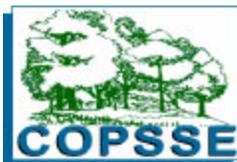


# Personnel Issues in School-Based Physical Therapy: Supply and Demand, Professional Preparation, Certification and Licensure

Prepared for the Center on Personnel Studies in Special Education

by  
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COPSSE research is focused on the preparation of special education professionals and its impact on beginning teacher quality and student outcomes. Our research is intended to inform scholars and policymakers about advantages and disadvantages of preparation alternatives and the effective use of public funds in addressing personnel shortages.

In addition to our authors and reviewers, many individuals and organizations have contributed substantially to our efforts, including Drs. Erling Boe of the University of Pennsylvania and Elaine Carlson of WESTAT. We also have benefited greatly from collaboration with the National Clearinghouse for the Professions in Special Education, the Policymakers Partnership, and their parent organizations, the Council for Exceptional Children and the National Association of State Directors of Special Education.

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# CONTENTS

<b>Introduction</b> .....	<b>4</b>
<b>Definitions</b> .....	<b>5</b>
<b>Special Delivery Methods</b> .....	<b>7</b>
Models.....	7
Qualifications for Service.....	8
<b>Supply and Demand</b> .....	<b>9</b>
Work Settings.....	10
Personnel.....	10
Job Satisfaction.....	11
<b>Professional Preparation</b> .....	<b>13</b>
Programs.....	13
Curriculum.....	13
Profiles.....	14
Degrees.....	14
<b>Certification and Licensure</b> .....	<b>15</b>
State Criteria.....	15
Specialist Certification.....	15
Residencies and Fellowships.....	16
Continuing Education.....	16
<b>Recommendations</b> .....	<b>17</b>
<b>Research Needed</b> .....	<b>19</b>
<b>REFERENCES</b> .....	<b>21</b>

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## INTRODUCTION

Physical therapists (PTs) have been involved in the education of children with disabilities almost since the profession began in the early part of the 20th century. In the early 1900s, people affected by war injuries and many with poliomyelitis were surviving in increasing numbers. Thus, the need for a profession that could assist with the rehabilitation process was born. Subsequently, PTs have continued to be involved in the prevention of disabilities and the promotion of health in addition to their role in the rehabilitation or restorative health care process. Both the Civil Rights Movement of the 1960s and the passage of federal legislation requiring the education of all children in the 1970s played important roles in securing the future of physical therapy in schools.

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## DEFINITIONS

The Federation of the State Boards of Physical Therapy (FSBPT) is the body that guides the regulation of physical therapy (PT) and encourages each jurisdiction to engage in ongoing review of its Physical Therapy Practice Act. In 2002, the FSBPT published the Third Edition of the Model Practice Act, a document used to guide states in licensure and regulation of PTs. In this most recent edition of the model practice act, the practice of PT means:

1. Examining, evaluating and testing individuals...in order to determine a diagnosis, prognosis and plan of therapeutic intervention, and to assess the ongoing effects of intervention
2. Alleviating impairments, functional limitations and disabilities...
3. Reducing the risk of injury, impairment, functional limitation and disability, including the promotion and maintenance of fitness, health, and wellness...
4. Engaging in administration, consultation, education, and research.

(Federation of State Boards of Physical Therapy [FSBPT], 2002)

PTs who work in schools provide related services under Part B of the Individuals with Disabilities Act (IDEA). The term *related services* means transportation and such developmental, corrective, and other supportive services as are required to help a child with a disability to benefit from special education (34 CFR 300.24(a)). The term includes PT and means services provided by a qualified PT (34 CFR 300.24(b)(8)). While the federal regulations do not provide more specific detail, these PT services are intended to address a child's posture, muscle strength, mobility, and organization of movement in the educational environment (National Information Center for Children and Youth with Disabilities [NICHCY], 2001). As a related service, PT may be provided to prevent the onset or progression of impairment, functional limitation, disability, or change in physical function or health (NICHCY, 2001). IDEA Part B regulations differentiate between those services that are necessary for a child to achieve some educational benefit and those services that are not a fundamental part of the child's specially designed instructional program (Rapport, 1995). As such, the latter would not be a part of the child's Individualized Education Plan (IEP). PT in school settings focuses on outcomes and is based on meeting the educational needs of the child or student (Effgen, 2000). IDEA 1997 states that "[I]mproving educational results for children with disabilities is an essential element of our national policy ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities" (PL 105-17 section 601(c)(1)). Related services contribute to the educational program necessary to meet these goals. As related service providers, PTs focus on particular skills required to achieve independence, including motor control and movement.

