

Academy of Geriatric Physical Therapy Research Agenda: Rationale for the development and the intent for use.

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Abstract

The rationale for the development and the intent for use of a research agenda for the Academy of Geriatric Physical Therapy is described. The reasons for the research agenda for geriatric physical therapy are : 1) to have a broad representation of the research conducted by physical therapist(s) working with older adults, 2) to provide guidance and assistance to emerging investigators to aid the trajectory of a research career, and 3) as a document to engage potential funding agencies, foundations and individuals in support of physical therapist conducted research. The design was based on the Research Agenda for Physical Therapy (APTA document), formatted to be consistent with the World Health Organization International Classification of Functioning, Disability and Health, priority ratings for the research statements, and specific examples of research questions for each category of the Research Agenda. The Academy of Geriatric Physical Therapy Research Agenda generated to be a living document, with revisions to research questions and priority ratings expected in the future to enable the agenda to adapt to changes in science, practice, workforce, education and health policy.

Clinical Implications

1. To facilitate recognition of the breadth, depth and unique area of geriatric physical therapy research.
2. Clinical geriatric physical therapy practice concerns are represented in the geriatric research agenda
3. Education and administrative research are important in the advancement of geriatric physical therapy knowledge and practice.

Background: Why a Research Agenda

Why a research agenda for geriatric physical therapy? Possibly for similar reasons to those described in the report of the generation of the Research Agenda of the American Physical Therapy Association (APTA) (the third such agenda for the APTA in the last 30 years). Briefly those are: 1) to have a broad representation of the research conducted by physical therapist (s) working with older adults, 2) to provide guidance and assistance to emerging investigators to aid the trajectory of a research career, and 3) as a document to engage potential funding agencies, foundations and individuals in support of physical therapist conducted research.¹ The National Institutes of Health (NIH), National Institute of Aging (NIA) Division of Geriatrics and Clinical Gerontology (DGCG) doesn't provide a research agenda but rather a framework of research goals. The goals the basis for Requests for Funding Announcements and an additional factor in the process of grant funding decisions. The goals represent major current and anticipated problems in the health and care of aging members of society and age-related problems for which knowledge is lacking. As a division of a government agency (NIH, NIA), the DGCG sets research goals intended to facilitate specific areas of research and address defined national aging health needs. Initiatives related to research career development and diversity in research are addressed in other NIH agency mechanisms and are not an essential part of DGCG goals. Investigators are tasked with framing the research aims to fit the national health objectives currently defined. Through the DGCG Research Goals, the NIA establishes a vision of important and necessary knowledge advancement.²

The authors of the APTA Research Agenda described prior as well as potential internal and external processes for agenda generation.¹ The rationale of the intended use of the agenda has been inconsistent, somewhat parochial, perhaps not inspiring, but

likely broad and inclusive. In addition to the clinical and health services research of the profession, the APTA Research Agenda recognizes basic, fundamental science that underlies practice and may forge future understanding, acknowledges physical therapy within the health of society (epidemiology), and identifies education as a critical influence on physical therapy practice and research.¹ We should applaud this breadth and inclusivity as it has taken too long to finally embrace all the research essential to the science, practice, education, and delivery of physical therapy.

However, the broadly inclusive nature of the APTA Research Agenda disappointed at least one physical therapist researcher who suggested the authors missed an opportunity to set a ‘bold vision’ in the formation of the APTA Research Agenda (see commentary, PTJ 2011).¹ Similarly, it seems likely more than one investigator in aging research finds the DGCG Research Goals disheartening when their research interest is not front and center in the Division’s research goals. For both the methodology of development and the presentation of research agendas, there is no single agreed upon approach.

So why and how did we develop the Academy of Geriatric Physical Therapy Research Agenda? The easy and practical answer is because the Academy administrators asked! *“We believe it is time for Academy of Geriatric Physical Therapy to develop a research agenda. The purpose of the agenda would be two-fold (potentially more). 1. It would drive research the Academy directly funds (e.g., Clinical Practice Guidelines, GeriEDGE, and publishable position statements); and 2. It would help direct the F4PTR [Foundation for Physical Therapy Research] when they award research grants supported by the Academy of Geriatric Physical Therapy. Because something is on the Research Agenda would not necessarily mean that Academy of*

Geriatric Physical Therapy is going to perform or fund the research directly, just that we have identified a need or a gap and would like to see more study in those areas...”

