Face Into the Storm

Alan M. Jette

America is about to experience a demographic shift of enormous magnitude: increasing longevity, declining fertility, and the aging of the baby boomers, which are triggering an enormous “age wave.” We are facing the challenge of limited access to health care services by millions of our citizens, and unsustainable cost escalation. In response, health care is changing fundamentally. In the 2012 McMillan Lecture, Jette discusses 3 critical “system skills” that physical therapists must develop to practice successfully in a changing health care environment. First, therapists must become interested in data. Second, they must become skilled in the ability to devise solutions for the system problems that data and experience uncover. Third, the physical therapy profession must develop the ability to implement at scale—the ability to get therapists along the entire chain of care functioning in concert, in collaboration. Jette discusses the American Physical Therapy Association’s Vision 2020 as it relates to these challenges and the degree to which he believes physical therapists are equipped with the system skills needed to function within effective health care systems to identify what works in physical therapy, for what conditions, under what circumstances, and at what cost. Jette articulates a revised vision for physical therapy that includes being a leader in teaching systems skills to practice successfully in interconnected health care teams; being a recognized national leader in implementing evidence-based strategies; using standardized collection, analysis, and dissemination of intervention and outcomes data as a regular part of practice to determine what interventions best improve the health of individuals and society; and being a profession that is a central player in devising, evaluating, and implementing cost-effective health care innovations for communities as well as for individuals.
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s with so many former McMillan awardees, I read through the previous McMillan Lectures as part of my preparation (Fig. 1). They represent illuminating insights into our profession across the decades and a fascinating glimpse into the thinking of many of our profession’s leaders. However, what struck me repeatedly is that, almost to a person, each McMillan lecturer spoke about the impact of Helen Hislop’s Tenth McMillan Lecture, titled “The Not-So-Impossible Dream.” I did not have the pleasure of attending Dr Hislop’s 1975 McMillan Lecture; at the time, I was a graduate student in public health at the University of Michigan and travel to the American Physical Therapy Association’s (APTA) Annual Conference was beyond my means. What was it that brought speakers back to Hislop’s McMillan Lecture, McMillan Lecture after McMillan Lecture, for almost 40 years?

The Tenth McMillan Lecture was unvarnished Hislop: erudite, thoughtful, challenging, and fearless. Hislop characterized a profession in the midst of an identity crisis: a profession that had not arrived, one whose survival was not assured, and one in search of its essential distinction and regard for the future. She challenged us that “our intellect (as a profession) was vagabond” and we were neglecting “the history of ideas and the need for identity at our peril.” She accused us of being “ingenious Philistines and guilty of intellectual treason.” Pretty strong stuff ...

Hislop warned that although outside forces were working to retard our progress, our profession had a “soft underbelly” because of the disarray in our scientific foundation, which left us open to attack against its inadequacies from government, from fiscal agencies, and from the consuming public. She described a profession that was on the defensive and that could not speak with one voice because of the difficulty stemming from its failure to define and agree upon what physical therapy was, its inability to document its own conviction about its value to total health care and to demonstrate its commitment to develop, teach, and apply its scientific principles as effectively as possible.

I can identify with these concerns as I recall my physical therapy education in the early 1970s. I remember the dissonance I felt as a student when I experienced firsthand the “disarray in understanding” of the principles of neurophysiology being taught to me by my physical therapy instructors in contrast to what I was learning from Dr Beverly Bishop, an eminent neurophysiologist and honorary APTA member. Or the embarrassment I felt during my rehabilitation clinical rotation, when one of the neurologists walked in on my Bobath treatment session with a patient poststroke, took one look at what I was doing, and dismissed me with a simple “hocus-pocus” comment and walked away without saying another word.

I wish to use a quote from Hislop’s McMillan Lecture as a metaphor for my talk:

“It is old knowledge in Scotland that the sheep who stand on a rise of ground and face into the storm survive, while those which huddle together for warmth in the low places frequently are suffocated in the snowdrifts.”

We have come so very far since 1975 (Figs. 2 and 3). In my view, much of what Hislop envisioned has been realized by the courage, dedication, and vision of our profession and its leaders over the past 4 decades. Today’s physical therapy profession is not the profession I entered in 1973, nor is it the profession Hislop spoke about in 1975.