Infants and toddlers receive PT as part of early intervention services under Part C of the IDEA. Part C provides a more comprehensive and specific definition of PT services than Part B:

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PT includes services to address the promotion of sensorimotor function through enhancement of musculoskeletal status, neurobehavioral organization, perceptual and motor development, cardiopulmonary status, and effective environmental adaptation. These services include:

- (i) Screening, evaluation, and assessment of infants and toddlers to identify movement dysfunction
- (ii) Obtaining, interpreting, and integrating information appropriate to program planning to prevent, alleviate, or compensate for movement dysfunction and related functional problems
- (iii) Providing individual and group services or treatment to prevent, alleviate, or compensate for movement dysfunction and related functional problems.

[34 CFR §303.12(d)(9)]

According to IDEA, the role of PTs in schools is defined, to a large extent, by the need to provide children with disabilities some educational benefit in the least restrictive environment. There is no requirement that children “receive the best education or one designed to help them reach maximum potential” (Hanft & Place, 1996); PT is provided only for children with disabilities who need therapy to benefit from special education. Even so, there is nothing in the law or regulations about how therapy services are to be delivered (McEwen, 2000). Thus, there are a number of therapy models that can be used to deliver PT in schools.

Generally, these service delivery models fall into two broad categories: direct services and indirect services (NICHCY, 2001). Direct services usually involve face-to-face interactions between the therapist and the child/student. Indirect services involve the therapist interacting with other adults (professionals, paraprofessionals, teachers, parents) so that they can appropriately carry out the intervention.

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## SERVICE DELIVERY METHODS

### Models

The method of service delivery by PTs in schools has traditionally been providing direct therapy using a “pull-out” model. Under this arrangement, therapy takes place in an isolated room with little collaboration or consultation with teachers or parents (Sandler, 1997). Recognizing that this isolated approach had many limitations, discussions in the early 1990s emphasized the need to expand therapeutic input to children through everyday routines at home and at school (McWilliam, 1996). In addition, the need to provide multidisciplinary evaluations and interventions designed to assist the child to benefit from special education, as prescribed by the legislative mandates of IDEA, led to changes in service delivery (McEwen, 1994). Indeed, the benefits of providing transdisciplinary and integrated therapy still may not be fully realized despite the identification of these service delivery models as exemplary practices in special education for students with severe disabilities (York, Rainforth, & Giangreco, 1990). The consultative model gained in popularity, and therapists were increasingly called upon to design the child’s intervention program and then teach the skills needed to implement the program on a regular basis to paraprofessionals, classroom teachers, or parents.

The art of consultation continues to be a challenge for most PTs, despite the many benefits that can be achieved through collaboration with educational staff. Professional preparation of PTs does not generally include training on consultation, and the focus on working in schools is limited (Hanft & Place, 1996). The consultative role of therapists working in schools requires the service to be educationally relevant. As such, PT services are educationally relevant when they “help explain and enhance student performance in school” (Hanft & Place, 1996, p. 15). In addition to the consultative model of service delivery, direct, integrated, monitoring, and collaborative models are also used. In the direct model, the therapist is the primary service provider to the individual child. In the integrated model, the therapist is in contact with the teacher, paraprofessional, and family in addition to having direct contact with the child. The monitoring model is provided when the therapist instructs and monitors the efforts of the team toward meeting specific outcomes of an intervention. The collaborative model is a combination of trans-disciplinary team interaction and integrated service delivery where services are provided by all team members (Effgen, 1994).

Despite the expansion in delivery models and the use of multiple team members to achieve outcomes for students in the educational environment, there continue to be shortages of PTs in many school districts. Thus, while the consultative, collaborative, and monitoring models may be helpful in “spreading” the expertise of a limited number of PTs, these models of service delivery have the potential to compromise the level of service delivery required to achieve some educational benefit. The development of alternate models of service delivery has been helpful, but has not solved the problem of too few therapists for the number of children who need this related service in schools. On the other hand, these “less direct” service delivery models may be applicable and appropriate to meet the needs of many children receiving PT as a related service in schools. The model of service delivery should always be matched to the child’s individual needs as delineated by the IEP team, irrespective of therapist availability.

