

**FROM THE EDITORS' DESK**

## Meeting the Growing Need for Pediatric Rehabilitation Medicine Physicians



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### Abstract

Disability in childhood is on the rise. In light of the national shortage of pediatric rehabilitation medicine physicians to provide care for the growing population of children with disabilities, the field of pediatric rehabilitation medicine should consider allowing pediatric trainees into pediatric rehabilitation medicine fellowships. There are concerns about how best to train these fellows. This commentary discusses the issues and concludes that training opportunities should be developed to allow pediatricians to become pediatric rehabilitation medicine physicians.

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Childhood disability is on the rise.<sup>1,2</sup> Children with disabilities have more health care needs and more unmet needs for health services.<sup>3</sup> As a field, pediatric rehabilitation medicine (PRM) plays a vital role in the care of these children. This is true now more than ever because of the increasing advances in lifesaving treatments and the growth of childhood chronic conditions, of which many are associated with disabilities.<sup>2</sup> PRM physicians are uniquely trained to improve quality of life and advance patient-important outcomes for children with disabilities.<sup>4</sup> For children with disabilities and their families, PRM physicians are important “neighbors”<sup>5</sup> for the pediatric medical home,<sup>6</sup> and often assist in creating strong family-provider-community partnerships, a cornerstone of a well-functioning medical home neighborhood.<sup>7</sup> Additionally, we are often asked (and want) to follow-up adults with pediatric-onset conditions because there are limited providers who are comfortable caring for this population,<sup>8</sup> many of these adults continue to receive care in pediatric facilities,<sup>9</sup> and the transition for youth with disabilities is notoriously challenging.<sup>10</sup> With the Affordable Care Act, many pediatric providers and hospitals are intending to delay transition to adult care for some patients until the age of 26 years.<sup>11</sup> For all of these reasons, many young people with disabilities will continue to benefit from the care of the PRM physician.

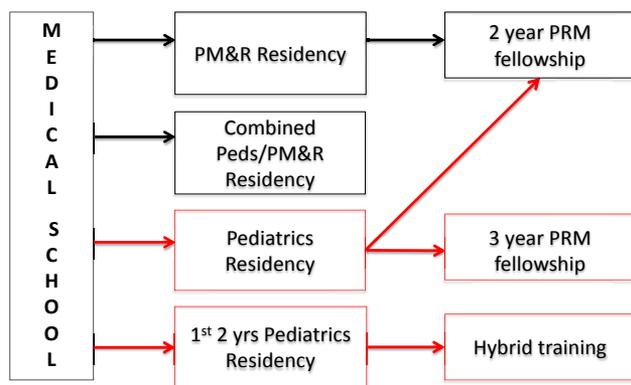
### Shortage of PRM physicians

There is a national shortage of PRM physicians in the United States.<sup>12</sup> This is evidenced by the number of unfilled open pediatric rehabilitation physician faculty positions each year (estimated to be approximately 25), the dispersion and concentration of pediatric rehabilitation physicians that leaves vast areas of the country uncovered, and the unmet needs of the population.<sup>3,13-15</sup> PRM faces serious challenges recruiting trainees.<sup>15</sup> Fellowship spots go unfilled year after year. Since the reduction in combined pediatrics/physical medicine and rehabilitation (PM&R) training programs, some medical students who do not match are lost to pediatric programs and therefore cannot become PRM physicians (they may still care for children with disabilities as general pediatricians, child neurologists, neurodevelopmentalists, or developmental and behavioral pediatricians).

### Making the case for pediatric residents to enter PRM fellowships: the value of pediatric-trained PRM physicians

The value of having pediatricians as PRM physicians is clear, and of note, approximately half of all practicing PRM physicians are pediatricians.<sup>14</sup> These physicians were trained and have much more extensive expertise in the management of critical, acute and chronic pediatric medical issues. As the care of children with disabilities becomes more complex, having expertise in acute management will become increasingly important. Additional benefits include a strong

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**Fig 1** Current (black) and proposed (red) pathways for PRM training.

focus on family-centered care, knowledge of typical and atypical development, the life course perspective, experience with behavioral/mental health disorders that manifest in childhood, and exposure to both common and rare conditions of childhood.