Contemporary physical therapy is a vibrant profession with a clear and compelling identity; a profession with an essential distinction, with a unique and compelling regard for the future. We have survived and flourished by facing precisely what Hislop argued we must: today, we provide a unique and distinct service to our patients, a service not equaled in its excellence, breadth, or comprehensiveness by any other profession or group. We are neither irrelevant nor redundant but are respected and valued members of the health care team. And, we are well on our way to grasping control of the scientific foundation of our profession.

Sometimes I feel other professions see this more clearly than we ourselves do....
The single most striking change I have witnessed during my career is the creation of a highly skilled and talented cadre of physical therapy clinical scientists who are forging the clinical scientific foundation for our profession, a development that Hislop argued would be essential to realize our destiny. The science underpinning physical therapist practice is no longer in its infancy; we are well on our way to maturity. The Foundation for Physical Therapy has nourished and nurtured that transformation and deserves our gratitude and generous financial support.

Over the past 3 decades I have observed personally how the perceptions about physical therapists among other professions and scientists have changed. To take one example: In 1990, the National Institutes of Health (NIH) convened a task force of more than 100 clinical scientists in Hunt Valley, Maryland, to examine the adequacy of NIH research aimed at understanding the spectrum of impairment to disability. Out of that task force, which contained only 2 physical therapists (Jules Rothstein and myself), emerged the creation of the National Center for Medical Rehabilitation Research (NCMRR), which just celebrated its 20th anniversary as part of NIH. Last year, just 2 decades later, NIH formed a 13-member blue-ribbon panel to evaluate its medical rehabilitation research. This panel is co-chaired by a physical therapist and previous McMillan lecturer—Dr. Rebecca Craik—and contains 3 members who are physical therapists.

Hislop challenged us that “[t]o each mind is offered its choice... between questing and resting. Take which you please. You can never have both.”1(p1079) I am confident in stating that the time has come to move boldly beyond Hislop’s 20th century dream and face into the gathering storms of the current century, and in doing so take our profession to new heights of accomplishment and achievement. I challenge each of us to choose questing over resting, to look outside ourselves with confidence for a vision for our profession for the 21st century. To do otherwise is to risk the danger to “huddle together for warmth in the low places”1(p1079) and put our survival in jeopardy.

That brings me to APTA’s Vision 20202 and a question of whether in this statement we will find the ideas and inspiration our profession requires to meet the storms of the 21st century, a time of enormous change and transition in the United States. Vision 2020 declares:

- Physical therapy, by 2020, will be provided by physical therapists who are doctors of physical therapy and who may be board-certified specialists.
- Consumers will have direct access to physical therapists in all environments for patient/client management, prevention, and wellness services.
- Physical therapists will be practitioners of choice in patients’/clients’ health networks and will hold all privileges of autonomous practice.3

I enthusiastically share and support our profession’s call for increased access and payment for what we provide. However, that was a vision for the last century, a battle that had to be fought by a profession that was insecure in its adolescence, unsure of its identity or place within society. Such a vision, however, will not serve a more mature profession as it positions itself to meet the storms of the current century. Looking forward, I am profoundly uninspired by such a narrow, inwardly directed vision for our future as a profession. Today, Vision 2020 is neither bold nor visionary, and as Duncan stated in her 2002 McMillan Lecture, “it [Vision 2020] sounds self-promoting and self-aggrandizing.”3(p1020)

In her 2000 McMillan Lecture, Purtilo characterized 2 early periods in physical therapy’s history when we correctly “read” the social landscape and concluded with confidence that society was ready for us to plant the seeds of our professional ethic.4 She called these seasons physical therapy’s Period of Self-Identity and Period of Patient-Focused Identity. In the Period of Self-Identity, Purtilo recalls how we established the moral foundations for a true professional relationship with physicians and other health care professionals, while in the Period of Patient-Focused Identity, we established the moral foundations for a
true professional relationship with our patients and clients.