[[Paraphrased from email communication Greg Hartley, President APTA Geriatrics , January 2019]

Another reason for an Academy of Geriatric Physical Therapy Research Agenda is ‘to have a seat at the table’. The APTA’s requests for input in each iteration of its Research Agenda were often vague, or at other times unexpectedly urgent.

Communications about funding directions, and outreach to funding agencies occurred seemingly without much integration of the interests of all Sections /Academies. This is not to suggest there was an intent to exclude or to emphasize one part of physical

therapy research over another, but without pre-planning, the Association had to be rapidly responsive to opportunities as they appeared. Geriatric physical therapy appeared to be standing against the walls that surrounded the APTA research

conference table. As Shirley Chisholm stated during her rise in government action, “If they don’t give you a seat at the table bring a folding chair.”³ With that history in mind, and without a clear best approach to research agenda development, we chose to pull up

a folding chair and put geriatric physical therapy research at the table. We used the APTA Research Agenda with minor adaptations: 1) consolidation of a few subcategories under each area to be more concise, 2) provision of priority ratings to specific research agenda items, and 3) enhanced explanation in defined sample research questions under

many of the agenda items. The explanatory sample questions included considerations for multiple intents, specifically: 1) to facilitate investigators to think about where their questions might fit in the umbrella of geriatric physical therapy research, 2) to enable

clinicians to see how problems faced in clinical practice might be represented in the

research agenda, and 3) to illustrate the importance of education and administrative research to the advancement of geriatric physical therapy knowledge and practice.

We saw the ‘need’ and interpreted the charge for a research agenda for the Academy of Geriatric Physical Therapy to be timely. The interpretation is based in the background of a rapidly growing interest and availability of rehabilitation research funding and research training for future investigators. As such we prioritized generation of the agenda over an extensive process to integrate and include contributions from stakeholders including many clinicians, educators, administrators, and with members of the research community. However, the final document was extensively reviewed and approved by the Academy of Geriatric Physical Therapy Board of Directors.

We envisioned the Research Agenda as an initial framework for current times and the near future, but also adaptable. We expect and plan the Research Agenda could and would be modified with shifts in scientific knowledge, in the socioeconomic environment of rehabilitation, and with aging in America. Minor adaptations to guide the shifts could be communicated by additional examples to supplement existing materials or as new examples to replace research questions in specific agenda categories. Major adaptations might include the addition of objectives within a category and/ or adjustments to the priority rankings. The Academy of Geriatric Physical Therapy Research Agenda should be considered malleable and adaptable – an agenda for which the priorities might change every 3-5 years. In a sense, the Academy of Geriatric Physical Therapy Research Agenda can #AgeOn!

Specific Approach to the Design and Use of the Academy of Geriatric Physical Therapy Research Agenda

The research statements as originally represented in the revised Research Agenda for Physical Therapy¹ were consolidated to fewer statements under each of the research categories. The consolidation occurred not only to create a more concise document but also as an attempt to communicate a forward-thinking vision. If not quite considered bold, at least a vision easily captured within a brief document. In the consolidation, the statements of research directions broadened in scope yet narrowed in the specific aspect of older adults. Like APTA Pediatrics Research Agenda,⁴ the Academy of Geriatric Physical Therapy Research Agenda is formatted to be consistent with the World Health Organization International Classification of Functioning, Disability and Health⁵ domains of body systems, body structure and function, and activity and participation (Research Agenda, column 1). Ratings designated high, intermediate, and low priority for each research statement. One aim for the generation of the Academy of Geriatric Physical Therapy Research Agenda was ‘to help direct’ future funding announcements or assist investigators in searches for funding. The priorities assigned provide some direction to the inclusive agenda. *Change in the priority ratings is both expected and necessary.* Revision of the priority ratings in subsequent years and continual cycles offers a means to continue to implement the Research Agenda to guide present day and future research directions. With guidance embedded in priority ratings, individual investigators and funding sources retain the option to initiate their area of research interest. Regardless of ratings, good science should remain the fundamental funding criteria.

Lastly, the examples of research questions [sample questions/aims in italics] under several research categories are shared to add life to the agenda. All physical therapist in geriatric physical therapy research, practice and education should be able to

recognize their work, their interest, and maybe their dreams in the Academy of Geriatric Physical Therapy Research Agenda. For that reason, two things are very clear: 1) some of the exemplar research question include very specific instruments, interventions, or approaches, and 2) continual and frequent revisions of the exemplar research questions is essential. In fact, updates to the exemplar research questions are likely to be even more frequent than revisions of the research priority ratings.

