of 3 jobs were in hospitals. Others were in offices and clinics of physicians, nursing homes, home health care agencies, temporary help agencies, schools, and government agencies. About one-fourth of all R.N.'s worked part time.

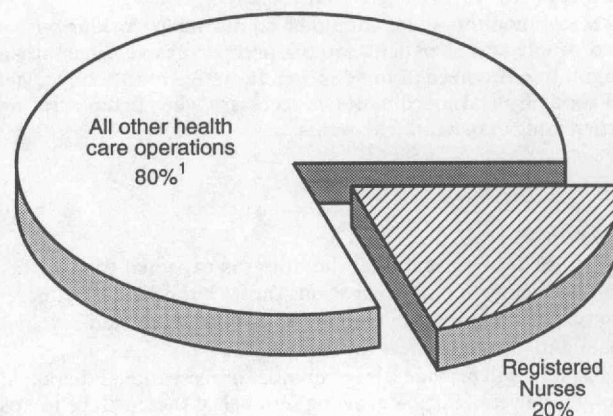
Training, Other Qualifications, and Advancement

To obtain a nursing license, all States require graduation from an accredited nursing school and passing a national licensing examination. Nurses may be licensed in more than one State, either by examination or endorsement of a license issued by another State. Licenses must be periodically renewed, and continuing education is a requirement for renewal in some States.

In 1991, there were 1,470 entry level R.N. programs. There are three major educational paths to nursing: Associate degree (A.D.N.), diploma, and bachelor of science degree in nursing (B.S.N.). A.D.N. programs, offered by community and junior colleges, take about 2 years. More than 60 percent of graduates in 1991 were from A.D.N. programs. B.S.N. programs, offered by colleges and universities, take 4 or 5 years. More than 30 percent of graduates in 1991 were from these programs. Diploma programs, given in hospitals, last 2 to 3 years. A small and declining number of graduates come from these programs. Generally, licensed graduates of any of the three program types qualify for entry level positions as staff nurses.

There have been attempts to raise the educational requirements for an R.N. license to a bachelor's degree and, possibly, create new job titles. However, such proposals have been around for years. These changes, should they occur, will be made State by State, through legislation or regulation. Changes in licensure requirements would not affect currently licensed R.N.'s, who would be "grandfathered" in, no matter what their educational preparation. However, individuals considering nursing should carefully weigh the pros and cons of enrolling in a B.S.N. program, since advancement opportunities are broader for those with a B.S.N. In fact, some

About 20 percent of the 3.8 million new jobs in health care occupations will be for registered nurses.



¹Includes health diagnosing, assessment, technician, and service occupations, and homemaker home health aides.

Source: Bureau of Labor Statistics

career paths are open only to nurses with bachelor's or advanced degrees.

While A.D.N. or diploma preparation is enough for a nursing home nurse to advance to director of nursing, a bachelor's degree is generally necessary for administrative positions in hospitals and for positions in community nursing. Moreover, the B.S.N. is a prerequisite for admission to graduate nursing programs. So individuals considering positions requiring graduate training, such as research, consulting, teaching, or clinical specializations should enroll in a B.S.N. program.

A growing number of A.D.N. and diploma-trained nurses are entering bachelor's programs to prepare for a broader scope of nursing practice. They can often find a hospital position and then take advantage of tuition reimbursement programs to get a B.S.N.

Nursing education includes classroom instruction and supervised training in hospitals and other health facilities. Students take courses in anatomy, physiology, microbiology, chemistry, nutrition, psychology and other behavioral sciences, and nursing.

Supervised clinical experience is provided in hospital departments such as pediatrics, psychiatry, maternity, and surgery. A growing number of programs include courses in gerontological nursing and clinical practice in nursing homes. Some provide clinical training in public health departments and home health agencies.

Nurses should be caring and sympathetic. They must be able to accept responsibility, direct or supervise others, follow orders precisely, and determine when consultation is required.

Experience and good performance can lead to promotion to increasingly more responsible positions. Nurses can advance, in management, to assistant head nurse or head nurse. From there, they can advance to assistant director, director, and vice president positions. Increasingly, management level nursing positions require a graduate degree in nursing or health services administration. They also require leadership, negotiation skills, and good judgment. Graduate programs preparing executive level nurses usually last 1 to 2 years.