My desire is for a professional vision that grows out of a culture that has matured sufficiently to strive toward a future that is outward in its orientation, which Purtilo eloquently referred to as a “season [of] physical therapy’s Period of Societal Identity,” where our challenge “will be to establish the moral foundations for a true professional partnering with the larger community of citizens and institutions . . . to become full partners with society.”4(pp 1114, 1117)

APTA’s Vision 2020 was understandable in these earlier periods of our development, but does not sufficiently speak to our emerging Period of Societal Identity. Or as Jensen powerfully argued in her 2011 McMillan Lecture, physical therapy needs to understand “our social contract,” our commitment as a profession “to improving the health of the country.”5(cp1685)

My colleagues, we live in turbulent times, with storms swirling around us. I believe the storms of radical change are gathering, as evidenced in 2010 by passage of the Affordable Care Act. As this or other health care reforms are implemented, it is imperative that we look beyond an inward-directed vision focused on expanding access to and payment for autonomous physical therapist practice. I believe the time has come for physical therapy to stand together on a rise of ground to face outward into the storm of our society’s health care needs with courage and self-assurance as to who we are as a profession and confident of what we uniquely offer society, and not huddle together in the low places of introspection and self-serving advancement.

As a child growing up in western New York, I remember the storms that used to spring up over Lake Erie and the threatening skies that quickly formed all around us. There is no surfeit of societal storms on our horizon; I’d like to discuss 3 and then share with you some of my thoughts on a revised vision for physical therapy.

Lack of Access to Health Care
Today, 91 million people in America have inadequate or no health insurance coverage at all (51 million none, 40 million under insured), or about one third of the population in the wealthiest country ever on earth. This is a tragedy beyond my comprehension. Among the more developed countries, America continues to set the pace for unmet care needs of its citizens, a dubious distinction.6–8

The Age Wave
America is now experiencing a demographic shift of enormous magnitude: increasing longevity, declining fertility, and the aging of the baby boomers are triggering an enormous “age wave.”9 Baby boomers have begun turning 65 years and older, heralding a seismic shift in demographics worldwide that could create a tsunami of disability if our society does not prepare appropriately.10

In the United States, by the year 2035, 1 in 5 people are expected to be age 65 years or older. America’s aging population has profound implications for society, as well as for policy makers and businesses. The baby-boomer generation is looking forward to a life expectancy that is higher than that of any previous generation. With the age wave comes an increase in the incidence and prevalence of chronic, potentially disabling conditions. Such conditions, including heart disease, diabetes, and asthma, are now the leading cause of illness, disability, and death. Yet, today’s health system remains overly devoted to dealing with acute, episodic care needs.10

Costs of Health Care
In 2011, America spent more than $2.7 trillion on health care services. Health care costs have been rising dramatically for several years. In 2008, America spent more than twice the rate of the developed world on health care; 16% of our gross domestic product was consumed by health care, whereas the second-biggest spender, France, was at 11.2%; the average for all developed countries was 9.0%.11

Lack of access to care, the age wave in American society, and escalating costs are major storms facing American society. How should we be responding as a profession?

Gathering Clouds Over Clinical Practice
What neurosurgeon and health care author Atul Gawande has cautioned the medical profession, I submit applies to the physical therapy profession (Fig. 4). Gawande argues: “Health care is changing fundamentally . . . the medical profession can no longer be a profession of craftsmen individually brewing plans for whatever patient comes through the door.”12 I ask you, have we in physical therapy fallen into the same trap as has medicine with our focus on autonomous, independent, self-sufficient practice? Are we focused on practice models better suited for

Figure 4.
Gathering clouds over clinical practice. © Daniel Loretto/Shutterstock Images LLC.
the 20th century and not the 21st century? Are physical therapists ready for models such as accountable care organizations, medical homes, and other methods of bundling services that are focused on more coordinated, interdisciplinary, cost-contained care? Are we playing a leadership role in creating and evaluating these models of care? If not, why not?

Gawande argues that people who work in effective systems develop critical “system skills.” He sees critical skill sets that must be mastered to practice successfully in changing health care systems. First, people in effective systems become interested in data. They put effort into and devote resources to collecting, refining, and understanding what data say about their performance; they collect these data not because some accreditation body requires them to do so, but for their own use. Second, they develop an ability to devise solutions for the problems that data and experience uncover in the systems in which they practice. Third, they develop the ability to implement on a large scale—the ability to get colleagues along the entire chain of care functioning in concert, in collaboration, the ability to disseminate new knowledge into practice. This ability involves discipline, the belief that standardization—doing things the same way every time—can reduce your failures; it involves teamwork and and it involves leadership from professional organizations.

There are several examples I can point to. An example of utilizing systems skills is the work by Delitto and colleagues at Intermountain HealthCare in Salt Lake City where they have integrated a systematic outcomes management system into physical therapy practices across their orthopedic physical therapy clinical network. A third example is the Behling Simulation Center at the State University of New York at Buffalo, my alma mater, which fosters highly collaborative, interprofessional health sciences education with students from multiple health professions’ schools designed to improve interprofessional performance, reduce medical errors, and promote competent and excellent patient care management. The challenge for our profession is to learn how to diffuse innovations such as these “at scale” throughout our profession and our DPT education programs.