It may be apparent that to sustain a living document, regular and planned maintenance is this required. At a minimum, the Academy of Geriatric Physical Therapy Research Agenda should be reviewed biannually. The burden is small if the aim is high relevance, cutting edge and responsive research in geriatric physical therapy.

Brief Overview of the Academy of Geriatric Physical Therapy Research Agenda by Categories

Basic science research. The current emphasis in basic science research in aging, surrounds the impact of age-related body structure and function on vulnerability for or performance under conditions of stress, injury, or disease. This includes both challenges of rehabilitation, exercise, as well as trauma or accelerated degeneration. Importance is directed to exploration of mechanisms and modifiers of the adult's response to health events and to physical therapy management.

Clinical science research. The present focus of clinical research in geriatric physical therapy leans strongly toward interventions. All aspects of the path for clinical research are highlighted, from recognizing age-related problems and related factors that may inform intervention, to intervention development, efficacy, and effectiveness clinical trials. The comprehensive body system structure and function presentation of health

problems among aging adults is forefront in the priority for exploring multi-component interventions and to better define how to stage interventions and recognize meaningful, incremental outcomes in older adults. Future emphasis of the clinical research may have a higher prioritization for criterion-based progression, indicators of activity and participation with the emergence of a large mass of efficacious and effective interventions, and targeted clinical guidelines with the research support.

Epidemiology. While epidemiology research seems to dominate the geriatric healthcare research in other health disciplines, the infusion of physical therapy influenced investigations at the aging population or community level is an emerging of need. The emergence of physical therapy in epidemiologic research brings a specific emphasis on function, performance and related factors and environmental contributors or consequences. The function and performance focus from the perspective of clinical movement scientists broadens the typically more disease/injury specific focus of traditional epidemiologic investigations in aging.

Health services research/policy. In the United States, health care systems and insurers have a continually increased expectation to optimize quality outcomes, costs, and access. The strategies, technologies, implementation, and program evaluation methods to facilitate healthcare that meets the needs of the individual, the clinician providers, other caregivers, the insurers, and society are essential tools for every discipline. This area of research is under rapid growth in physical therapy with the need for services for an aging population, particularly those with an increasing number of chronic conditions and those who have lacked equity in healthcare delivery across the lifespan.

Workforce. A key mission of the APTA in service to healthcare is to enable access to physical therapy. Not only knowledge of supply and demand but particularly identifying geographic and practice settings where any shortage exists for physical therapy services.⁶ Intimately linked to workforce is educational research. As society and healthcare systems continually mature and adapt to serve the health of aging adults, the education of physical therapist and physical therapist assistants to care for them must also evolve. Educational research to explore the content and the pedagogy that underlies a workforce prepared with the knowledge and skills for effective implementation, advocacy and adaptability to advance physical therapy for aging adults.

Measurement development and validation. Appropriately stated by Sim and Arnell (1993), measurement validity is equally important to physical therapy research and practice.⁷ In both research and in clinical practice, findings and recommendations / decisions are made based on inferences from the measures collected. Measurement research underlies the standards of the research and practice. As such measurement research and validation of practice provides the data by which the quality of the science and practice of physical therapy can be evaluated and critiqued.⁸ Because of the lived experiences and varied patterns of chronic conditions, the heterogeneity of older persons presents a challenge to the rigor of measurement validity in research in geriatric physical therapy.

Summary

The need and considerations for the use of a research guide by whom, when, and for what purpose, culminated in this first edition of the Academy of Geriatric Physical Therapy Research Agenda (Appendix). Across all types and content areas in aging

research, it is intended the agenda facilitates a rise to meet the challenges by the identification of gaps in knowledge and the promotion of research to fill the research and practice gaps.

