

Postprofessional Cartography in Physical Therapy: Charting a Pathway for Residency and Fellowship Training

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Remarkably little is known about what constitutes a good residency or fellowship training program. In contrast to entry-level programs, where educators are tasked with the profound job of taking learners along an established path from foggy undergraduates all the way to entry-level professional physical therapists, the job of residency and fellowship educators is sometimes more

subtle and difficult to articulate. Developing advanced clinical reasoning, communication skills, use of evidence, and patient-management approaches beyond entry-level competencies for students of various levels of education and backgrounds creates unique and diverse teaching challenges. There is no gold standard and precious little evidence to guide us on how best to sequence and pace residency/fellowship curricula, integrate mentoring into didactic and clinical coursework, conduct examinations, and measure the impact of training on patient care. To this end, we'd like to congratulate Drs Rodeghero, Wang, Flynn, Cleland, Wainner, and Whitman

on their paper, "The Impact of Physical Therapy Residency or Fellowship Education on Clinical Outcomes for Patients With Musculoskeletal Conditions."⁶ This is a significant first step in the effort to explore that most important challenge of any health profession's educational initiatives: did training result in improved patient outcomes? Like most first steps, this paper did not offer results that were perfectly in line with expectations, and that is what is so interesting about it.

We must first acknowledge the results that we expected before exploring the observed aspects that we might not have expected. Logically, it makes sense to us (and likely to most readers) that the

highest level of clinical training—specifically, fellowship education—resulted in the most efficient clinicians with the best likelihood for positive patient outcomes. This is a significant positive statement supporting fellowship training. The surprising result of this study was that physical therapists who had completed residency training did not show patient outcomes or clinical efficiency similar to those of nonresidency or fellowship-trained clinicians. Beyond the study limitations suggested by the authors, there may be additional questions to consider that can begin to explain these results:

1. What is the impact of referral patterns and clinic business models on efficiency-of-care outcomes? It's no secret that business models impact care pathways. In large health care systems, physical therapy visits may be significantly limited by volume and drastically different from those at smaller clinics, which may only survive financially with a higher number

of follow-up visits. Similarly, certain referrers to physical therapy are more or less prescriptive, which can also impact care for a particular patient or group beyond the clinical skill of the therapist, thereby limiting the ability to make inferences about clinical efficiency and the effects of residency/fellowship training on it.

2. How did patients enjoy their experience with clinicians of various levels of training? In the current competitive health care market, organizations strive to achieve patient satisfaction to recruit and retain health-plan members. A highly skilled clinician may or may not achieve high patient satisfaction. Superior functional status changes and efficiency in the number of visits do not necessarily translate into meaningful benefit to patients, as the study authors recognized. As the authors go forward with further research with the Focus On Therapeutic Outcomes, Inc database, we challenge them to attempt to link patient satisfaction scores to their outcomes measures and to examine in more detail patients who did not have complete data sets. These patients might have elected to stop therapy due to worsening conditions.
3. Are clinician age and years of experience confounding factors in this analysis? The group of residency-trained clinicians had less experience and were younger overall than the clinicians in the other 2 groups. Perhaps the passage of time has some impact on the development of expertise and could explain the superior outcomes observed for the largely older and more experienced clinicians without residency or fellowship training.

This research also facilitates excellent dialog about other areas of residency and fellowship education, specifically, the diversity of models that exist within our profession, the impact of research on policy for residency and fellowship training, and the development of optimal outcomes measures overall.

As the current and former directors of the nation's oldest physical therapy fellowship program, our perspective is unique.⁴ Over the last 20 years, our faculty have made important contributions to the development of standards and policies by which residencies and fellowships are accredited, as our program served as a natural example for those that followed. In recent years, as more residency and fellowship programs have developed, so has the diversity of educational models (ie, on site, distance based, timing and style of supervision, etc). While Rodeghero et al⁶ did not report on the specific pedagogy of residency or fellowship programs included, it is fully possible that some of these models are more effective and others less so. However, without proper investigation into outcomes, the profession and consumer are forced to accept all program models, provided they cross the t's and dot the i's that result in accreditation. Within manual therapy programs, arguably the most mature sector in the fellowship and residency arena, great diversity in treatment philosophy, clinical reasoning models, and pacing of educational programs exists. Some programs utilize a closely integrated clinical supervision model, whereas others lean toward pragmatic flexibility to reach more learners. Even spinal manipulation, arguably one of the hallmark skills of a manual physical therapist, is taught with astounding diversity and thus utilized quite differently among graduates of manual therapy fellowships.

While the particular model of residency and fellowship education served as a potential confounding factor in the current study, it should be a focus of researchers investigating residency and fellowship education and a broader strategic focus of policy makers within the profession. Dr James Gordon, in his 2014 McMillan lecture, "If Greatness is a Goal,"² challenged the profession to work toward standardizing curricular competencies in physical therapy professional programs to achieve a reputation of professional excellence, to enable us to achieve rec-

ognition as practitioners of choice, and to practice as autonomous professionals. The same challenge should be a priority for physical therapy residency and fellowship education.