### The Positive Deviants

To again quote Gawande, “We can look to the top performers—the positive deviants—to understand how to provide what society most needs: better care at lower cost. And the pattern seems to be that the places that function most as a system are most successful. By a system, I mean that the diverse people actually work together to direct their specialized capabilities toward common goals for patients. They are coordinated by design...they acquire an ability to recognize when you’ve succeeded and when you’ve failed for patients.”

As Don Berwick, former director of the Centers for Medicare and Medicaid Services and the founder of the Institute for Healthcare Improvement, has argued, “Anyone who understands systems will know immediately that optimizing parts is not a good route to system excellence.” Are we a profession that optimizes parts or one that focuses on achieving excellence in systems? Who are the positive deviants in physical therapist practice?

And why are they? How can what they do be emulated on a broad scale throughout our profession?

Are we as physical therapists equipped with the skills needed to function within contemporary effective health care systems? Do we as physical therapists possess and use critical “systems skills,” such as universal standardized measurement and data collection, widespread quality improvement and implementation techniques, interprofessional coordination and care management, diffusion of practice innovations and standardized practice models, and health policy leadership for widespread change, in our practice?

In my view, Gawande is arguing for the development of a skill set antithetical to APTA’s Vision 2020, skills that are the opposite of autonomy, independence, and self-sufficiency. I understand Vision 2020 is currently being revised. I urge the APTA Board of Directors and House of Delegates to shift dramatically our focus from optimizing parts to focusing on our role in the changing systems and society in which we practice...to better identify the positive deviants among us and implement their innovations at scale.

Efforts for change have begun in medicine. For example, the Institute for Healthcare Improvement recently started its Open School, offering free online courses in systems skills such as outcome measurement, quality improvement, implementation, and leadership. When the Institute for Healthcare Improvement opened its Open School, it expected to attract a few hundred medical students; instead 45,000 enrolled. Why can’t we build an Open School designed for physical therapists? And if we build it, would they come? I worry that we have yet to instill the hunger among therapists for such skills, that we remain a
Growing Thunder of Changing Research Priorities

That brings me to the arena of research.

Quality assessment and continuous quality improvement, critical system skills, are knowledge-driven enterprises. Although we know far more today than in the past, we still do not know enough about what works in physical therapy—for what conditions, under what circumstances, and at what cost—to improve the quality of physical therapy care to the greatest extent possible. Effective functioning of the health care marketplace requires that patients, employers, and other consumers have good information for decision making, including knowledge about the performance of health care providers and plans and the efficacy, effectiveness, and cost-effectiveness of health services, both new and established.

Our goal must not be to “prove” that physical therapy works, but to discover what works in physical therapy, for what conditions, under what circumstances, to achieve what outcomes, and at what cost.

Are our scientists equipped to conduct these studies?

The Affordable Care Act that President Obama signed into law in early 2010 created the Patient-Centered Outcomes Research Institute (PCORI), a not-for-profit corporation that is charged with funding comparative clinical effectiveness research. Comparative effectiveness research is designed to inform health care decisions by providing evidence on the effectiveness, benefits, and harms of different treatment options. The evidence is generated from research studies that compare drugs, medical devices, tests, surgeries, or ways to deliver health care. A trust fund, derived from an assessment on public and private health insurance, will grow to yield at least $500 million per year for clinical effectiveness research by 2013. Scientists who wish to engage in comparative effectiveness and innovative health policy and health services research will need to embrace a broad range of methodological competencies in addition to those used in traditional clinical research. Research of this nature will involve:

- pragmatic trials in practice-based research networks,
- analyses of electronic health records and other large-scale, integrated databases,
- observations from clinical registries, and
- sophisticated computer simulations.

Sophisticated outcomes measurement will be another methodological emphasis; this research is meant to inform patient-centered clinical decisions, and outcomes must be measured in terms immediately salient to the patient. These initiatives will demand a mix of research skills and expertise, from clinical epidemiology and health economics to sociology, psychology, and implementation science.

