·Special Paper·

Status of the Specialty of Physical and Rehabilitation Medicine

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Abstract

The objectives of this paper are to help specialists in Physical and Rehabilitation Medicine plan their careers, influence the future of the PRM specialty and advocate effectively for those with limitations of functioning. The experiences of the authors are the sources of its observations and suggestions. The senior author has had extensive national and international experience in the specialty as a clinician, teacher, researcher, manager, leader and advocate. The junior author adds the insights of one who only recently has become immersed in PRM.

The following are suggestions and observations the authors believe could contribute to the future success of individual PRM specialists and the PRM specialty. ①Review and reinforce the significant accomplishments of PRM over the last 70 years. It has significantly expanded the focus of health care to include the importance of functioning. ②Identify the specialty′s current strengths, weaknesses, threats and opportunities. As a clinical specialty, it has expanded nationally and internationally, yet its research contributions remain limited. The absence of an evidence base for much of its activity risks reduced support from payers, yet the population needing its services continues to expand. ③Develop strategies to increase the ability of PRM specialists and PRM to improve the lives of people with or likely to have limitations of functioning. These strategies could include sharing best practices, supporting effectiveness research and developing expert consensus guidelines.

The need for physicians who are experts in the strategies of improving the lives of those with complex problems of functioning will continue to expand. This need will assure the continuation of the specialty of PRM as long as it improves the abilities of its members to help those with problems of functioning, and it advocates for those whom its members serve.

Introduction

The objectives of this paper are to provide observations and suggestions to specialists in Physical and Rehabilitation Medicine (PRM) that will help them plan their careers, influence the future of the PRM specialty and advocate effectively for those with or likely to develop limitations in functioning. The experiences of the authors are the sources of these observations and the rationales of their suggestions. The senior author has had extensive national and international experience as a participant in the specialty from many perspectives: clinician, teacher, researcher, manager, leader and advocate. The junior author adds the insights of one who only recently has become immersed in PRM.

Accomplishments of PRM

PRM as a specialty can be proud of its accomplishments over the last 70 years. Its most important contribution has been its success in increasing the focus of health care on the functioning of those receiving its services and on the needs of those with disabilities. Attention to functioning by health practitioners was unusual at the time of the early development of PRM. The presumption was that patients would return to their previous levels of functioning once they recovered from their diseases. Now a number of other specialties emphasize the need to consider how to return their patients to maximum levels of functioning, including family medicine, geriatrics and those treating chronic

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diseases.

A part of this expanded acceptance of the importance of functioning was the success PRM demonstrated in enhancing the abilities of those with severe disabilities to care for themselves and function in their communities, such as those who had strokes, spinal cord injuries and brain injuries. PRM was influential in the development of specialized treatment facilities effective in the care of these patients. Early in its development PRM recognized the need for a team of specialized professionals to accomplish the complex tasks of rehabilitation and emphasized the need for its practitioners to work effectively as a member of such teams. These teams include specialized nurses, the rehabilitation oriented therapies, social workers, psychologists and most importantly, the patient and the patient′s significant others. PRM remains ahead of most other specialties of medicine in its ability to work collaboratively in interprofessional settings.

PRM has made significant contributions to the non-surgical management of musculoskeletal conditions, particularly those resulting from injuries and degenerative processes. Initially it demonstrated the benefits of physical modalities; more recently it has embraced a wide spectrum of treatments, including exercise, manual medicine, posture instruction, injections, acupuncture and other strategies. PRM includes therapies targeting the psychological aspects of musculoskeletal pain, both acute and chronic. It focuses on improving the ability of its patients to participate in meaningful lives even if some residual pathology remains.

In the United States, PRM specialists incorporated electromyography and nerve conduction studies as a core component of their specialty before its general acceptance by other medical specialties including neurology. The use of these techniques by PRM specialists was a major contributing factor in its growth and acceptance in the US.

Strengths of PRM

The demonstration of the effectiveness of teams (including the patient and family) as opposed to the individual professionals in restoring function is one of the greatest assets of PRM.[1] This approach facilitates incorporating the goals of the patients and their families into their treatment plans. There has been widespread acceptance of this rehabilitation focus on teams and patient centered care for helping patients with diagnoses as diverse as addiction, transplant medicine, and congestive heart failure. PRM works to bridge the transition between acute care hospitals and return to life participation.

