

# The Development of Profession of Physical Therapy in the United States

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**Abstract:** This article described the historical development, related occupations, jobs and employment characteristics of physical therapy, education system for the professionals, and put forward future trends in physical therapy education and practice.

**Key words:** physical therapy; profession; education

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[摘要] 本文探讨了物理治疗行业的历史发展 相关的职业 工作和就业特征, 专业教育体系并对未来的发展进行了展望。

[关键词] 物理治疗; 职业; 教育

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## 1 History of the Profession

Physical therapy began as a profession following widespread polio epidemics in the early 1900's. In 1917, the first physical therapy program was established to train reconstruction aides at Walter Reed General Hospital in Washington, D.C. to assist with the recovery of soldiers injured in World War I<sup>[1]</sup>. The first physical therapy education programs were developed in 1918 and the American Women's Physical Therapeutic Association was founded. The name was changed to the American Physiotherapy Association a year later. Formal accreditation standards for physical therapy education programs were developed in 1928 with the assistance of the American Medical Association. By 1940 there were 16 accredited programs awarding the baccalaureate degree and 13 programs awarding the post-baccalaureate certificate. During the 1950's and 1960's, education programs moved from hospital settings to institutions of higher education. Also during this time, state licensure laws were enacted. Educational resources expanded in the 1960s and 1970s with the provision of federal funding as the US Congress passed the Allied Health Profes-

sions Personnel Training Act<sup>[1]</sup>.

The 1960s ushered in an era of dramatic change in the role that the federal government plays in financing health care. The most significant policy was the enactment of amendments to the Social Security Act that created Medicare and Medicaid programs designed to offer health insurance protection to the elderly, the poor, and the disabled. The US Department of Education and Council on Postsecondary Education recognized the American Physical Therapy Association (APTA) as the sole independent accrediting agency for physical therapy programs in 1977. In the early 1980s many states began to adopt direct access legislation, or physical therapy practice independent of physician referral. The APTA's decision to move to the post-baccalaureate in 1979 was predicated on the fact that it was not possible to teach all that was necessary for physical therapy practice in the baccalaureate program<sup>[2]</sup>. Presently there are 209 accredited physical therapist programs nationwide, 169 of which are DPT programs and the remaining 40 are at the master's degree level<sup>[3]</sup>.

## 2 Occupational Description

According to the US Department of Labor<sup>[4]</sup>, physical therapists provide services that help restore function, improve mobility, relieve pain, and prevent or limit permanent physical disabilities of patients with injuries or diseases. Physical therapists restore,

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maintain, and promote overall fitness and health. Patients include accident victims and individuals with neuromuscular, musculoskeletal, and cardiovascular conditions or other disabling conditions including low back pain, arthritis, heart disease, fractures, developmental disabilities, head injuries, spinal cord injuries, and cerebral vascular accidents.

### 3 Job Description

Physical therapists examine patients' medical histories and perform an evaluation of a patient in order to determine a diagnosis, prognosis, and intervention within the scope of practice. They perform tests and measures of a patient's strength, range of motion, balance and coordination, posture, muscle performance, respiration, and motor performance. Using the results of clinical observations, tests, and measures, physical therapists determine patients' ability to be independent and reintegrate into the community or workplace after injury or illness. Physical therapists develop a plan of care or treatment strategies with an intended purpose and then anticipate outcomes. Treatments typically include exercise for patients who have been immobilized and lack flexibility, strength, or endurance. Physical therapists encourage patients to use their muscles to increase flexibility and range of motion, and perform exercises that improve strength, balance, coordination, and endurance with the goal of improving how individuals function at work and at home. Electrotherapeutic modalities, physical agents, and mechanical modalities such as hot packs, cold packs, ultrasound, and electrical stimulation are applied to relieve pain and reduce swelling. Traction, deep tissue massage and manual therapy techniques including mobilization and manipulation are performed to relieve pain and improve joint mobility. Physical therapists teach patients to use assistive and adaptive devices such as crutches, canes, walkers, prostheses, and wheelchairs<sup>[5]</sup>. They also develop home exercise programs so that patients may perform activities to expedite recovery. In the process of patient management, physical therapists perform reexaminations after the initial examination to evaluate a patient's progress and to modify or redirect interventions.