Within patient care, nurses can advance to clinical nurse specialist, nurse practitioner, nurse midwife, or nurse anesthetist. These positions require 1 or 2 years of graduate education, leading to a certificate or master's degree.

Some nurses move into the business side of health care. Their nursing expertise and experience on a health care team equip them to manage ambulatory, acute, home health, and chronic care services. Some are employed by health care corporations in health planning and development, marketing, and quality assurance.

Job Outlook

Job prospects in nursing are good. Although employers in some parts of the country reported shortages of R.N.'s in the past, large wage increases have attracted more people to nursing and dampened demand. However, R.N. recruitment has long been a problem in rural areas, in some big city hospitals, and in specialty areas including intensive care, rehabilitation, geriatrics, and long-term care.

Employment of registered nurses is expected to grow much faster than the average for all occupations through the year 2005. Driving this growth will be technological advances in patient care, which permit a greater number of medical problems to be treated, and increasing emphasis on primary care. The number of older people, who are much more likely than younger people to need medical care, is projected to grow very rapidly. Many job openings also will result from the need to replace experienced nurses who leave the occupation, especially as the average age of the registered nurse population continues to rise.

Employment in hospitals, the largest sector, is expected to grow more slowly than in other health-care sectors. While the intensity of nursing care is likely to increase, requiring more nurses per patient, the number of inpatients (those who remain overnight) is not likely to increase much. Also, patients are being released earlier and more procedures are being done on an outpatient basis, both in and outside hospitals. Most rapid growth is expected in hospitals' outpatient facilities.

Employment in physicians' offices and clinics, including HMO's, ambulatory surgicenters, and emergency medical centers is expected to grow very rapidly as health care in general expands. In addition, an increasing proportion of sophisticated procedures, which once were performed only in hospitals, are being performed here, thanks largely to advances in technology.

Employment in home health care is also expected to grow very rapidly. This is in response to a growing number of older persons with functional disabilities, consumer preference for care in the home, and technological advances which make it possible to bring increasingly complex treatments into the home.

Employment in nursing homes is expected to grow very fast due to increases in the number of people in their eighties and nineties, many of whom will require long-term care. In addition, the financial pressure on hospitals to release patients as soon as possible should produce more nursing home admissions. Growth in units to provide specialized long-term rehabilitation for stroke and head injury patients or to treat Alzheimer's victims will also increase employment.

Earnings

Median annual earnings of full-time salaried registered nurses were \$34,424 in 1992. The middle 50 percent earned between \$27,820 and \$41,600. The lowest 10 percent earned less than \$21,944; the top 10 percent, more than \$50,960.

According to a University of Texas Medical Branch survey of hospitals and medical centers, the median annual salary of staff nurses, based on a 40 hour week and excluding shift or area differentials, was \$33,278 in October 1992. The average minimum salary was \$27,476 and the average maximum was \$41,563. For head nurses, the median was \$47,335; clinical nurse specialists, \$44,845; professional nurse practitioners, \$43,680; and nurse anesthetists, \$66,622.

According to the Buck Survey conducted by the American Health Care Association, staff R.N.'s in chain nursing homes had median annual earnings of approximately \$30,200 in January, 1993. The middle 50 percent earned between \$27,200 and \$33,400 a year.

Many employers are offering flexible work schedules, child care, educational benefits, bonuses, and other incentives.

Related Occupations

Workers in other occupations with responsibilities and duties related to those of registered nurses are occupational therapists,

paramedics, physical therapists, physician assistants, and respiratory therapists.

Sources of Additional Information

The National League for Nursing (NLN) publishes a variety of nursing and nursing education materials, including a list of nursing schools and information on student financial aid. For a complete list of NLN publications, write for a career information brochure. Send your request to:

☞ Communications Department, National League for Nursing, 350 Hudson St., New York, NY 10014.

For a list of B.S.N. and graduate programs, write to:

☞ American Association of Colleges of Nursing, 1 Dupont Circle, Suite 530, Washington, DC 20036.

Information on career opportunities as a registered nurse is available from:

☞ American Nurses' Association, 600 Maryland Ave. SW., Washington, DC 20024-2571.

Information about employment opportunities in Department of Veterans Affairs medical centers is available from local VA medical centers and also from:

☞ Title 38 Employment Division (054D), Department of Veterans Affairs, 810 Vermont Ave. NW., Washington, DC 20420.