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## Qualifications for Service

In addition to IDEA, the provision of PT in school may also be the responsibility of the school district under Section 504 of the Rehabilitation Act of 1973. Children who qualify as individuals with disabilities under this federal law may not necessarily have a disability that adversely affects educational performance. When the disability does not adversely affect educational performance, eligibility under IDEA is not met, but the child may still benefit from some accommodations as a protection of civil rights. Section 504 of the Rehabilitation Act of 1973 provides reasonable accommodations to qualified persons who are part of a protected class (Rapport, 1995). Examples of reasonable accommodations under Section 504 that include the provision of PT are: (1) providing consultation to the child/student and to the middle school faculty and staff regarding the mobility needs of a child who has hemiplegia (paralysis on one side of the body) who will need to negotiate stairs and other obstacles as a result of transitioning from elementary to middle school; or (2) consulting with school administrators and teachers regarding appropriate emergency evacuation plans for a child with a mobility impairment who is educated in a regular classroom. These are examples in which the disability is not adversely affecting the child's educational performance; therefore, the child is not eligible for special education and related services under IDEA but is protected as a person with a disability under Section 504.

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## SUPPLY AND DEMAND

The economic principle of supply and demand can be applied to the profession of PT. Generally, a healthy economy allows for supply to increase proportionally to demand, creating a balance whereby the needs of the population are met without excess or waste. For most of its relatively young life, the supply of PTs has been relatively low compared with the ever-increasing demand throughout the 20<sup>th</sup> century. The number of PTs grew exponentially during that period, and APTA estimates that there are currently 120,000 PTs, 90,000 of whom are either employed or seeking employment as PTs. In 1997, the APTA commissioned a study of the supply and demand of PTs with a focus on three time periods—past, present, future—by looking at three different years—1995, 2000, and 2005. While the report indicated that there has been, and continues to be, a shortage of qualified PTs, that shortage is diminishing. The study predicted a 20-30% surplus of PTs by 2005-2007 (Vector Research, 1997).

However, this work force study by the APTA preceded the Balanced Budget Act (BBA) of 1997. This federal legislation had a significant impact on the health care system, particularly for persons dependent on receiving services under the Medicare and Medicaid programs and the health care providers upon whom they relied for their care. The legislation led to changes in the level, systems, and provisions of health care under these federal health care programs. PTs employed in skilled nursing facilities or private outpatient offices most likely suffered the greatest impact. Many lost their jobs or saw their incomes drop substantially as a result of these changes from the BBA. For the first time in the history of the profession, unemployment grew during the period following the BBA during the period following the BBA in the late 1990s. Rates of unemployment for PTs peaked at 3.2% in the fall of 1999; since then, the rate has dropped to 2% (APTA, 2001). There were significant differences across geographic regions in unemployment rates and reduction of hours of employment. Regions with older populations (e.g., South Atlantic, East South Central) were more affected by the BBA than regions with younger populations (e.g., Mid-Atlantic, East North Central) (Goldstein, 1999).

In addition, there were other changes with an impact on the overall demand for PTs. These included the increase in PT preparation programs during the 1980s and early 1990s, the introduction and increased preparation of physical therapy assistants during the 1970s and 1980s, and the desire of employers to seek out PTs who were qualified and possessed special skills or interests. The increased supply of PTs, accompanied by a decreased demand in many medical or health care settings, began to impact compensation and flexibility in choice of positions for PTs during the late 1990s. More PTs found themselves considering positions in “second choice” settings, including long-term care settings and rural and inner cities (APTA, 2001). Another cause of the reduction in number of PTs can be explained by changing expectations of health care employers. As the focus on profitability has increased and the number of therapy visits allowed by medical insurance has decreased, therapists have needed to adjust to meet demands of maximum efficiency and outcomes (Guccione, 1999). As this situation continues, it is likely that increasing numbers of PTs may seek employment in the schools despite lacking the specific knowledge required to be a successful provider of related services in educational settings.

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## Work Settings

Among PTs who identify themselves with the specialty of pediatrics, schools appear to be the most prominent employment setting (Sweeney, Heriza, & Markowitz, 1994). An APTA survey in 1993 found that approximately 10% of its members specialized in pediatrics, and almost half of those reported the schools as their primary employment setting (Hanft & Place, 1996). The school-based pediatric PT must be knowledgeable about the civil and educational laws as well as services and resources available for children from birth through 21 years and their families. They must not only be advocates for these children/youth and families, but also teachers to children/youth, families, educational staff, and citizens in the community (Fischer, 1994, p. 146).