Toward this end, Boston University currently hosts the Boston Rehabilitation Outcomes Measurement Network, an initiative funded by NCMRR/NIH and based at the Health and Disability Research Institute. Our mission is to assist rehabilitation scientists in developing, testing, and using better outcome measures in their research through a pilot grants program, visiting scientist opportunities, workshops, and educational opportunities such as a national, interdisciplinary conference we hosted in June on opportunities for disability-related comparative effectiveness research, supported by the
Agency for Healthcare Research and Quality.

Researchers will need to rigorously focus on answering the questions relevant to typical clinician and patient decision makers. This focus will require a sophisticated understanding of the diversity of communities, cultures, patient perspectives, practice settings, and clinical contexts required to recruit and retain appropriate settings and participants into relevant study networks.

National priorities for health policy research, as articulated by the PCORI, are:

- **Assessment of Prevention, Diagnosis, and Treatment Options.** The research goal is to determine which options work best for distinct populations with specific health problems.
- **Improving Health Care Systems.** This priority focuses on ways to improve health care services, such as the coordination of care for patients with multiple chronic conditions.
- **Communication and Dissemination.** This priority looks at ways to provide information to patients so that they, in turn, can make informed health care decisions with clinicians.
- **Addressing Disparities.** This priority ensures that research addresses the health care needs of all patient populations. This priority is needed, as treatments may not work equally well for everyone.
- **Accelerating Patient-Centered and Methodological Research.** This priority includes patients and caregivers in the design of research that is quick, safe, and efficient.

Are physical therapy researchers prepared to participate in and lead in innovative health policy and health services research? Is the Foundation for Physical Therapy’s tradition of creating a cadre of clinical research scientists the best way possible to position our profession to meet emerging scientific challenges and opportunities such as clinical effectiveness research? Do we need to look to new targets for research funding by the Foundation for Physical Therapy?

We know how to build a cadre of clinical research scientists in physical therapy. I recall how several decades ago, in recognition of a pressing need for clinical science and a dearth of clinical scientists, physical therapy had the foresight to create the Foundation for Physical Therapy and helped build the scientific foundation of contemporary physical therapist practice. Today, these scientists compete successfully at the highest levels of the NIH.

In my view, a new set of research skills are needed by our profession in addition to those of traditional clinical science. As a profession, we need to direct some of our resources to develop a new cadre of scientists, those who can compete for and conduct health services and health policy research needed to address the challenges currently facing us. We cannot leave it to others to conduct this research. We know how to create and nurture scientists, and we have the structure in process with our Foundation for Physical Therapy. What is needed is to redirect our research capacity-building programs to building a cadre of physical therapy health services and health policy research scientists.

Funding needs to be directed to supporting physical therapy predoctoral and junior investigators in health services and health policy research. Furthermore, Centers of Research Excellence in Physical Therapy Health Policy and Health Services Research need to be created and sustained. I have witnessed in rheumatology and gerontology how long-standing Research Centers of Excellence have nurtured the next generation of researchers in those fields. Why not in ours? We have had some success at doing this, most notably at the University of Iowa, the University of Pittsburgh, and the University of Southern California, but have not sustained these efforts over the long term.

Yes, this will take some time, but as I look back to where we were 25 years ago, I am astounded at how quickly progress in clinical research was achieved. We need to redouble our efforts and those of the Foundation for Physical Therapy to create a new cadre of researchers and let them compete at the highest levels. This endeavor will require additional financial support from each of us.

This is not a challenge unique to physical therapy. Michael Crow, President of Arizona State University, has argued that “researchers, policymakers, and the government have failed to recognize that progress in health care results from a complex integration of scientific advances with technological, behavioral, social, and cultural shifts.”

Examples include understanding the impact of behavior on health, our understanding of the science of behavior change, and our ability to influence behavior of providers as well as patients.

Crow argues that the current NIH model is obsolete and will not get us where we need to go in the 21st century. His proposal is to radically reconfigure the NIH model to reflect what we know about the drivers of innovation and progress in health care, including:

1. **A Fundamental Biomedical Systems Research Institute, focused on core questions to understanding human health in all its com-**
plexity (what NIH has always done so well),

2. A Health Outcomes Research Institute, measuring what improves people’s health, and

3. A Health Transformation Research Institute, focused on how to deliver health care in a way that stays affordable to our nation.

Although Crow’s proposal is unlikely to be adopted, it does call attention to the need to make sure we are training physical therapy scientists appropriately so they are prepared to address the research priorities of tomorrow.