Given the growing need for PRM physicians and the current shortage of PRM physicians around the country, it is obvious that the field is in dire need of expansion. Because of the known value of pediatric-trained PRM physicians in the field, it is appropriate to consider inviting pediatric trainees into our PRM fellowships. The precedent for this in the field of PM&R is extensive. Currently, PRM is the only fellowship training program within PM&R that is restricted to trainees graduating from PM&R training programs. Unlike spinal cord injury medicine certification, for example, which is offered to all diplomats of all American Board of Medical Specialties boards, PRM certification is limited to American Board of Physical Medicine and Rehabilitation (ABPMR) diplomats only.<sup>4</sup>

## Available training pathways for PRM physicians

Before embarking on a discussion of the development of a new training pathway, it is important to understand how PRM physicians are currently trained. There are 2 main pathways (fig 1). The first is completing a 4-year PM&R residency and then entering a 2-year PRM fellowship. The second is completing a combined 5-year training in pediatrics/PM&R. Of note, many physicians without formal fellowship or pediatrics training consider themselves PRM physicians but have not been recognized as such by the ABPMR. In addition, a limited number of practitioners have completed residencies in both pediatrics and physical medicine separately and consecutively, comprising 6 years of training with limited exposure to specific pediatric rehabilitation training opportunities.

The Accreditation Council for Graduate Medical Education (ACGME) currently accredits 19 two-year programs in PRM training with 22 current fellows. In addition, there are 4 combined

### List of abbreviations:

ABP	American Board of Pediatrics
ABPMR	American Board of Physical Medicine and Rehabilitation
ACGME	Accreditation Council for Graduate Medical Education
PM&R	physical medicine and rehabilitation
PRM	pediatric rehabilitation medicine

**Table 1** PRM fellowship and pediatrics/PM&R training spots available and percentage filled

Training	2011	2012	2013	2014	2015
ACGME-accredited fellowship training programs	16	16	17	17	19
Fellowship positions offered in NRMP specialty matching service*	†	†	21	16	17
Applicants who ranked PRM fellowship	†	†	18	11	12
Positions filled* (%)	†	†	71.4	62.5	70.6
Candidates not matched to a PRM fellowship*	†	†	3	1	0
Peds/PM&R training programs	4	4	4	4	4
Peds/PM&R positions offered in NRMP resident match <sup>†,§</sup>	3	2	3	3	1
Applicants ranking Peds/PM&R positions <sup>§</sup>	6	6	11	9	8
Positions filled <sup>†,§</sup> (%)	66.7	100	100	100	100
Candidates not matched to a Peds/PM&R residency <sup>§</sup>	4	4	8	6	7
Total candidates entering PRM training	†	†	18	13	13

NOTE. Values are n or as otherwise indicated.

Abbreviations: NRMP, National Resident Matching Program; Peds, pediatrics.

\* Results and data. Specialties matching service. February 2015. Available at: [www.nrmp.org](http://www.nrmp.org).

† PRM fellowships began using the NRMP for positions starting in July 2013. Therefore, numbers of fellowship trainees entering training before 2013 not verifiable.

‡ The number of Peds/PM&R positions is the number reported by the NRMP following the Match. Additional positions may have been offered but not filled in the Match and then reverted to another specialty position such as general pediatrics.

§ Results and data. 2015 main residency match. April 2015. Available at: [www.nrmp.org](http://www.nrmp.org).

pediatrics/PM&R programs currently training 13 residents. The number of fellowship spots has more than doubled in the past decade, improving the capacity to train. However, the number of interested trainees has not kept pace, leaving fellowship programs unfilled (table 1). Conversely, the number of combined pediatrics/PM&R programs has declined. The combined programs collectively have more applicants than slots, leaving candidates to either choose pediatrics or PM&R residencies.

Unfortunately, there is only one pathway for a trainee in general pediatrics who has an interest in caring for children with disabilities to gain the knowledge, experience, and expertise to become a PRM physician. A pediatrician would need to complete an additional 3 years of training in an ACGME-accredited PM&R program with either 6 months devoted to pediatric rehabilitation during PM&R training or an additional 2-year fellowship in PRM. Because of limited funding mechanisms to allow for a physician to complete an additional residency program and the scarcity of PM&R programs that could accommodate 6 months devoted to pediatric rehabilitation, the opportunities are extremely limited. As a result, many of these trainees pursue training in similar fields of pediatrics. It is likely that a subset of these individuals who pursued one of these other training programs would have potentially chosen the field of PRM if it had been made available to them (see table 2 for the number of trainees in the similar fields).