PRM specialists have options to practice in multiple settings, both inpatient and outpatient. This diversity makes it an attractive specialty to physicians with different interests. PRM specialists treat inpatients in acute hospitals, specialized rehabilitation hospitals and nursing homes. In the outpatient setting, they treat a wide range of diagnoses including the comprehensive non-surgical treatment of neuromusculoskeletal conditions and chronic pain. The patients PRM specialists treat in both the inpatient and outpatient settings often are complex; thus their treatment is challenging, interesting and rewarding.

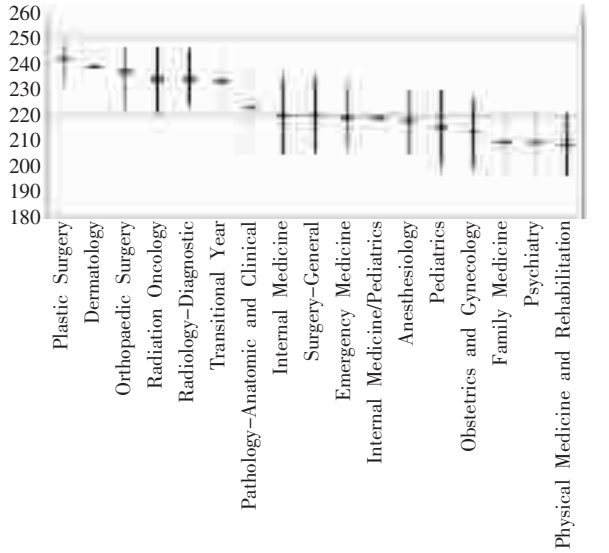
Weaknesses of PRM

The greatest weakness of PRM is the lack of a robust evidence base. Unfortunately, the revolutions in genetics and molecular biology do not apply to many of the PRM treatment strategies. Many PRM treatments lack classification by a typology specific enough for research models to test them. For example, what is the optimal intensity and duration of exercise for a recovering stroke patient? This lack of research includes information on the cost-effectiveness of PRM and rehabilitation treatments. As health systems become more concerned with costs, this lack of cost-effectiveness information could limit the resources available for PRM treatments..

Resource limitations already are weakening the PRM specialty. There are a limited number of fully trained PRM specialist and researchers. PRM has the second lowest number of NIH grants among medical school departments in United States.[2] PRM and rehabilitation services are often not a priority in health schemes. The limited number of rehabilitation beds and restrictions in the payment of rehabilitation services are reflections of this low priority. Another weakness is that PRM in the US has had less success than other fields in recruiting the most talented young physicians (Fig1).

PRM has not been effective in raising awareness among the public and other physicians of what it does and who it treats. In United States 50% of primary care physicians still confuse physiotherapy with PRM.[3] Medical students are relatively unaware of the specialty, or uninterested in a rehabilitation oriented practice.

Fig1 Median USMLE Step 1 Score for Matched US Seniors(vertical lines show interquartile range)



Source:NRMP Data Warehouse and AAMC Data Warehouse. USMLE scores by permission of NBME.

Threats to PRM

Because many PRM and rehabilitation treatments lack a strong evidence base, some policy makers believe PRM and rehabilitation providers over utilize scarce resources for unnecessary treatments and therapies.[4] Furthermore, the broad scope of PRM sometimes works against it as neurologists, orthopedists, physiotherapists, chiropractors, and primary care physician′s compete to care for people with or likely to have disabilities. Acute rehabilitation care must compete with other, often less costly, options such as home care and skilled nursing facilities without PRM specialists.

Opportunities for PRM

In spite of these challenges, there remains a large global need for PRM services. Ten percent of the world′s population has a disability.[5] Disability extends across life spans. For every child killed in warfare, three are injured resulting in disability.[5] In countries with a life expectancy over 70, 8 years will be spent with a disability.[5] Preventing disability in older adults may be the most important healthcare challenge of the future from the demographic changes projected for the developed world. Among working adults, disability results in seeking care and lost work time. It is estimated that in United States musculoskeletal diseases cost $849 billion or 7.7% of the GDP in the year 2004.[6]

The authors have a number of recommendations they believe can improve the future impact of PRM on the lives of those with or likely to have disabilities. These recommendations are as follows.