For information on nursing careers in long-term care, write to:

☞ American Health Care Association, 1201 L St. NW., Washington, DC 20005-4014.

Respiratory Therapists

(D.O.T. 076.361-014)

Nature of the Work

You may live without water for a few days and without food for a few weeks. But without air, you will suffer brain damage within a few minutes and die after 9 minutes or more. Respiratory therapists, also known as respiratory care practitioners, evaluate, treat, and care for patients with breathing disorders.

In evaluating patients, therapists test the capacity of the lungs and analyze the oxygen and carbon dioxide concentration and potential of hydrogen (pH), a measure of the acidity or alkalinity level of the blood. To measure lung capacity, therapists have patients breathe into an instrument that measures the volume and flow of air during inhalation and exhalation. By comparing the reading with the norm for the patient's age, height, weight, and sex, respiratory therapists can determine whether lung deficiencies exist. To analyze oxygen, carbon dioxide, and pH levels, therapists draw an arterial blood sample, place it in a blood gas analyzer, and relay the results to a physician.

Respiratory therapists treat all sorts of patients, be they premature infants whose lungs are not fully developed or elderly people whose lungs are diseased. They provide temporary relief to patients with chronic asthma or emphysema and emergency care for heart failure, stroke, drowning, or shock victims. Respiratory therapists most commonly use oxygen or oxygen mixtures, chest physiotherapy, and aerosol medications. Therapists may place an oxygen mask or nasal cannula on a patient and set the oxygen flow at the level prescribed by a physician to increase a patient's concentration of oxygen. Therapists also connect patients who cannot breathe on their own to ventilators which deliver pressurized air into the lungs. They insert a tube into a patient's trachea, or windpipe; connect the tube to the ventilator; and set the rate, volume, and oxygen concentration of the air entering the patient's lungs. Therapists regularly check on patients and equipment. If the patient appears to be having difficulty or if the oxygen, carbon dioxide, or pH level of the blood is abnormal, they change the ventilator setting according to the doctor's order or check equipment for mechanical problems. In homecare, therapists teach patients and their families to use ventilators and other life support systems. They visit several times a month to inspect and clean equipment and ensure its proper use and make emergency visits if equipment problems arise.

Respiratory therapists perform chest physiotherapy on patients to remove mucus from their lungs to make it easier for them to breathe. For example, during surgery, anesthesia depresses respiration, so this treatment may be prescribed to help get the patient's lungs back to normal and prevent congestion. Chest physiotherapy also is used on patients suffering from lung diseases, such as cystic fibrosis, that cause mucus to collect in the lungs. Therapists place patients in positions to help drain mucus, thump and vibrate patients' rib cages, and instruct them to cough.

Respiratory therapists also administer aerosols—generally liquid medications suspended in a gas that forms a mist which is inhaled and teach patients how to inhale the aerosol properly to assure its effectiveness.

Other duties include keeping records of the materials used and charges to patients. Some therapists teach or supervise other respiratory therapy personnel.

Working Conditions

Respiratory therapists generally work a 40-hour week. Because hospitals operate around the clock, therapists may work evenings, nights, or weekends; they spend long periods standing and walking between patients' rooms. In an emergency, they work under a great deal of stress. Gases used by respiratory therapists are potentially hazardous because they are used and stored under pressure. However, adherence to safety precautions and regular maintenance and testing of equipment minimize the risk of injury. As with many health occupations, respiratory therapists run a risk of catching infectious diseases. Careful adherence to proper procedures minimizes the risk.

Employment

Respiratory therapists held about 74,000 jobs in 1992. About 9 out of 10 jobs were located in hospitals in departments of respiratory care, anesthesiology, or pulmonary medicine. Durable medical equipment rental companies, home health agencies, and nursing homes accounted for most of the remaining jobs.

Training, Other Qualifications, and Advancement

Formal training is necessary for entry to this field. Training is offered at the postsecondary level by hospitals, medical schools, colleges and universities, trade schools, vocational-technical institutes, and the Armed Forces. Some programs prepare graduates for jobs



About 9 out of 10 respiratory therapists work in hospitals.

as respiratory therapists; other, shorter programs lead to jobs as respiratory therapy technicians. In 1992, 283 programs for respiratory therapists were accredited by the Committee on Allied Health Education and Accreditation (CAHEA) of the American Medical Association (AMA). Another 187 programs offered CAHEA-accredited preparation for respiratory therapy technicians.