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Appendix

Academy of Geriatric Physical Therapy Research Agenda

Academy of Geriatric Physical Therapy Research Agenda

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
WHO class	Basic Science Research	Priority
BodyS	<p>For genetic, anatomical, biomechanical, physiological, or environmental factors, determine the contribution to or modification of excessive stress, injury, abnormal or accelerated aging of body tissues and systems.</p> <p><i>A longitudinal study of knee joint pain and structural changes in the non-operated limb of older adults with osteoarthritis who do or do not receive total knee replacement.</i></p>	Int
BodyS, Act	<p>In older adults under conditions of health, injury or disease, examine mechanisms and modifiers of the effects, and optimal dose of physical therapy aging body structural, physiological and functional responses.</p> <p><i>Effects of sensory-challenge balance exercises on multi-sensory reweighting in older adult fallers and non-fallers.</i></p> <p><i>Effects of balance perturbation training on automatic postural responses in older adult fallers and non-fallers.</i></p>	High
	Clinical Research	
Act, Part	<p>Among older adults in order to guide examination, prevention and treatment of health conditions relevant to physical therapy, define and evaluate relationships among function and disability, health conditions, and personal and environmental factors (eg, <i>International Classification of Functioning, Disability and Health, and applications of such models</i>).</p> <p><i>Loss of community ambulation capacity in community dwelling older adults: principal component and path analysis of contributory risk factors</i></p> <p><i>Does physical therapy supervised exercise to improve mobility and balance, also improve physical function in daily life?</i></p>	High
Act, Part	<p>Examine, define or develop, and evaluate physical therapy interventions and engagement in primary and secondary health promotion, prevention of health decline, and participation for older adults with movement-related health conditions (includes both acute and chronic conditions).</p>	High

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
	<p><i>A comparative effectiveness study of “A Matter of Balance” and “Stepping On” programs to decrease fear of falling and increase physical activity level in older adults with a history of falls.</i></p> <p><i>Among older adults with mobility-assisted ambulation and mobility disability, does a task-oriented walking exercise program improve walking more than a walking endurance exercise program?</i></p> <p><i>Among older adults with mobility-assisted ambulation and mobility disability, after physical therapy supervised walking exercise program compared to home-based walking exercise program, are there differences in sustainability of exercise intervention-induced improvements in walking speed and confidence 6 and 12 months later?</i></p>	
Act, Part	<p>Toward optimization of clinical decision-making in physical therapy for older adults, define and evaluate the efficacy and effectiveness of physical therapist management of clients who are older, based on classification methods, guidelines for criteria or or thresholds for progression, decline or indication of function, activity or participation level of ability or independence.</p> <p>Lower extremity strength and balance abilities thresholds necessary for safe independent participation in a community group Tai Chi class.</p> <p>Among older adults in post-acute care, does responsiveness to physical therapy interventions to improve walking differ across initial walking speed-based categories of mobility ability?</p> <p>Does physical therapy plus caregiver-assisted exercise intervention improve basic physical function and social well-being in daily life more than a physical therapy only exercise intervention?</p>	Int
BodyS, Act, Part	<p>For older adults for whom the margin or tolerance for interventions from a physical, mental, social/emotional or socioeconomic perspective may be limited, determine the effectiveness and efficacy of interventions provided by physical therapists delivered in combination of physical therapy approaches or in combination with other interventions (eg, pharmacological, medical, surgical, or biobehavioral interventions).</p> <p><i>Does the provision of no-cost transportation and complimentary YMCA membership affect the adoption of and adherence to a regular exercise program in low-income older adults?</i></p>	High

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
Part	<p>Determine or define, modify and test the effectiveness of varied methods to enhance the ability of older adults to participate and adhere to physical therapy care plans and self-care recommendations, including post-care activity and participation.</p> <p>Does a community re-entry model of rehabilitation reduce depression and fear of falling, and increase self-efficacy, in community-dwelling older adults who have sustained a hip fracture?</p>	Int
Part	<p>Define and determine the effectiveness of various models (ie didactic and clinical education, and technology-driven or web-driven) of professional-level physical therapist education and continuing professional education on clinical management and outcomes, and physical therapy health services delivery for older adults.</p> <p><i>Does direct, repeated exposure to successfully aging older adults alter unconscious age bias in entry-level physical therapy students?</i></p>	Low
Epidemiology		
BodyS, Act, Part	<p>Examine the incidence, prevalence, and natural course of impairments of body functions and structure, activity limitations, and participation restrictions associated with high-burden health conditions for older adults and vulnerable older adult populations commonly managed by physical therapists.</p> <p>A longitudinal study of diet and exercise habits, and the onset and progression of diabetic neuropathy, in older adults with Type-2 diabetes.</p>	Int
BodyS, Act, Part	<p>Investigate the effects of contextual factors (eg, personal and environmental) unique to and common in older adults on the effectiveness of interventions provided by physical therapists.</p> <p><i>The relationship between community walkability and the ability to complete the walking component of the OTAGO home exercise program in community-dwelling older women.</i></p> <p><i>Barriers to physical activity in older adult caregivers with spouses with cognitively impairment.</i></p>	Int
Health Services Research/Policy		
Part	<p>Investigate and improve the performance of the health system for older adults across all settings and addressing delivery models, cost-effectiveness, payment systems, patient access, policy, and research. (Health system and cost effectiveness)</p>	Int