**Table 2** 2015 match statistics for similar fields

Field	No. of Current ACGME-Accredited Programs	No. of Trainees Ranking Positions in 2015 NRMP	No. of Matched Trainees in 2015	Total No. of Trainees (2015–2016)
Child neurology*	73 <sup>†</sup>	292 <sup>†</sup>	126 <sup>†</sup>	368 <sup>‡</sup>
Neurodevelopmental disabilities*	8 <sup>†</sup>	13 <sup>†</sup>	4 <sup>†</sup>	20 <sup>‡</sup>
Developmental and behavioral pediatrics	38 <sup>§</sup>	38 <sup>§</sup>	30 <sup>§</sup>	105 <sup>§</sup>

Abbreviation: NRMP, National Resident Matching Program.

\* Numbers include positions offered for postgraduate year 1 (PGY-1), PGY-2, and R positions. (R positions are positions offered to trainees who have already completed previous postgraduate medical education.)

<sup>†</sup> Results and data. 2015 main residency match. April 2015. Available at: [www.nrmp.org](http://www.nrmp.org).

<sup>‡</sup> Data accessed on September 11, 2015, from the ACGME website ([www.acgme.org/ads/Public/Programs/Search](http://www.acgme.org/ads/Public/Programs/Search)).

<sup>§</sup> Results and data. Specialties matching service. February 2015. Available at: [www.nrmp.org](http://www.nrmp.org).

Approximately two thirds of pediatric subspecialists identify their subspecialty passion during residency training.<sup>16</sup> Therefore, not having an option to enter PRM training after pediatric residency eliminates a potential pool of passionate trainees. Given that approximately half of all pediatric residency trainees plan to pursue subspecialty training,<sup>17</sup> offering a PRM fellowship would enhance our ability to serve the growing population of children and youth with disabilities.

### Feasibility of a PRM fellowship after pediatrics residency

The first question posed by a subset of the PRM fellowship directors is whether graduates of pediatrics residencies can be trained to be successful PRM physicians. The brief answer is clearly yes. The whole-person functional approach is currently

imparted on residents, nurse practitioners, and physician assistants so certainly can be taught to pediatrician fellows. Just as PRM fellows are trained in the family-centered pediatric approach to care for children, pediatricians in PRM fellowships would learn the whole-person functional approach to care. Fellowship training would need to be tailored to the educational needs of the entering pediatrician. Pediatric residents will have already rotated through developmental pediatrics, child neurology, and many of the subspecialties that current PRM fellows experience, but they would need exposure to common rehabilitation conditions.

### Possible training pathways for pediatricians entering PRM fellowship

Based on training pathways in other disciplines and our own, there appear to be 3 reasonable options (see [fig 1](#)): (1) a 2-year fellowship after a 3-year pediatrics residency; (2) a 3-year fellowship after a 3-year pediatrics residency; or (3) a hybrid training program of 2 years of pediatrics residency followed by 3 years of additional training (similar to the Neurology with Special Qualification in Child Neurology as developed by the American Board of Psychiatry and Neurology). The 2 fellowship tracks would differ by adding year of research, and both would need to meet criteria already established for the fellowship by the ACGME and the ABPMR. The third pathway would require collaboration of the American Board of Pediatrics (ABP) and ABPMR. A model for this collaboration exists currently for training in combined pediatrics/PM&R. [Table 3](#) details each of the 3 potential pathways with their distinguishing characteristics. Because the pediatrician entering fellowship would need to learn the essentials of PM&R, training in adult rehabilitation would be essential, especially for low-volume clinical conditions that are part of the PRM physician’s repertoire such as limb deficiency and spinal cord injury. Admittedly, this clinical pathway would not yield graduates with extensive expertise in physical medicine or adult rehabilitation medicine, but the intention would not be to do so. Individuals wishing that expertise would be best served in a PM&R residency.