The dichotomy between medical therapy and educational therapy that was emphasized and discussed in the 1970s, continued in the 1980s, and still appears to be a topic of discussion as evidenced by discussions on the Peds ListServe (a forum for discussion among pediatric PTs who are members of the Pediatric Section of the APTA). Despite a need to compare these two philosophies or approaches to intervention, the field has placed a greater emphasis on functional activities, theories of motor development and motor control, family-centered services, and delivery of services in natural environments (McEwen & Shelden, 1995). A recent survey of APTA members and nonmembers (n=36,498) conducted in spring 2001 revealed that 5.5% (about 2,000) were practicing in schools.

## Personnel

**Physical therapists.** Data gathered for the 1998-1999 school year (the most recent available) were reported in the 23rd Annual Report to Congress (USDOE, 2002). There were 5,457 fully certified PTs and 53 PTs licensed to practice but not certified within the educational system of their state employed to provide related services for children and youth with disabilities aged 3-21. During the same period, there were 3,836 PTs employed to provide early intervention services to infants and toddlers with disabilities and their families under Part C of IDEA. This most recent Annual Report to Congress did not include vacancy rates for PT positions. However, the report from the previous year (1997-1998) identified a vacancy rate for unfilled PT positions to be 7% for children 6-21 compared to a vacancy rate for teachers of 1% (USDOE, 2001). Similarly, the vacancy rate for preschool teachers (children 3-5 years) was 2%. These data from the 22nd Annual Report to Congress represent a collection of information reported from the Comprehensive System of Personnel Development (CSPD) in each of the states. Although the data show current positions available in special education and early intervention and the demographics of the population of children served under IDEA, a complete picture of the true need for personnel is not given.

**Physical therapy assistants (PTAs).** To lower the vacancy rates and shortages of personnel in some areas of the country (particularly more rural areas), the concept of hiring physical therapy assistants (PTAs) has gained some momentum. On the surface, the use of PTAs seems to be a reasonable solution to filling these vacancies and using this level of personnel may help to reduce the shortage. PTAs are trained at the associate degree level and must work under the direction of a PT. PTAs may implement treatment programs and provide interventions, all under the coordination and delegated authority of a PT. Initial evaluations and assessments, as

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well as follow-up evaluations, cannot be delegated and are considered the responsibility of the PT. PTs are also responsible for the design and modification of treatment programs and interventions.

Although IDEA requires related services to be provided by qualified personnel, there are no specific criteria in the law to define the level of training that an individual needs in order to be “qualified.” It is up to each state to determine qualifications for personnel providing special education and related services [see 34 CFR §300.136(a)(1)(ii)]. State law also determines whether paraprofessionals and assistants can be used to assist in the provision of special education and related services (NICHCY, 2001). Licensure requirements for PTAs vary across the states. This creates a potential avenue for abuse, because some states may be too lax in their oversight while others over-regulate and create a situation that is not cost-effective even when it might be permissible and acceptable to use such personnel.

**Paraprofessionals.** In addition to PTs and PTAs, paraprofessionals may assist in the provision of related services under the IDEA. Although limited in the scope of their services, appropriately trained, continually monitored, and supervised paraprofessionals are able to carry out interventions designed by PTs. Thus, the effectiveness of services provided by a paraprofessional will be determined in large part by the skill of the PT who has delegated these tasks (Rainforth & Roberts, 1996). However, it is clear that the involvement and expertise of the PT in therapeutic interventions and the associated decision-making processes continue to be critical elements in the delivery of this related service in schools.

**Levels of service.** When PTAs, paraprofessionals, and other educational team members share the responsibilities of intervention, it is important to insure that the delivery of services using a trans-disciplinary model is not misrepresented to parents, school districts contracting for services, or third-party insurance payers (Rainforth, 1997). All parties should be clear about the level of professional providing any related service and what that service entails. This will avoid any confusion regarding the trans-disciplinary model and its benefits when services can be delivered more frequently and with greater consistency. Several states have laws that do not prevent others from practicing those activities related to the discipline of PT so long as these individuals or the activities are not represented as PT. For example, a classroom paraprofessional may be trained by the PT to place a child in a supine standing table or to assist a child during ambulation with a walker. The paraprofessional may perform this activity daily and receive occasional monitoring from the PT. Even though the paraprofessional may assist the child to accomplish the goals related to PT, the paraprofessional may not hold himself or herself out to be a PT or bill any third party pay sources for services as PT. It appears then that one intent of Physical Therapy Practice Acts (state laws regarding the delivery of PT) is to protect against the delivery and billing of services that are made out to be PT, but are not provided by a PT who is a licensed professional with specialized training (Rainforth, 1997).