Formal training programs vary in length and in the credential or degree awarded. Most of the CAHEA-accredited therapist programs last 2 years and lead to an associate degree. Some, however, are 4-year bachelor's degree programs. Technician programs last about 1 year, and award certificates. Areas of study for respiratory therapist programs include human anatomy and physiology, chemistry, physics, microbiology, and mathematics. Technical courses deal with procedures, equipment, and clinical tests.

Therapists should be sensitive to patients' physical and psychological needs. Respiratory care workers must pay attention to detail, follow instructions, and work as part of a team. Operating complicated respiratory therapy equipment requires mechanical ability and manual dexterity.

High school students interested in a career in respiratory care are encouraged to take courses in health, biology, mathematics, chemistry, and physics. Respiratory care involves basic mathematical problem-solving. An understanding of basic chemical and physical principles is also important. Computing medication dosages and calculating gas concentrations are just two examples of the need for knowledge of science and mathematics.

Thirty-Seven States license respiratory care personnel. The National Board for Respiratory Care offers voluntary certification and registration to graduates of CAHEA-accredited programs. Two credentials are awarded to respiratory care practitioners who satisfy the requirements: Certified Respiratory Therapy Technician (CRTT) and Registered Respiratory Therapist (RRT). All graduates—those from 2- and 4-year programs in respiratory therapy, as well as those from 1-year technician programs—may take the CRTT examination first. CRTT's who meet education and experience requirements can take a separate examination, leading to the award of the RRT.

Individuals who have completed a 4-year program in a non-respiratory field, but have college level courses in anatomy, physiology, chemistry, biology, microbiology, physics, and mathematics, can become a CRTT after graduating from AMA accredited 1- or 2-year programs. After they receive 2 years of clinical experience, they are eligible to take the registry exam to become an RRT.

Most employers require that applicants for entry level or generalist positions hold the CRTT or are eligible to take the certification examination. Supervisory positions and those in intensive care specialties, usually require the RRT (or RRT eligibility).

Respiratory therapists advance in clinical practice by moving from care of "general" to "critical" patients, whom have significant problems in other organ systems such as the heart or kidneys. Respiratory therapists, especially those with 4-year degrees, may also advance to supervisory or managerial positions in a respiratory therapy department. Respiratory therapists in home care and equipment rental firms may become branch manager. Others leave the occupation to work as sales representatives or as equipment designers for equipment manufacturers.

Job Outlook

Employment of respiratory therapists is expected to increase much faster than the average for all occupations through the year 2005 because of substantial growth of the middle-aged and elderly population, a development that will heighten the incidence of cardiopulmonary disease.

The elderly are the most common sufferers from respiratory ailments and cardiopulmonary diseases such as pneumonia, chronic bronchitis, emphysema, and heart disease. As their numbers increase, the need for respiratory therapists will increase as well. In addition, advances in treating victims of heart attacks, accident victims, and premature infants (many of whom may be dependent on a ventilator during part of their treatment) will require the services of respiratory care practitioners. Rapid growth in the number of patients with AIDS will also boost demand since lung disease often accompanies AIDS.

Opportunities are expected to be highly favorable for respiratory therapists with neonatal care and cardiopulmonary care skills.

Very rapid growth is expected in home health agencies, equipment rental companies, and firms that provide respiratory care on a contract basis. As in other occupations, most job openings will result from the need to replace workers who transfer to other jobs or stop working altogether.

Earnings

Median annual earnings for respiratory therapists who worked year round full time in 1992 were \$32,084. The middle 50 percent earned between \$25,116 and \$41,236. The lowest 10 percent earned less than \$21,528; the top 10 percent, more than \$48,048.

According to a national survey of hospitals and medical centers, conducted by the University of Texas Medical Branch, the median annual salary for respiratory therapists, based on a 40 hour week and excluding shift and area differentials, was \$29,228 in October 1992. The average minimum annual salary was \$24,770 and the average maximum was \$36,553.

Related Occupations

Respiratory therapists, under the supervision of a physician, administer respiratory care and life support to patients with heart and lung difficulties. Other workers who care for, treat, or train people to improve their physical condition include dialysis technicians, registered nurses, occupational therapists, physical therapists, and radiation therapy technologists.

