

**Section on Pediatrics
American Physical Therapy Association
Research Agenda**

The Section on Pediatrics 2008 - 2010 Strategic Plan included the development of a research agenda for the Section. A task force, consisting of the chairs of the research, practice, and education committees, chair of the Physical Therapy in Educational Settings special interest group (SIG) (representing Section SIGS), and three members of the research committee developed the agenda. The Section's executive committee approved it during CSM in 2008. The agenda is meant to be a "living document" that is modified as appropriate over time.

Goal:

To promote research that advances and enhances quality of life for all children, people with developmental disabilities and their families

Objectives:

1. To identify key research priorities for the practice of pediatric physical therapy
2. To support the continuing development of a research infrastructure within the Section that is responsive to the needs of its membership. This infrastructure will include
 - A. A mechanism to identify member-driven needs relating to research and research translation
 - B. A formal research mentoring and collaboration process to connect member clinicians and researchers
 - C. Grant support and resources for members seeking funding from outside agencies
3. To inform the following groups about key priorities, gaps in knowledge, and critical needs:
 - A. Section members and all other pediatric physical therapists
 - B. APTA
 - C. Other APTA sections
 - D. The Foundation for Physical Therapy
 - E. Other funding agencies
 - F. Patient and family advocacy groups

Background:

The research agenda focuses on identified needs to improve function, activity, and participation in children with movement disorders. Prevalent movement disorders include those resulting from: cerebral palsy, acquired brain injury, congenital anomalies, genetic conditions, and autism.

Resources used to develop the research agenda:

Section on Pediatrics member resources
General membership survey – February 2008
Membership research survey – May 2008
Regional director reports
CSM abstract submissions
Pediatric clinical grant proposals submissions
Strategic plan 2008-2010
Special interest groups input – May 2008

General research resources used to develop the research agenda:
 Rehabilitation Medicine Summit: Building Research Capacity, 2005
 APTA Research Agenda, 1993, updated draft version, 2008
 Foundation for Physical Therapy – high impact research topics, 2007
 National Center of Medical Rehabilitation Research, 2008

This agenda is predicated on a three-prong approach:

1. Research priorities
2. Research translation
3. Research capacity

1. Research Priorities:

- A. Intervention
- B. Measurement
- C. Service delivery
- D. Early development

Organizing Framework

The following were used to identify and design the organizing framework to address the research priorities.

- A. The *International Classification of Function, Disability and Health* model (WHO, 2001)
- B. The *Guide to Physical Therapist Practice*, patient/client management model
- C. Child development and maturation

<p>A. Intervention</p> <ul style="list-style-type: none"> - Elements that transcend research designs in this category <ul style="list-style-type: none"> o Dosage (intensity, frequency and duration) and timing o Long term follow-up to determine effectiveness o Differential outcomes as a function of health disparities o Across diagnoses o Across age (lifespan) and transition o Assistive technology
<p><u>Body Structure/Function</u> –</p> <ul style="list-style-type: none"> - Examine the efficacy or effectiveness of strengthening for children with movement disorders - Explore the impact of cardiorespiratory fitness on children with neuromotor disorders - Examine the efficacy or effectiveness of stretching for children with neuromotor disorders <p><u>Activity</u> –</p> <ul style="list-style-type: none"> - Determine the efficacy or effectiveness of motor learning for children with movement disorders <p><u>Participation</u> –</p> <ul style="list-style-type: none"> - Examine the effects of adaptations to contextual demands - Investigate the effectiveness of routine based interventions - Examine the impact of health promotion on children with movement disorders <p><u>Environmental Factors</u> –</p> <ul style="list-style-type: none"> - Examine the role of family in intervention research - Investigate factors that influence health policy and health services for children with movement disorders

- Examine the cost effectiveness of intervention programs/protocols
- Personal Factors -
- Investigate the impact of motivation in skill acquisition and performance of children with neuromotor disorders

B. Measurement

- Elements that transcend research designs in this category
 - o Precision and efficiency
 - o Feasibility within the environmental context
 - o Outcomes across the International Classification of Function, Disability and Health (understanding the whole body system response to specific interventions)

Body Structure/Function Measures

- Use of advanced imaging techniques to measure changes in impairments
- Develop tools and improve methods to assess cardiorespiratory fitness and endurance in children

Activity

- Develop predictive/prognostic measures for toddlers, older children and adolescents
- Develop evaluative measures
- Improve current measures

Participation

- Develop or improve responsive measures across life situations and age ranges
- Improve quality of life measures

Other

- Develop classification systems for children with neuromotor disabilities
- Develop minimum dataset for children 0 – 3 years