Other responsibilities for the physical therapist include:

*Coordination, communication, and documentation* across all settings. These administration and support processes ensure that patients receive appropriate, comprehensive, efficient, and effective quality of care from admission through discharge. Coordination involves working together with all involved with the patient. Communication is exchanging information relative to patient management and documentation is entry into the patient record such as consultation reports, initial examination reports, progress notes, flow sheets, reexamination reports, or summation of care<sup>[5]</sup>.

*Consultation* involves rendering professional or expert opinion or advice with the physical therapist applying highly specialized knowledge and skills to identify problems, recommending solutions, or producing specified outcomes.

*Direction and supervision of support personnel* such as licensed physical therapist assistants, technicians, and aids<sup>[6]</sup>.

### 4 Employment Characteristics

According to the APTA Guide to Physical Therapist Practice (2001), physical therapists practice in a broad range of inpatient, outpatient, and community-based settings<sup>[7]</sup>. Listed below is a breakdown of the percentages of physical therapists that practice in various settings derived from APTA member surveys (2003):

<i>Acute care hospital</i>	14.9 %
<i>Sub-acute rehabilitation hospital (inpatient)</i>	4.0 %
<i>Health system or hospital based outpatient facility or clinic</i>	16.9 %
<i>Private outpatient office or group practice</i>	35.4 %
<i>Skilled nursing facility/Extended care facility</i>	6.1 %
<i>Patients home/ Home health care</i>	7.8 %
<i>School system (preschool/primary/secondary)</i>	4.7 %
<i>Academic institution (post secondary)</i>	4.8 %
<i>Health and wellness facility</i>	0.6 %
<i>Research center</i>	0.3 %
<i>Industry</i>	0.5 %
<i>Other</i>	3.8 %

Many physical therapists are self-employed in private practices serving individual patients and/or contracting to provide services in rehabilitation centers, hospitals, nursing care facilities, home health care agencies, adult day care programs, and school systems. Physical therapists, with terminal doctoral

degrees are also employed to teach in academic institutions and conduct research. Clinical faculty in academic programs also possess advanced degrees, clinical doctorates, or clinical specialty certifications.

Physical therapists are experiencing virtually no unemployment and are reporting overall increased salaries according to surveys conducted by the AP-<sup>[8-9]</sup>. Between 1999 and 2005 actual median income of physical therapist increased by 27.3%. In 2005, median incomes for physical therapists ranged from \$ 67200 to \$ 75500 depending on position, years of experience, geographic region, and practice setting<sup>[10]</sup>. The market for physical therapists will expand if Medicare approves direct access to physical therapy services<sup>[11]</sup>.

## 5 Employment Outlook

According to the US Bureau of Labor Statistics (2006), employment of physical therapists is expected to grow much faster than average for all occupations through 2014. Demand for physical therapists should continue to rise as growth in the number of individuals with disabilities or limited function prompts demand for therapy services. Healthcare industry jobs for physical therapists will reach 211000 in 2014, a 36.7% increase from 155000 jobs in 2004. Factors influencing the demand include a growing elderly population with chronic and debilitating conditions, baby boomers entering the prime age for strokes and heart attacks, improved survival of trauma victims, and improved survival of newborns with severe birth defects. There is also widespread interest in health promotion and fitness as well as use of physical therapists to evaluate worksites, develop exercise programs, and teach safe work habits to employees in various workplaces to reduce injuries.

## 6 Academic Curriculum and Training

Students in the Department of Physical Therapy complete courses in basic and clinical sciences with laboratory sections to develop hands-on techniques. The clinical education component consists of 4 courses where students apply knowledge and skills in patient care settings such as acute care hospitals, rehabilitation facilities, outpatient orthopedic clinics, sports medicine clinics, and pediatric facilities. Two teaching laboratories support the didactic teaching. The sequence of courses is as follows:

### Year One

**Summer Semester I**: Gross Anatomy; Functional Anatomy.

**Fall Semester I**: Psychosocial Aspects of Disability; Musculoskeletal Physical Therapy I; Neuroscience; Introduction to Patient Care I; Pharmacological Agents and Pathological Processes.

