

Moving from “Muddling Through” to Careful Planning: Physical Therapy Human Resources in Canada

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Health human resources are consistently ranked as a priority in Canadian health policy and planning debates.¹ Moreover, as Baumann et al. have recently noted, population health disparities have highlighted workforce issues across Canada’s vast and diverse landscape.² Demand for health services, which does not always equate to population “need,” tends to surpass the supply of financial and human resources in an environment of economic scarcity; therefore, ongoing challenges remain in providing a fully integrated health system that includes comprehensive rehabilitation and physical therapy services.³ As provinces and territories continue to reconfigure their health systems under the pretext of health reform, it is necessary to develop an enhanced understanding of future demand for health services in order to allocate current financial and human resources effectively across the care continuum.

In previous macro-level policy research, we identified exponentially rising demand for rehabilitation, as well as four primary factors driving such demand: (1) overall population growth, along with a growing cohort of people aged 65 years or older; (2) increasing rates of chronic and complex conditions, along with changes in hospital admission and discharge patterns; (3) increasing public expectations for services; and (4) advances in the treatment and management of diseases and conditions.⁴ Another study explored demand for rehabilitation services following total joint replacement (TJR) in Ontario; although the medical and surgical aspects of TJR have received considerable policy attention, very little research has examined the impact of increasing TJR on the demand for rehabilitation services.⁵ Not surprisingly, demand for rehabilitation following TJR

has risen sharply as a result of a series of specific micro-level factors: (1) an increase in the absolute number of surgeries; (2) the changing profile of clients (younger and active client groups are more willing to undergo surgery, while older and complex client groups are presenting with increased rates of medical complications and comorbidities); and (3) the widespread use of clinical pathways that have increased requirements within the rehabilitation sector. These findings indicate a serious risk that the supply of physical therapists and other rehabilitation practitioners will be inadequate to meet future demand.

An overall measure of supply within a workforce is the health human resource (HHR) ratio, generally expressed as the number of health practitioners relative to population or to a subset of population.^{6,7} Although HHR ratios are a reasonably good measure of practitioner density within a given region, they are not necessarily a sensitive measure of supply: they do not reflect population need or demand, nor do they balance other workforce factors, such as the breadth of practitioner groups or emerging practices patterns (e.g., integrative family health teams and other models of primary care). International estimates of HHR ratios for physical therapists (PTs) are relatively sparse. In Canada, the ratio of PTs per 10,000 population in 2000 was 5.0, representing a 16.3% increase from 1991.⁸ However, despite an 11.6% increase in the absolute number of PTs between 1991 and 2005, there was a 4% decline in the HHR ratio between 2000 to 2005, from 5.0 to 4.8 PTs per 10,000 population.⁹ In a comparative study of workforce density in the United States and Canada, we found a national HHR ratio in the United States of 3.8 PTs per 10,000 population in 1995 (vs. 4.3 in Canada), 4.3 in 1999 (vs. 5.0 in Canada in 2000), and 6.2 in 2005 (vs. 4.8 in Canada).¹⁰ These comparative data highlight the disparity between the United States and Canada, and support our ongoing concern

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regarding factors that influence the physical therapy workforce in Canada.

The clinical implications of these data are not yet clearly understood, and the policy interpretation requires further analysis. However, crucial questions have emerged regarding the optimal HHR ratio of PTs within a given jurisdiction. For instance, should we conclude that the United States is “doing better” or “doing worse” than Canada in terms of HHR ratios? To our knowledge, there are no needs-based or evidence-based HHR targets for physical therapy services across clinical settings, disease conditions, or countries that can be used as a reference point. Without such targets or benchmarks, measuring the degree to which physical therapy HHR ratios are appropriate in any given region would be a highly speculative exercise. On the other hand, there is some evidence that high nursing HHR ratios are associated with healthier communities.¹¹ Similarly, Macinko et al. have reported positive correlations between the number of primary-care physicians and indicators of population health such as mortality rates, incidence of low birth weight, and overall self-reported health.¹²

Although the relationship between workforce density and population health outcomes has not been fully explored in physical therapy, we suggest that there may be a “sweet spot,” or optimum HHR range, for positive population health outcomes. If the HHR ratio drops below a specific threshold, we suggest, health outcomes may be negatively influenced; on the other hand, there may be a “ceiling effect” whereby more PTs per population do not positively influence health outcomes. The essential issue for health services research must be the accurate determination of the optimal lower and upper limits of HHR ratios. Although previous studies do not necessarily provide specific targets in terms of the precise number or “dose” of nurses and physicians required to generate better outcomes, they do provide a solid foundation for further research and a fairly sound argument for further investment in planning a sustainable health human workforce. To our knowledge, however, little research or planning for physical therapy human resources has been undertaken to date.

Ensuring that there will be sufficient PTs to meet future demand will require coordinated stewardship among multiple stakeholders, including client advocacy groups, governments, professional associations, researchers, and educational institutions. To begin with, empirically based research is needed to explore the extent to which a physical therapy workforce affects clinical and system-wide health outcomes. If positive correlations are found (and our hypothesis would be that a strong correlation does indeed exist), the subsequent approach must be to determine the correct “dose” of PTs required to yield positive outcomes across settings

and across episodes of care. Until we have these data, we propose that the decision-making process regarding planning a future sustainable physical therapy workforce will be similar to what Charles E. Lindblom, a pre-eminent political scholar of the twentieth century, termed “muddling through.” Lindblom used this term to describe the informal gathering and triangulation of information to arrive at a solution, based on the premise that a rational (or evidence-based) approach is not always possible or appropriate in solving complex socio-political problems and that less formal approaches to decision making are equally effective.¹³ Although we have the utmost respect for Lindblom’s conceptual framework, we also suggest that “muddling through” is unlikely to yield socially desirable outcomes in the case of HHR planning for the twenty-first century. We believe that it is now time to strike the delicate balance between supply and demand for physical therapy services across Canada. We must begin the process of careful and judicious planning to ensure that population health needs drive appropriate and conscious use of PTs across the range of health care settings. To maintain the status quo by “muddling through” is, in our opinion, to collectively abdicate our professional, moral, and social responsibilities to current and future clients and to the principles upon which the Canadian health system was founded.

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