Sources of Additional Information

Information concerning a career in respiratory care is available from:

☞ American Association for Respiratory Care, 11030 Ables Ln., Dallas, TX 75229.

Information on gaining credentials as a respiratory therapy practitioner can be obtained from:

☞ The National Board for Respiratory Care, Inc., 8310 Nieman Rd., Lenexa, KS 66214.

For the current list of CAHEA-accredited educational programs for respiratory therapy occupations, write to:

☞ Joint Review Committee for Respiratory Therapy Education, 1701 W. Euless Blvd., Suite 300, Euless, TX 76040.

Speech-Language Pathologists and Audiologists

(D.O.T. 076.101-010, .104-010, and .107-010)

Nature of the Work

Speech-language pathologists assess and treat persons with speech, language, voice, and fluency disorders; audiologists assess and treat those with hearing and related disorders.

Speech-language pathologists work with people who cannot make speech sounds, or cannot make them clearly; those with speech rhythm and fluency problems, such as stuttering; people with speech quality problems, such as inappropriate pitch or harsh voice; and those with problems understanding and producing language. They may also work with people who have oral motor problems that cause eating and swallowing difficulties.

Speech and language problems may result from causes such as hearing loss, brain injury or deterioration, cerebral palsy, stroke, cleft palate, voice pathology, mental retardation, or emotional problems. Speech-language pathologists use special instruments, as well as written and oral tests, to determine the nature and extent of impairment, and to record and analyze speech irregularities. For individuals with little or no speech, speech-language pathologists select alternative communication systems, including automated devices and sign language, and teach their use. They teach other patients how to make sounds, improve their voices, or increase their language skills.

Audiologists work with people who have hearing and related problems. They use audiometers and other testing devices to measure the loudness at which a person begins to hear sounds, the ability to distinguish between sounds, and other tests of the nature and extent of their hearing loss. Audiologists may coordinate these results with medical, educational, and psychological information, make a diagnosis, and determine a course of treatment. Treatment may include examining and cleaning the ear canal, the fitting of a hearing aid, auditory training, and instruction in speech or lip reading. They may recommend use of amplifiers and alerting devices. Audiologists also test noise levels in workplaces and conduct hearing protection programs.

Most speech-language pathologists and audiologists provide direct clinical services to individuals with communication disorders. In speech, language, and hearing clinics, they may independently develop and carry out a treatment program. In medical facilities, they may work with physicians, social workers, psychologists, and other therapists to develop and execute a treatment plan. Speech-language pathology and audiology personnel in schools also develop individual or group programs, counsel parents, and assist teachers with classroom activities, to meet the needs of children with speech, language, or hearing disorders.

Speech-language pathologists and audiologists keep records on the initial evaluation, progress, and discharge of clients. This helps pinpoint problems, tracks client progress, and justifies the cost of treatment when applying for reimbursement. They counsel individuals and their families about communication disorders and how to cope with the stress and misunderstanding that often accompany them. They also work with family members to recognize and change behavior patterns that impede communication and treatment, and show them communication-enhancing techniques to use at home.

Some speech-language pathologists and audiologists conduct research on how people speak and hear. Others design and develop equipment or techniques for diagnosing and treating problems.

Working Conditions

Speech-language pathologists and audiologists usually work at a desk or table in clean comfortable surroundings. The job is not physically demanding, but does require attention to detail and intense concentration. The emotional needs of clients and their families may be demanding and there may be frustration when clients do not improve. Most full-time speech-language pathologists and audiologists work about 40 hours per week. Some work part-time. Those who work on a contract basis may spend a substantial amount of time traveling between facilities.

Employment

Speech-language pathologists and audiologists held about 73,000 jobs in 1992. About one-half provided services in preschools, elementary and secondary schools, or colleges and universities. More



More than one-half of speech language pathologists and audiologists work in schools.



than 10 percent were in hospitals. Others
cians; offices of speech-language pathologists and audiologists;
speech, language, and hearing centers; home health care agencies;
and other facilities. Some were in private practice, working either as
solo practitioners or in a group practice.

Some experienced speech-language pathologists or audiologists
contract to provide services in schools, hospitals, or nursing homes
or work as consultants to industry.