## **Job Satisfaction**

Because few PTs are seeking employment in schools and the number with an interest in pediatrics is relatively small (see figures discussed earlier), the pool of potential applicants for schools already limited. Even the lure of a 9-10 month employment year no longer exists in

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many locations where year-round schools, extended school-year programs, and the delivery of services to infants and toddlers has become part of the job of the school-based PT. Schools tend to offer PTs lower salaries than they might receive in hospitals, clinics, and other medical or health-care settings. In addition to salary, several other factors have been linked to job dissatisfaction among related service professionals in school settings. These factors include inadequate work/office space, inadequate equipment/ materials, excessive caseloads, limited staff development, and isolation from colleagues (Gonzalez, 1995). An over-abundance of paper work has been an ongoing complaint in special education, and PTs certainly have their share to complete. There is paper work associated with IEPs, documentation of intervention sessions, treatment planning, and Medicaid/other third-party billing. In addition, there is generally no career ladder or other means for moving up to higher professional levels for PTs who work in schools. Comparing the employment of a PT in a clinic setting to one employed in a typical school district, it is not surprising that these factors make a difference in attracting and retaining PTs in schools.

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## PROFESSIONAL PREPARATION

### Programs

There is only one recognized agency responsible for accrediting programs for the preparation of PTs and PTAs. The Commission on Accreditation in Physical Therapy Education (CAPTE) makes autonomous decisions concerning the accreditation status of education programs. Since 1989, the Commission has been responsible for the formulation, adoption, and timely revision of the evaluative criteria for accreditation of all professional and paraprofessional education programs in PT. Accreditation standards are reviewed periodically as a response to the changing nature of the profession. Institutions offering PT preparation programs voluntarily seek accreditation from CAPTE to demonstrate that the program has met accepted standards and upholds a certain level of quality. In the U. S., graduation from an accredited program is one requirement for PT licensure (ATPA, 2000). However, there is no specific relationship between PT accreditation and the attainment of all skills necessary for satisfactory performance as a school-based PT.

For a number of years, PT education programs across the U. S. have offered entry-level degrees ranging from bachelors to doctorates. The number of bachelors-level programs has decreased, and the door is closing on the need for programs to convert to a graduate level or lose accreditation. As of 2002, all entry-level PT programs will be at Master's or doctoral levels.

### Curriculum

The range of knowledge, clinical skills, and experiences of PTs entering the profession has been quite diverse. Even so, the accreditation standards for entry-level programs are extensive, and there is a foundation of knowledge required by any PT program regardless of the degree that is offered. PT education programs must offer a curriculum in basic and applied sciences and PT methods across the life span.

The skills and knowledge necessary to treat children are not always the same skills and knowledge used to treat adults (Turner, 1993). Children are not simply small adult patients. Some have even suggested that pediatrics must be recognized as a clinical science in order to validate the need to incorporate this content in PT education programs (Spake, 1994). PT students are prepared for any number of job settings, population ranges, and skills to provide intervention in several body systems. Therefore, it is no surprise that pediatric PT is a relatively small component of the curriculum, and practice in educational settings is even more specialized, and therefore less likely to be addressed with any major focus during PT preparation (Rainforth & Roberts, 1996). This diverse preparation affords little opportunity for the entry-level PT to learn about the practice of PT in educational settings (Effgen, 1994). York, Rainforth, and Dunn (1990) reported findings from a survey of related services personnel. The occupational and PTs who responded to the survey recognized many special skills necessary to work successfully in schools that were not part of professional preparation programs.

Despite this limited exposure, it is encouraging to note that one study (Cherry & Knutson, 1993) reported that 93% of the entry-level programs required some course work in pediatrics. The

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amount of time devoted to pediatrics and the content focus varied, and most programs had only 2-4 hours of laboratory experience in pediatrics. Only 8% of the programs required pediatric clinical affiliations or field experiences for all students (Cherry & Knutson, 1993). In addition, there are limited pediatric affiliations available for clinical internships, and many of these are in settings where children with disabilities are isolated from typically developing peers or there is a strong medical approach to diagnosis and treatment (e.g., acute care pediatric hospitals) (Effgen, 1988). These experiences, although helpful, are not likely to provide the type of preparation necessary for PTs working in schools who must offer themselves as “clinical experts” on the educational team (Stuberg & McEwen, 1993).