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
	<i>A comparison of physical therapy services delivered to older adult fallers with mild brain injury in the United States, Canada, and the United Kingdom.</i>	
Part	Investigate and address the impact of older adults' characteristics, values, risk factors, decision-making processes, health literacy, engagement levels on access to, provision of, and outcomes from physical therapy care. (Client centered care) <i>Does peer-led health education with tele-health follow-up calls improve adoption of and adherence to a physical therapy home exercise program in sedentary older adults?</i>	High
Part	Investigate equity in population health and health care for older adults and vulnerable older adult populations, addressing poverty, social determinants of health and well-being, disparities in access to and provision of care, provider bias, and provider cultural competence. (Cultural competence and disparities) Physical therapy pain management in African-American and Caucasian patients: a retrospective chart review study.	High
Part	Investigate the relationship between care processes, mechanisms of care delivery, and physical therapy utilization of older adults and vulnerable older adult populations and physical therapy outcomes. (Utilization & Outcomes) <i>Do older adults with fall-related wrist and shoulder injuries seen in outpatient orthopedic clinics receive sufficient preventive care to avoid future falls?</i>	High
Part	Support health services research that targets prevention, diagnosis, treatment, and outcomes for high-burden health conditions of older adults and that is compelling and relevant to policy makers, research funders, and leaders in health care and public health systems. (Policy) <i>Differences in individualized preventive plans developed following a Welcome to Medicare visit when a physical therapy consult is provided in addition to the physician visit.</i>	Int
	Workforce	
Part	Examine the effects of staffing patterns on the outcomes of physical therapy for older adults and vulnerable older adult populations; include the identification of factors (eg, use of extenders, mandates) that contribute to variations in productivity.	Low

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
	<i>Impact of changes in staffing patterns in skilled nursing facilities due to COVID-19 on length of stay for older adults post hip replacement surgery.</i>	
Part	Investigate factors associated with unmet physical therapy needs of older adults across patient populations, practice settings, and geographic locations; including desirability of practice area, recruitment and retention strategies, and associated health outcomes. <i>Does geographic proximity to a medical center impact long-term health outcome for older adult patients with neurodegenerative conditions?</i>	High
Part	Examine the effects of workforce issues on career pathways for individuals interested in caring for older adults and vulnerable older adult populations (eg, participation in residency, fellowship, research training). <i>Can implementation of an at-distance geriatric residency for physical therapists working in rural, underserved regions improve home health outcomes for older adults?</i>	Int
Part	Examine the effects of participation in extended clinical training experiences on the development and growth of the workforce prepared to care for older adults and vulnerable older adult populations. <i>Investigate the relationship between implementation of a fellowship in dementia care and the number of physical therapists who feel prepared to care for older adults with dementia.</i>	Int
	Measurement Development and Validation	
Act, Part	Develop or refine existing tools and the evidence for use to measure the impact of physical therapy on activity, participation, and quality of life among older adults in acute, long-term residential and community settings. (Particularly combinations of tools / brief batteries to enhance validity, responsiveness and predictive ability.) <i>Validity and reliability of a telephone video app to measure gait variability in older adults.</i>	Int
Act, Part	Develop and provide evidence to guide selection and interpretation of measurement tools for assisted mobility and physical function among older adults. (ie includes mobility with assistive devices, or with the assist of another person).	High

BodyS, Body Systems; Act, Activity; Part, Participation		High; Int, Intermediate; Low
	<i>A modified and expanded Functional Ambulation Classification Scale offers improved responsiveness to measure physical performance changes following gait training.</i>	
BodyS, Act, Part	<p>Determine and refine standard measurement methods to enhance clinical decision making for older adults; adapt for characteristics of aging body structure and function, age-related health conditions, and specific limitations of activity and participation. To include contemporary technology (eg ultrasound, magnetic and forms of imaging, wearables and the use-ability of these measurement tools given person and environmental factors common among aged.</p> <p><i>Accuracy and reliability of shoe-mounted sensors to detect step reaction time and magnitude during the Push-and-Release test in older adult fallers.</i></p>	Int