The decision to require a third year of training (a scholarly year) is complicated. Including a scholarly year would make the training program look similar to all the other accredited pediatric subspecialty fellowships and would advance much needed research in the field. However, more than half of surveyed pediatric subspecialists would have eliminated their research year

**Table 3** Comparison of training options for pediatrician PRM fellows

Characteristic	2-y Fellowship	3-y Fellowship	5-y Hybrid
Total months of training	60 (3y+2y)	72 (3y+3y)	60 (2y+3y)
Requirements to meet ACGME standards	<ul style="list-style-type: none"> <li>• 12mo of inpatient and outpatient PRM,</li> <li>• 2mo of research,</li> <li>• 4mo of subspecialty pediatrics, and</li> <li>• 6mo of adult rehabilitation medicine</li> </ul>	<ul style="list-style-type: none"> <li>• 12mo of inpatient and outpatient PRM,</li> <li>• 12mo of research,</li> <li>• 4mo of subspecialty pediatrics,</li> <li>• 6mo of adult rehabilitation medicine, and</li> <li>• 2 additional months</li> </ul>	<ul style="list-style-type: none"> <li>• 26mo of core required pediatrics,</li> <li>• 12mo of inpatient and outpatient PRM,</li> <li>• 2mo of research,</li> <li>• 8mo of subspecialty pediatrics, and</li> <li>• 12mo of adult rehabilitation medicine</li> </ul>
Research exposure	Limited	Extensive, similar to all ABP fellowships	Limited
Decision time to enter training	In time for Match in 3rd year of residency	In time for Match in 3rd year of residency	End of 1st year or early in 2nd year of residency

**Table 4** Concerns raised by PRM fellowship directors with responses

Question/Concern	Response
Who is going to take ownership of the certification and Maintenance of Certification?	<ul style="list-style-type: none"> <li>• ABPMR would continue to manage initial certification and maintenance of certification.</li> <li>• PM&amp;R training programs would continue to lead the training.</li> <li>• One half of PRM physicians are pediatricians, and adding a few more won't change the aforementioned relationships/responsibilities.</li> </ul>
Medical student might choose pediatrics residency instead of PM&R because it is a shorter and therefore easier path.	<ul style="list-style-type: none"> <li>• Pediatrics residency is not easier than PM&amp;R residency. While pediatrics residency is 1 year shorter than PM&amp;R residency, pediatric residents log more hours in training.</li> <li>• Some may, especially those who already know that they are dedicated to the care of children with disabilities and did not match in a combined pediatrics/PM&amp;R program.</li> </ul>
Will PM&R lose membership to their national organizations?	<ul style="list-style-type: none"> <li>• There would not be an actual loss of membership; the pediatric providers are not on the membership rolls now.</li> <li>• This could potentially be a problem if the national organizations exclude members who do not hold primary PM&amp;R certification.</li> </ul>
Will the pediatrician have the skills necessary to facilitate rehabilitation management of persons with congenital disorders throughout their lifetime or appropriately counsel patients regarding aging with a disability?	<ul style="list-style-type: none"> <li>• Many adult PM&amp;R physicians do not feel skilled at managing childhood-onset disorders across the lifespan.</li> <li>• Lifespan rehabilitation training could be a part of the fellowship.</li> <li>• Pediatricians entering a PRM fellowship would most likely manage children, minimizing this concern.</li> </ul>
How can someone learn the "rehab way of thinking" without a PM&R residency?	<ul style="list-style-type: none"> <li>• We train NPs and PAs to do this all the time.</li> <li>• The essence of rehab can be taught at any level of physician training. Just because an individual has completed a residency in another field does not mean that he/she cannot learn the "rehab way of thinking."</li> <li>• Currently, in PRM fellowships, we train adult-trained PM&amp;R physicians to approach patient care from the pediatric perspective. To claim that the reverse cannot be true is insulting to the intelligence and capabilities of pediatricians.</li> </ul>
We should be focusing on recruiting more PM&R residents to enter PRM fellowships.	<ul style="list-style-type: none"> <li>• Pediatricians are familiar with team-based and family-centered care.</li> <li>• Yes, absolutely!</li> <li>• But there will continue to be a need for PRM physicians even if more PM&amp;R residents enter PRM fellowships.</li> <li>• Because the pay is generally less in PRM than in PM&amp;R, and the fellowship is 2 years instead of 1, many PM&amp;R residents consider but ultimately do not pursue PRM fellowships.</li> </ul>
Couldn't we fill the gaps in care with physician extenders?	<ul style="list-style-type: none"> <li>• While NPs and PAs can be invaluable members of our teams, they cannot practice alone and cannot replace physicians.</li> <li>• The qualifications of a pediatrician trained in PRM far exceed the qualifications of an NP or a PA.</li> </ul>
PM&R-trained PRM physicians will get crowded out by pediatrics-trained PRM physicians.	<ul style="list-style-type: none"> <li>• It would take a long time for this to occur since the potential number of possible pediatric trainees is also very small.</li> <li>• One half of PRM physicians are already pediatricians.</li> <li>• Programs should remain proactive to ensure that there are options for PM&amp;R residents to enter PRM fellowships.</li> </ul>
There won't be enough exposure to PM&R problems and management.	<ul style="list-style-type: none"> <li>• Our fellowships already vary substantially in exposure to certain clinical scenarios (eg, limb deficiency).</li> <li>• Training would need to be tailored to address deficiencies.</li> <li>• Training would include adult PM&amp;R rotations for adequate exposure.</li> <li>• To ensure adequate training, it is likely that only a few of the existing fellowships have the volume and capability to train pediatricians in PRM.</li> </ul>
We would need the PRM fellowship to be 3 years for incoming pediatricians because otherwise PRM would be devalued compared with other pediatric subspecialties.	<ul style="list-style-type: none"> <li>• Pediatric fellowships are 3 years with 1 year dedicated to research.</li> <li>• Advancing the research capabilities in the field of PRM is ideal.</li> <li>• Only a handful of fellowship programs have adequate research programs to support a year of research.</li> </ul>