## Profiles

A *Fact Sheet* compiled by APTA (2000) provides current and historical information about PT education programs, students, and faculty. From this fact sheet, one can picture the average PT student and PT graduate during the 1999-2000 academic year. There were 20,279 students enrolled in 193 accredited and 19 developing (not yet accredited) programs during 1999-2000. The average PT program was located at a public institution (51.4%) in the Middle Atlantic region (NJ, NY, PA, 20.4%) and included a class size (cohort group) of approximately 40 students. Over half of the PT students were women (65.7%), and 12.9% of the students were considered to be in the ethnic/racial minority. There were slightly more than 2,200 full-time and part-time core faculty members preparing these future PTs and 49 vacant faculty positions needed to be filled. The core faculty was predominantly female (60.8%), 40-49 years of age (44.9%), and Caucasian (93.1%). There were 108 programs that did not have any minority representation among their faculty. The majority (51.3%) of all core faculty members held a Master's degree, while 10.6% held a professional doctorate, and 33.8% a Ph.D.

## Degrees

Of the 7,411 PT graduates in 1999, the most common degree awarded was the Master's of Physical Therapy, or MPT (47.3%). There were a total of 5,687 post-baccalaureate degrees conferred by the accredited PT education programs in 1999. A look at the number of accredited programs in March 2002, showed a total of 0 baccalaureate, 157 Master's {Master's of Science/MS/MPT}, and 42 doctoral programs (Doctor of Physical Therapy/DPT). Seven (7) MS/MPT and 4 DPT programs are in the process of seeking accreditation. In addition, there are 1 Canadian and 2 international programs accredited by CAPTE. The decrease in the number of baccalaureate programs since the late 1980s has been offset by the proportional increase in Master's and doctoral programs during the same period. In more recent years, the PT profession has moved to make the DPT the entry-level degree. The DPT will eventually replace all other entry-level degrees and will recognize the clinical skills of the PT professional just as podiatry, optometry, and audiology have done in their respective professions. Programs offering a DPT will not necessarily include any more pediatric content in their courses or practicum requirements than they did before transitioning to this degree. Furthermore, there is the possibility that the DPT will discourage the need for continuing education in a specialty area, such as pediatrics, or a decrease in the number of post-graduate programs with that focus on areas of specialization.

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# CERTIFICATION AND LICENSURE

## State Criteria

PT licensure is granted by state boards and is mandated by state legislation. Each state has its own rules and criteria regarding PT licensure and practice. These are included in state practice acts. Therefore, PTs must obtain licensure directly from each state in which they intend to practice. Licensure cannot be granted until the PT demonstrates they have met criteria for licensure in the state. This generally includes graduation from an accredited program, an acceptable score on the national licensure examination, and evidence of competence in making decisions. In 1986 an organization was formed to provide a structure through which state boards could work together to protect the health, welfare, and safety of the American public by helping to assure the highest quality of PT health care. The Federation of State Boards of Physical Therapy (FSBPT) includes boards in all 50 states, the District of Columbia, Puerto Rico, and the U. S. Virgin Islands. This organization administers the National Physical Therapy Licensure Examination. Achieving a specific score on this examination is necessary to obtain licensure.

The licensed practice of PT may be provided through direct access to PT services, or access to these services may be contingent on receiving a prescription or referral from a physician indicating the need for PT. Thirty-four states have provided for direct access to a PT's services by removing the provisions that required a referral by a physician from their state statutes. Some states allow direct access to PT evaluation and treatment, while other states only permit evaluation without a referral and require physician authorization by prescription or referral before implementation of the treatment or intervention.

States also have licensure requirements for PTAs as well as requirements for PTs educated outside of the U. S. One of the primary concerns in considering licensure of a PT educated outside of the U. S. is determining whether or not the educational program was equivalent, and hence adequate, compared with the preparation PTs received in programs accredited by CAPTE. Once licensed, it appears that foreign-educated PTs are often employed as school-based therapists at a higher rate than in hospitals and clinics. In addition to PT licensure, several other types of formal professional recognition should be mentioned. These include clinical specialization, post-professional clinical residency and fellowship credentialing programs. Finally, many states require an additional certification from their own state department of education for PTs who are working in schools.