Training, Other Qualifications, and Advancement

A master's degree in speech-language pathology or audiology is the
standard credential in this field. Of the 43 States that regulate speech-
language pathologists and/or audiologists, all require a master's degree
or equivalent; 375 hours of supervised clinical experience; a passing
score on a national examination; and 9 months of post-graduate profes-
sional experience. For licensure renewal, 23 States have continuing edu-
cation requirements. Medicaid, Medicare, and private insurers gener-
ally require a license to qualify for reimbursement.

In some States, people with bachelor's degrees in speech-language
pathology may work in schools with students who have communi-
cation problems. They may have to be certified by the State educa-
tional agency, and may be classified as special education teachers
rather than speech-language pathologists or audiologists. Recent
Federal legislation requires speech-language pathologists in school
systems in almost every State to have a minimum of a master's de-
gree or equivalent. All States require audiologists to hold a master's
degree or equivalent.

About 230 colleges and universities offered master's programs in
speech-language pathology and audiology in 1993. Courses cover
anatomy and physiology of the areas involved in speech, language,
and hearing; the development of normal speech, language, and hear-
ing and the nature of disorders; acoustics; and psychological aspects
of communication. Graduate students also learn to evaluate and
treat speech, language, and hearing disorders and receive supervised
clinical training in communication disorders.

Those with a master's degree can acquire the Certificate of
Clinical Competence (CCC) offered by the American Speech-Lan-
guage-Hearing Association. To earn the CCC, a person must have a
master's degree, have 375 hours of supervised clinical experience,
complete a 9-month post-graduate internship, and pass a national
written examination.

Speech-language pathologists and audiologists should be able to
effectively communicate test results, diagnoses, and proposed treat-
ment in a manner easily understood by their clients. They also need
to be able to approach problems objectively and provide support to
clients and their families. Patience and compassion are important
because a client's progress may be slow.

With experience, some salaried speech-language pathologists and
audiologists enter private practice; others become directors or ad-
ministrators of services in schools, hospitals, health departments,
and clinics. Some become researchers.

Job Outlook

Employment of speech-language pathologists and audiologists is ex-
pected to increase much faster than the average for all occupations

1 the year 2005. Some job openings also will arise from the
need to replace speech-language pathologists and audiologists who
leave the occupation.

Employment in the health services industry will increase as a re-
sult of several factors. Because hearing loss is strongly associated
with older age, rapid growth in the population age 75 and over will
cause the number of hearing-impaired persons to increase markedly.
In addition, baby boomers are now entering middle age, when the
possibility of neurological disorders and their associated speech,
language, and hearing impairments increases. Medical advances are
also improving the survival rate of premature infants and trauma
victims, who then need treatment.

The number of speech-language pathologists and audiologists in
private practice, though small, is likely to rise sharply by the year
2005. Encouraging this growth is the increasing use of contract ser-
vices by hospitals, schools, and nursing homes.

Employment in schools will increase as elementary and second-
ary school enrollments grow. In 1986, Federal legislation guaran-
teeing special education and related services to all eligible children
with disabilities, while originally designed for school-age children,
was extended to include children from 3 to 5 years of age. This legis-
lation will also increase employment in day care centers, rehabilita-
tion centers, and hospitals.

Earnings

Median annual earnings of full-time salaried speech-language pa-
thologists and audiologists were \$36,036 in 1992. The middle 50
percent earned between \$27,404 and \$42,120.

According to a 1992 survey by the American Speech-Language-
Hearing Association, the median annual salary for certified speech-
language pathologists with 1 to 3 years experience was about
\$29,050; for certified audiologists, it was about \$28,000. Speech-lan-
guage pathologists with 16 years or more experience earned a me-
dian annual salary of about \$41,300, while experienced audiologists
earned about \$45,000. Salaries also vary according to geographic lo-
cation.

Speech-language pathologists and audiologists in hospitals earned
a median annual salary of about \$33,916, according to a 1992 survey
conducted by the University of Texas Medical Branch.

Related Occupations

Speech-language pathologists and audiologists specialize in the pre-
vention, diagnosis, and treatment of speech, language, and hearing
problems. Workers in other rehabilitation occupations include oc-
cupational therapists, physical therapists, recreational therapists,
and rehabilitation counselors.

Sources of Additional Information

State departments of education can supply information on certifica-
tion requirements for those who wish to work in public schools.

General information on speech-language pathology and audi-
ology is available from:

☞ American Speech-Language-Hearing Association, 10801 Rockville Pike,
Rockville, MD 20852.