Flashes of Lightning: A Revised Vision 2020

Storms either can bring a deluge that destroys all that lies in their path or, if faced directly, can be weathered and make us stronger. In the coming decades, my vision is for a physical therapy profession that faces the growing challenge that America faces to meet the health care needs not only of our patients but also of our society. The Institute of Medicine’s 2007 report, *The Future of Disability in America*, asked “how will Americans individually and collectively make the choices that will help define the future of disability?...Will the country commit to actions to limit the development and progression of physical and mental impairments in late life, promote good health for children and young adults with early onset disability, and reduce environmental barriers for people with existing impairments?” The challenge for us as a profession is to ask how we will individually and collectively make the choices as a profession that will help define the future of disability in America.

Are we ready to embrace the emerging season of physical therapy’s *Period of Societal Identity* with confidence and renewed energy?

My vision includes:

- That the physical therapy profession is a leader in teaching systems skills that therapists need to practice successfully in coordinated, interconnected health care teams.
- That the physical therapy profession is a recognized national leader in implementing evidence-based strategies for health promotion as well as treatment interventions.
- That the physical therapy profession uses standardized collection, analysis, and dissemination of intervention and outcomes data as a regular part of practice at all levels to determine what interventions best improve the health of individuals and society and to identify and emulate the positive deviants within our clinical communities.
- That the physical therapy profession is a central player with other professions in devising, evaluating, and implementing cost-effective health care innovations for communities as well as for individuals.

As *New York Times* columnist David Brooks wrote, “Most successful young people don’t look inside and then plan a life. They look outside and find a problem, which summons their life... Most people don’t form a self and then lead a life. They are called by a problem, and the self is constructed gradually by their calling.” I believe the same can be said of a profession such as ours. I believe that is what our foremothers have done, starting with Mary McMillan, a dedicated pioneer of physical therapy and founding president of APTA. The early history of the physical therapy profession in this country is replete with examples where our foremothers looked outside themselves and focused on a problem that summoned their professional lives, be it the reconstruction aides during World War I, who were employed in hospitals and army rehabilitation camps to work with wounded soldiers, or physiotherapists (Fig. 5), who responded to the polio epidemic in the 1920s and 1930s to reeducate weakened muscles through exercise and the application of thermal hot packs to painful joints (Fig. 6).

Lack of access to care, the age wave in American society, and escalating costs are major storms facing us today as a society and as a profession. How will physical therapy respond?

Will we stand on a rise of ground of our self-identity with self-confidence as a profession and position ourselves with other professions to face
the current clouds and the horizon of the unknowable future? Or will we huddle together for warmth in the low places of our traditional comfort zone? The choice is ours . . .

Dr Jette is director of the Health and Disability Research Institute and professor of the Department of Health Policy and Management, both at Boston University School of Public Health. He has held a variety of positions at the university as well as lecturing and teaching positions at MGH Institute of Health Professions and Harvard Medical School. He earned a PhD and MPH from the University of Michigan, and a BS from the State University of New York at Buffalo.

Dr Jette’s research career has been groundbreaking in the area of disability, with major influence on rehabilitation care, policy, and measurement of outcomes. He publishes extensively, with many articles focusing on key concepts in disablement, including classification systems, common terminology, measurement, and functional outcomes. Committed to mentoring and advancing the research agenda as well as translating results into changing patient care, Dr Jette routinely works with doctoral students, research fellows, and young investigators to promote high-quality projects. He served as chair of the Institute of Medicine’s Task Force, which produced *The Future of Disability in America*. In addition, he has an impressive list of honors and awards, including 6 distinguished lectureships from universities and organizations. A firm believer in dissemination, Dr Jette has served on many editorial boards, including as interim editor of *Physical Therapy (PTJ)*.

In addition to his work with *PTJ*, Dr Jette has served APTA in numerous roles since joining in 1982, is a Catherine Worthingham Fellow, and has earned multiple awards for his contributions to the profession, including the Distinguished Public Service Award of the American Academy of Physical Medicine and Rehabilitation, the Goldsmith Award from the National Rehabilitation Hospital, and the Sidney and Elizabeth Licht Award from the American Congress of Rehabilitation Medicine.

The 43rd Mary McMillan Lecture was presented at the Opening Ceremonies of PT 2012: Annual Conference and Exposition of the American Physical Therapy Association; June 7, 2012; Tampa, Florida.


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