## Specialist Certification

The specialist certification program was established by APTA in 1978. Clinical specialization in PT, which is linked to a specific area of patient need or a specific population, recognizes therapists for their knowledge, skill, and experience exceeding that of the entry-level practitioner and unique to the specialized area of practice. Pediatrics is one of seven areas in which a PT may receive formal recognition from the American Board of Physical Therapy Specialties. Recognition is achieved by those PTs who are qualified to sit for and then successfully pass the certification examination. As of 2001 (includes 1985-2001), 3,618 have become certified

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clinical specialists since the inception of the examination and credentialing process; 440 of these were recognized as Pediatric Clinical Specialists (PCS) (M. Bryant, personal communication, April 11, 2002). This is a significant increase from the 4 Pediatric Clinical Specialists who were recognized based on the first examination for pediatric specialists offered in 1986.

## **Residency and Fellowship Programs**

In addition to traditional graduate education programs, PTs may continue their clinical education through a clinical residency or fellowship program, which are post-professional programs that focus on a defined area of practice or a subspecialty area of clinical practice, education, or research. The APTA Committee on Clinical Residency and Fellowship Credentialing is responsible for overseeing the credentialing requirements and application process for interested clinical residency and fellowship programs. For a program to be credentialed by the APTA, its curriculum needs to be based on a recognized practice analysis. Completion of a credentialed program is not required for a PT to sit for the specialist certification examination (discussed above) or to become a clinical specialist, and these programs have not been used extensively by pediatric PTs.

## **Continuing Education**

Even with many options for pursuing educational programs beyond the entry-level PT preparation program, some states do not require continuing education to maintain licensure. Thus, a PT could decide not to pursue further steps in the development of clinical expertise or knowledge. The IDEA requires that related services, including PT, be provided by qualified personnel (34 CFR §300.136(a)(1)(ii)). The specific requirements are established by each state but must include the “highest entry-level academic degree needed for any state-approved or recognized certification, licensing, registration, or other comparable requirements that apply to a profession or discipline” in which a person is providing the service (34 CFR §300.136(a)(2)). Thus, states must require at least a baccalaureate degree (and soon it will be a Master’s or DPT) and state licensure for any PT providing PT as a related service under IDEA. Some states have additional requirements for PTs who are either employed by or contracted to work within the public education system. These additional requirements include special educational certifications granted by the state department of education, which note that the PT is licensed in the state and is acceptable for employment in the schools. They generally are issued pending approval of professional licensure. Some certifications require proof of continuing education for renewal.

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## RECOMMENDATIONS

In entry-level professional programs, PTs receive limited preparation for employment in a school-based setting. PT education does not have a strong focus on the area of pediatrics, and little time in the overall professional preparation curriculum is devoted to the provision of PT as a related service under the IDEA. Thus, it can be assumed that no entry-level PT could be well prepared to assume employment as a school-based PT without either additional training (continuing education or graduate education) training or mentorship from an experienced colleague. An entry-level PT who has experience only with adults should be able to treat a patient with any one of a number of different diagnoses. However, this same PT may not have the knowledge or skills required for developing or implementing goals and objectives on an Individualized Education Plan (IEP), particularly in an inclusive school setting. Additional certification requirements by state departments of education do not seem to focus on the attainment of these important skills prior to employment in schools. Essentially, many school districts are content with hiring a licensed PT regardless of whether or not that individual has any knowledge or experience associated with pediatrics or with working in an inclusive education, or school-based setting. In a small number of professional preparation programs, students can choose an elective in school-based intervention or spend additional time on pediatrics. There are also opportunities for students to choose a clinical practicum or affiliation in a school-based setting and to include school settings and the pediatric population in research projects and papers that are part of graduate-level requirements.

On the other hand, making pediatric or school-related experience a requirement for obtaining a job as a PT in the schools would further reduce the already limited pool of qualified PTs available for employment. This would also make it difficult for school districts to comply with the requirement to provide special education and related services under the IDEA. Additional requirements for PTs are likely to exacerbate complaints from school districts that are unable to fill PT vacancies and from parents who want their child to receive the amount of therapy agreed by the team on the IEP. The absence of qualified PTs is a dilemma that is not easy to resolve, particularly in many of the rural communities or in locations with limited desirability.