**Spring Semester I**: Therapeutic Modalities and Instrumentation; Clinical Biomechanics; Electrotherapeutic Diagnosis and Treatment; Introduction to Patient Care II; Clinical Education I.

### Year Two

**Summer Semester II**: Musculoskeletal Physical Therapy II; Motor Control and Movement Disorders; Adult Therapeutic Intervention I.

**Fall Semester II**: Pediatric Therapeutic Intervention; Adult Therapeutic Intervention II; Seminar in Integrated Patient Management I; Clinical Education II.

**Spring Semester II**: Musculoskeletal Physical Therapy III; Prosthetics and Orthotics; Muscle Physiology; Nutrition and Exercise; Electives (students select two topics); Advanced Concepts in Sports Physical Therapy; Advances in Muscle Research; Advances in Foot and Ankle Pathology; Advances in Orthotics and Prosthetics.

### Year Three

**Summer Semester III**: Clinical Education III; Clinical Specialty Concentration (a); Research Internship Concentration (b).

**Fall Semester III**: Cardiovascular and Pulmonary Rehabilitation; Research Design; Administration of Physical Therapy Services; Clinical Specialty Concentration (b); Research Internship in Physical Therapy (a).

**Spring Semester III**: Clinical Education III; Seminar in Integrated Patient Management; Research Internship in Physical Therapy.

**6.1 Length** The DPT degree is a three-year, 106 semester hour program that includes 32 weeks of clinical education. Students must demonstrate a progression of clinical skill development from novice to entry-level clinical competency as measured by the *APTA Physical Therapist Student Clinical Performance Instrument* before they graduate.

**6.2 Prerequisites** Students complete undergraduate degrees in various programs such as biology, exercise science, psychology, leisure studies, and others. To be considered for admission, students must have taken courses in general biology, anatomy and physiology, algebra or a higher level math, chemistry, physics, psychology, and statistics. A high under-

graduate grade point average and high scores on the Graduate Record Examination are required for successful applicants. Applicants are also required to document volunteer experiences in physical therapy settings and demonstrate good communication and interpersonal skills in an interview for admission to the DPT program.

**6.3 Licensure** Students must complete all didactic and clinical course work and pass the National Physical Therapy Examination in order to be licensed to practice. Individual states are considered separate jurisdictions and have their own statutes governing practice and licensure of physical therapists. The North Carolina Board of Physical Therapy Examiners regulates practice and licenses physical therapists to practice in North Carolina. Licensing boards set the regulatory standards for scope of practice and public protection. Most states require continuing education courses for maintaining clinical competency and renewal of licensure. Physical therapists with advanced clinical skills may become board-certified specialists in eight areas of practice including pediatrics, geriatrics, neurology, orthopedics, sports, cardiovascular/pulmonary, electrotherapeutics, and women's health.

**7 Future Trends in Physical Therapy Education and Practice**

The *APTA Vision 2020* and *APTA's Education Strategic Plan* will impact education and clinical practice over the next decade and in the rapidly changing health care delivery system in the US. The *APTA Vision 2020* includes 6 tenets that will direct physical therapists toward integrity, life-long learning, and a commitment to comprehensive and accessible health programs for all people. The 6 tenets include autonomous practice, direct access, doctor of physical therapy for entry-level practice, evidence-based practice, practitioner of choice, and professionalism. After achieving the clinical doctorate program, educators now want to do more with the available resources. Educational institutions aim to play a role in the further development of both the professional and the profession<sup>[12]</sup>. The *APTA Strategic Plan for 2006 ~ 2020* includes 18 goals that will require commitment and broad participation by all stakeholders.

Broadly, the goals involve collaboration and partnerships between academic programs and clinical sites, advocacy for continued competence, clinical residency and fellowship programs, evidence-based practice, and enhancement of physical therapist's knowledge and skills in contemporary and emerging health trends and in the delivery of health care. The Department of Physical Therapy at East Carolina University is well positioned to meet the current and future challenges in professional education.

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