Abbreviations: NP, nurse practitioner; PA, physician assistant.

in favor of a 2-year fellowship,<sup>18</sup> which means that the added year may act as a deterrent for entry into the fellowship. Furthermore, there are only a few existing PRM training programs that could offer robust research training. One potential solution would be to have 2- or 3-year fellowship options

available for programs that had robust research capabilities and the funding to support the added year of training.

While not being actively discussed by the PRM fellowship directors, the hybrid model should be considered. The hybrid training model would require significant collaboration between

the ABPMR and the ABP. The 2 boards have successfully collaborated for the combined pediatrics/PM&R programs, and the ABP and ACGME have supported many other combined training programs such as Triple Board (pediatrics/psychiatry/child psychiatry). With the use of child neurology as a model (24mo pediatrics, 12mo adult neurology, 12mo clinical child neurology, 12mo selectives/electives), the hybrid curriculum would need to be constructed differently than the current 2-year fellowship. Similar to the program requirements for PRM, there would need to be a distinction that this training would be for pediatric rehabilitation medicine and not specifically encompassing the physical medicine component of PM&R. With that in mind, many components of a traditional PM&R residency would not be necessary to train a PRM physician. For example, it would be beneficial for pediatric residents to have an exposure to conditions in which they have little exposure to in their pediatric or PRM training alone (spinal cord injury, limb deficiency, burn rehabilitation, nerve disorders, and prosthetics prescriptions). But, it would be unnecessary for these trainees to have the extensive exposure to musculoskeletal medicine, therapeutic injections, and electrodiagnostic medicine because of the limited use of these interventions in PRM.

## Opening the dialogue: pediatricians training in PRM fellowships

There has been a groundswell of support for pediatricians entering PRM fellowships because of the national shortage of PRM physicians despite continued efforts to inform medical students about the field and encourage PM&R residents to do PRM fellowships. However, as the conversation progressed between PRM fellowship directors, there has been a mix of welcome and hesitation. Those voicing concern are worried about ownership of the field and question whether the field of PM&R will lose pediatric rehabilitation to the field of pediatrics. The PRM fellowship directors have not discussed the hybrid model, but if such a discussion would occur, it would likely yield similar concerns. [Table 4](#) identifies the major concerns and provides responses for further consideration.

## Conclusions

Given the rise in childhood disability, the high rates of unmet needs among children with disabilities, and the national shortage of PRM physicians, the time has come to allow and encourage pediatric residents to enter the field of PRM. While some leaders in PRM feel trepidation about how the field might change, the care of children with disabilities should be our primary concern. How to best train pediatricians as PRM physicians will need to be determined. Certainly special attention should be paid to ensure adequate training in the fundamentals of rehabilitation. Many existing fellowship programs could accommodate this because of their strong PM&R programs and their high patient volumes. Moving forward, PRM leaders should discuss training options and present their recommendation to the American Board of Physical Medicine and Rehabilitation.

## Keywords

Fellowships and scholarships; Internship and residency; Pediatrics; Rehabilitation

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