It is unlikely that PT preparation programs are graduating any more students now who are interested in pediatrics, or more specifically in school-based PT, than in the past. Enlarging the pool of potential job applicants for school-based pediatric PTs is likely to arise from increases in unemployment among PTs with employment backgrounds or expertise in other areas, or from geographical regions of the country with a surplus of PTs.

It will be necessary to change personnel preparation to increase both the number of available pediatric PTs and the quality of the professional skills with which a PT enters employment as a related service provider. These changes include:

- more emphasis on pediatric content in the initial PT professional preparation program
- more mentoring opportunities for PTs who are considering, or entering, employment in educational, or school-based, settings

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- more acceptable clinical sites in schools and access to these experiences for PT students interested in future employment in a school-based setting
  - more appropriate continuing education and post-graduate course work in pediatrics and delivery of intervention services in educational environments.

The outcome of efforts to improve quality and quantity of appropriately prepared pediatric PTs could lead to increased numbers of qualified PTs working in schools, improved job satisfaction for school-based PTs, and improved services for children with disabilities.

The provision of services under IDEA can be challenging when school districts are faced with a lack of qualified related service providers. Perhaps a well-prepared PT will be better able to overcome the many obstacles (e.g., large caseloads, insufficient time, amount of paperwork, etc.) that related service providers encounter in schools on a daily basis. PTs in schools need to know how to delegate responsibilities to other team members for follow through as appropriate and to consult with the team on a regular basis. PTs working in education settings must also complete all the paper work associated with special education and IEPs and with billing Medicaid, since many school districts are accessing this funding as a source of reimbursement. The impact of these specific, school-related responsibilities is likely to be significant considering the skills may be very different from what a PT has been prepared to assume as part of their professional preparation.

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## RESEARCH NEEDED

This section suggests research questions on topics related to school-based PT. In spite of the availability of qualified personnel, some school districts have reduced the number of positions for therapists. Their decisions to cut back related service providers, including PTs, may substantially make it difficult for the school district to fulfill the requirements under IDEA and to provide the IEP programs agreed to by parents and other team members.

- What IEP decisions are based on the current availability of related service providers rather than on meeting the individual needs of the child?
- What IEP decisions are based on the current availability of PT providers rather than on meeting the individual needs of the child?
- What is the impact (outcome measures) of making programming decisions based on the availability of providers rather than on the child's need for the service?

Research is needed on the implications of using less qualified personnel (PTAs and paraprofessionals) to fulfill the requirements of providing PT as a related service according to what has been indicated on a child's IEP. Future research should focus on the use of alternate personnel and on the capacity to improve professional preparation, quantity and quality of supervised clinical experiences, and mentoring of persons interested in employment as school-based PTs.

- What is the impact (outcome measures) of using untrained personnel?
- What is the impact of using untrained personnel who can provide interventions more frequently than a professional (as a result of availability)?
- Are there differences in reaching developmental milestones when PT is provided by a licensed professional compared to an educational aide?

The ability of school districts to bill Medicaid and be reimbursed for PT provided to children in schools who are enrolled in the Medicaid program has required additional paper work from therapists as well as changes in service delivery models to provide more direct, hands-on therapy. Although Medicaid reimbursement to the school district may be large, therapists have to take additional time to complete the necessary paper work.

- Where does the Medicaid reimbursement money go? (e.g., school district general funds, operating budget, personnel, special education.)
- Is the reimbursement cost-effective given the additional time and paper work that must be completed?
- Does the Medicaid reimbursement impact the model of service delivery selected by the PT to meet the child's needs?

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The bachelors degree programs for PT have been phased out. Master's and doctoral degrees are now the norm in entry-level PT preparation programs. Soon the majority of PTs and all recent graduates will have these higher-level degrees.

- Will these higher level degrees (Master's and doctor of physical therapy) make it more difficult (e.g., financially, job satisfaction) for schools to employee PTs?
- Will persons with a DPT be interested and willing to work in schools?
- Will a DPT-prepared PT have more skills than a bachelors- or Master's- prepared PT who is hired to work as a school-based PT will?

It appears that the field of PT is aging. Entry-level programs are requiring higher degrees and taking longer to complete, the application requirements often include a period of volunteer hours, and the pool of applicants is aging.

- Are the PTs working in schools getting older as a group?
- Will the aging population of PTs have a detrimental effect on the ability of schools to locate, hire, and retain qualified PTs?

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