Improving PRM Impact

It is critically important that PRM specialists maintain up to date technical competency. Perhaps the greatest contribution societies like the International Society of Physical and Rehabilitation Medicine (ISPRM) can make to PRM is to contribute to the maintenance of technical competency. It is important to develop and disseminate consensus statements and practice guidelines to ensure that practitioners have guidelines based on all available scientific evidence and supplemented where there is not evidence with the consensus of experts. This process would require monitoring new science for translational applications to PRM. The result may be educational programs that emphasize new knowledge applications. The preferred format might be workshops which emphasize interactions such as exchanges of ideas and demonstrations of techniques. Such an approach can utilize the unique advantages of the ISPRM with its international membership.

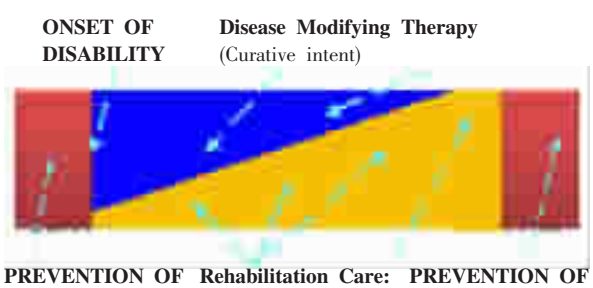
PRM needs to develop strategies to access the new scientific knowledge developed by molecular biology; genetics and cell biology, especially as it relates to motor control, homeostasis, the impact of immobility and the biochemical impact of movement. Given the holistic nature of PRM care, it will be important to access science beyond the biological sciences to include teamwork models and effective communication methods which are presently used in the business world. PRM will need to further understand personnel management and how to incorporate overlapping skill sets into the practice of PRM.

PRM must focus its clinical and research efforts on meaningful outcomes such as activity and participation. It will no longer be satisfactory to just delineate the predictors of falls in the rehabilitation setting; it will be necessary to develop effective methods to prevent them. PRM must focus on the interventions that don′t just improve gait speed, but improve the speed of discharge to home. It needs to find interventions that move beyond reducing pain intensity to reduce time off work.

PRM must expand the scope of its practice to span the entire continuum of the disability episode. This includes prevention, acute care, acute rehabilitation, outpatient follow-up, and integration into the community. Ideally, PRM specialists would be present at every step of the way. A model of care similar to palliative care would be a good conceptual framework for advancing PRM care across the continuum of disease(Fig2).

Fig2 PRM Care Across the Disease Continuum

Adapted from the work of the Canadian Palliative Care Association and Frank Ferris, MD.



In addition, PRM needs to emphasize the importance of critical thinking, an analytical approach to patient care that emphasizes problem solving. It needs to be able to incorporate new research into practice and move away from the mentality of "because I've always done it that way." It is doubtful that evidence based medicine will ever be able to answer all of the clinical questions which arise in practice. For this reason, it will be important for PRM to pursue interventions for which there is evidence, avoid interventions for which there is no evidence, and apply clinical judgment when the evidence is not clear. We need to pair with basic scientists and other medical professionals to become innovators in biotechnology, microelectronics, communications, computers, educational technologies and robotics, as Bruce Gans has outlined in a previous address.[1]

PRM specialists using evidence-based medicine, critical thinking, and technical competence to achieve clinical excellence will not be sufficient alone to advance the cause of patients with significant limitations in functioning. PRM must also advocate for people with disabilities in an organized way. Strategies for this include collaborating with like-minded specialist and nonprofit groups who share the goals of this advocacy. Through the ISPRM, PRM specialists need to provide PRM input to the World Health Organization (WHO). The ISPRM must build upon its existing international exchange program. It should expand its capability to provide rehabilitation help in response to disasters such as the 2008 earthquake in Sichuan province and the 2005 Hurricane Katrina in the United States. As a long term goal, the ISPRM needs to support the advancement of rehabilitation in developing countries where PRM currently does not have a major presence. In these countries, impairments may have quite different etiologies than in the developed world and require unique rehabilitation responses. The ISPRM should also advocate for the rehabilitation strategy to be a part of all of the health encounters provided by all health workers.

Conclusions

The medical specialty of PRM is interesting, diverse, interdisciplinary, growing, and an increasingly international field. Its goal of improving function is aligned with society's interest and the needs of people with disabilities. It is limited by the lack of an extensive evidence-base. PRM will be able to improve its impact in the coming decades if it incorporates into its clinical programs the new knowledge learned by the basic sciences, develops consensus guidelines based on evidence whenever possible, and addresses all factors that influence functioning.

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