In 2002, the Accreditation Council for Graduate Medical Education, which oversees medical residency education, changed the accreditation process and structure to a more outcomes-driven model.¹ While not without controversy, this complex and major paradigm shift in graduate medical education was aimed at enhancing the medical profession's ability to verify that graduates of residency programs were competent to deliver safe and effective patient care, especially in view of the rapid, tumultuous changes that have occurred in health care delivery.

Is there an opportunity to similarly standardize aspects of physical therapy residency and fellowship education by developing core competencies so that we may all speak the same language across programs? By developing core competencies that cross specialty areas, we have an increased potential to utilize large databases like the one utilized by Rodeghero et al⁶ and to compare aspects of different programs head to head. We may be able to discern which educational models are most effective in advancing functional outcomes and patient satisfaction.

Another important point to consider when determining the benefits of residency and fellowship education is how research questions can impact the growth and sustainability of these programs. To this end, perhaps the role of quantitative investigations may be limited. Qualitative approaches have been proposed and conducted to study the factors that contribute to expertise in physical therapy.^{5,7} The impact of qualitative research can serve a critical role to help fully paint the picture of the true outcomes and benefits of residency and fellowship education. Indeed, we know that expertise in physical therapy is multidimensional and is about much more than just patient functional outcomes.³ Residency and fellowship directors frequently articulate feedback

that they receive from their learners. Sometimes, prior to entering a program, residents and fellows-in-training have some difficulty identifying what benefits they can expect to reap. However, after the program has been successfully completed, many express that they don't know how they could have continued in the field without this educational experience. What precisely was it that made such an impact on these learners? Would this clinician have truly left the field without having completed this program? While we suspect that improved efficiency in care delivery, confidence in the use of evidence, and the ability to clinically reason through more complex patient presentations contributed to greater professional satisfaction and lifelong learning, perhaps other components, such as professional socialization and improved patient satisfaction, also had an impact. In the 18th annual John H.P. Maley Lecture in 2013, Kornelia Kulig suggested that graduates of residency programs be followed as they developed in their careers.⁴ Perhaps it may take some time for the effects of residency training to actualize. Following the clinicians over time using both quantitative and qualitative approaches may yield differences in residency graduates that were not initially included in the present study.⁶

Understanding these factors will take a complex partnership of quantitative and qualitative work. For many years, higher education has utilized qualitative research to drive policy. In this respect, physical therapy residency and fellowship education is still in its toddler stage of development. Fully highlighting factors that determine the choice to undertake residency and fellowship education, as well as limitations and outcomes of this avenue of postprofessional education, can help prioritize professionwide initiatives. The fact that student loan debt has been reported to be high among graduates of physical therapy programs is certainly a problem that should be solved as postprofessional education matures.⁸ We know from medicine that debt load

can affect postprofessional choices.¹⁰ Ideally, research into the benefits of these programs can also explore economic realities and help direct and align financial incentives to better support our best, our brightest, and certainly our most motivated young professionals. Among these research priorities must be an analysis of areas of specialization, as well as the distribution of current residencies and fellowships across the nation, to address societal needs and assist with workforce planning. Are we preparing graduates to meet the underserved populations in culturally diverse communities? Are we meeting employer needs? Will we be prepared to meet the needs of the growing geriatric population?⁹ Only a strong, evidence-driven policy strategy can confidently guide us into this future.

Learning how to measure outcomes for educational pathways is difficult. In the present study,⁶ patient functional outcomes were utilized from a commercial database. While this study did demonstrate that patient outcomes improve for those with fellowship training, it did not discern whether these outcomes might be clinically meaningful to patients. Likewise, while we hear anecdotally that residency and fellowship training improves clinical skills from those who have completed the programs, as Rodeghero et al⁶ point out, it is "unknown if the perception of improved clinical skill translates into improved benefit for patients." There are other things we don't know based on the authors' choice of outcome tool, such as how equally the different residency and fellowship programs were represented, what percent of the patients who were seen had complete data sets, and how those without complete data sets fared.

It is our hope that this study can serve to stimulate discussion between the American Board of Physical Therapy Residency and Fellowship Education, researchers, and programs to reach consensus on selected qualitative and quantitative tools that can be used throughout all residency and fellowship programs. The ability to track educational outcomes,

including patient satisfaction, employer surveys, self-assessments by graduates, and patient functional outcomes, and to compare them against defined core competencies would be extremely valuable for program directors in identifying how their programs can improve. Just as clinicians are required to perform better for their patients than the passage of time, residency and fellowship educators must implore themselves to outperform the improved efficiency and pattern recognition that traditionally are thought to come with the accumulation of clinical experience. To do this, we need to start with accurately defining and measuring clinical expertise.

There is one last thought that we must acknowledge concerning residency and fellowship education. It's entirely possible that, given the multitude of patient and therapist factors that ultimately impact results, the primary benefit of residency and fellowship education might not be improved patient functional outcomes. As a profession, we would do well to remember that the pipelines that enable expertise are critical for the growth and vitality of the physical therapy profession. And while patients should always be at the forefront of our decisions about educational policy and direction, we should also allow ourselves permission to acknowledge that some of the benefits of strong pathways for professional development and lifelong learning may be located within our ranks, and not directly within functional outcomes. Sometimes, the pursuit of excellence is just as important as actually achieving it. ●

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