C. Service Delivery

- Elements that transcend research designs in this category
 - o Surveillance and transition research to examine longitudinal trends in development and function for children with movement disorders to identify service delivery models for best practice to meet child and family goals and to promote best outcomes

- Develop conceptual models for interventions with special focus on participation
- Examine the effectiveness of the “primary provider model” specific to early intervention
- Examine the effectiveness of providing services in natural environments
- Examine the effectiveness of service delivery models in schools (e.g., integrative, consultative)
- Examine clinical decision making processes that affect choices in service delivery
- Examine the effectiveness of care coordination and collaboration
- Examine developmental care for infants

D. Development

- Identify and examine early motor development and learning in infants at risk for movement disorders
- Examine and identify critical/sensitive periods for motor development
- Describe motor development and skill acquisition in children with movement disorders.

2. Research Translation (based on the Section on Pediatrics Strategic Plan 2008-2010)

1. Improve application/translation of current research and use of evidence-based practice.
 - Develop online course content and appropriate self-assessments on application/translation of research with APTA Research Department, Research Department, Research Section, etc (Research – with Education, SIGs, Executive Committee)
 - i. on accessing research literature, analyzing, interpreting, and applying the research findings to practice
 - ii. on how to apply evidence-based practice in pediatrics
 - Provide online courses on application/translation of research (Research)
 - Monitor member utilization and effectiveness of the online research courses (Research)
 - Develop a plan to augment current Evidence Based Practice resources for pediatric clinicians (“Hooked on Evidence” and Pediatric Physical Therapy) (Research – with Practice, Education)
2. Develop research summaries and critical appraisals (Research Committee and Pediatric Physical Therapy)
3. Develop and disseminate clinical guidelines (Practice, Communication and Education Committees and Special Interest Groups)

3. Research Capacities (all based on the Section on Pediatrics Strategic Plan 2008-2010)

A. Funding (from Strategic Plan)

Internal Funding - Expand funding support for pediatric physical therapy research through the Section and the Foundation for Physical Therapy.

- Increase the number and size of grants distributed to one \$30K, two \$10K, and four \$5K (Research)
- Designate one of the research grants to support junior faculty research (Research)
- Endow the Pediatric Fund through FPT (Executive Committee)
- Recommend members for the FPT scientific review committee (Research)
- Increase the number of multi-site research studies among pediatric physical therapy researchers
 - i. Fund a planning grant for multi-site research in EI (Research)
 - ii. Secure partnerships and/or fund a proposal to develop a database of pediatric outcomes (Research – with Executive Committee)
 - iii. Sponsor a Research Summit III to promote collaborative multi-site research (Research)

External Funding – Increase funding opportunities for pediatric research by agencies that fund pediatric research (from Strategic Plan)

- Disseminate research agenda to funding agencies
- Educate and invite a representative from funding agencies (IES, NICHD, MCH, UCP, NIDDR) to CSM to present on funding initiatives and process (Research – with Program, Executive Committee)
- Expand funding for research training fellowships

B. Training/Mentoring (from Strategic Plan)

- Enhance grant-writing capability and research skills of Section members.
- Create a named research lecture/forum at CSM (Research – with Practice, Program, Public Relations)
- Develop and sponsor a course on grant-writing/review process (Research – with Program)
- Create and disseminate a list of research mentors and grant reviewers (Research)
- Develop a recommendation to support mentoring in research in collaboration with APTA and Research Section (Research – with Membership)
- Disseminate information on courses related to grant writing (Research – with Communications)
- Educate members to critically assess research resources in work environments (Section on Pediatrics, Research and Education Committee and Education Section).

C. Increase participation in the research process

- Clinicians
- Agencies
- Children and families

Recommendations from the Task Force:

1. Research proposals submitted to the Section on Pediatrics Clinical Grants competition must focus on the Research Priorities identified in this agenda unless instructions in an RFP (request for proposal) or RFA (request for application) specifically state otherwise.
2. Best research designs are those that are best matched to the research question or hypothesis, the research process (inductive or theory building pilot/preliminary research vs. deductive or theory testing hypothesis driven research), a granting agency's defined mission and purpose, and available grant funds. Based on these considerations, a proposal may use one of many research designs such as:
 - Randomized clinical trials (RCT)
 - Descriptive and quasi-experimental designs
 - Qualitative designs
3. The research agenda is a dynamic document and annual reviews of the document are recommended to be sure priorities are current and to document progress in research activities. The annual reviews should also include review of funding agency priorities so that the Section research agenda is in line with funding opportunities from agencies conducting related or complementary research, and priorities that may not be high for other agencies because of low incidence.

Task Force Members:

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