

## A national paucity of hepatologists: An unprecedented opportunity for interdisciplinary collaboration

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**KEYWORDS:** chronic liver disease; gastroenterologists; hepatologists; hepatology workforce; interdisciplinary approach

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The national supply of hepatologists unfortunately mismatches the burgeoning growth of liver disease and thus demand for liver specialists. However, the unmet need for the management of complex liver disease pathology presents a unique opportunity to foster cross-disciplinary collaborations to ultimately improve patient care. All of us would like to think we are indispensable. As a subspecialty of gastroenterology, it is easy to surmise that the depth and breadth of hepatology itself is vast enough that one can easily focus their career exclusively on the management of liver disease. However, many find hepatology an ever-evolving field for which our collective unmet need to serve our communities lies further and further from our grasp. If we conservatively estimate that perhaps 1 in 5 adults in Canada has a chronic liver disease—that is, non-alcoholic fatty liver disease (NAFLD), alcoholic fatty liver disease, viral hepatitis,

hemochromatosis, or any of the many other less common conditions we treat—the inadequacy of the hepatology workforce to unilaterally address the public health burden of liver disease becomes all too apparent. Therefore, it is imperative to seek innovative solutions that leverage the strengths of an interdisciplinary approach to optimize the liver health of Canadians.

The supply-demand gap is expected to widen in the future, due in part to changing demographics. Indeed, the public health burden of chronic liver disease is projected to increase substantially, much as it has over the past two decades (1,2). As the sizeable baby boomer population ages, rates of cirrhosis will undoubtedly increase from the current twelfth leading cause of death overall and the fifth leading cause of death for patients aged 45–54 years (3). Furthermore, owing to the oft-insidious onset and progression of liver disease, it is telling



(albeit hardly surprising) that one study showed 5% of autopsies had evidence of cirrhosis. As such, the improved screening and detection of liver disease with emerging serologic and imaging tools suggest that the current incidence rate for cirrhosis and chronic liver disease (20.7 per 100,000) is a gross underestimate (2). Furthermore, shifts in immigration patterns, including a projected uptick in immigration to 40,000 individuals annually, many of whom are foreign-born from regions with higher risk factors for metabolic and viral diseases (among others) may pose significant challenges in meeting care demands (2).

The key to addressing chronic liver disease perhaps lies in finding innovative solutions to harness the expertise of hepatologists and share the clinical space with other clinical partners, including general gastroenterologists, internists, infectious disease specialists, and primary care physicians. In many academic centres, community hospitals, or group practices, it is common for luminal gastroenterologists to be so inundated with referrals for gut matters that they simply do not have the capacity, or in some instances the interest, to manage chronic liver disease patients. As such, patients with liver diseases are at risk of either receiving no hepatology care or facing prolonged wait times to see either a hepatologist or a gastroenterologist with liver expertise. This is untenable, and there is clearly an urgent need to train more health care providers to fulfill the needs and demands for hepatology-associated problems (1). In the United States, it is estimated that there is 1 hepatologist per 330,000 individuals (3), and Canadian estimates correspond to approximately 1 hepatologist per just under 200,000 persons. Variables that may affect the interpretation of this figure include the relative proportions of hepatologists who orient their practice toward research versus clinical work, and within the clinical group, the subset of CASL-registered hepatologists who have competing gastroenterology hybrid practices, which would lower the net number of liver patients seen. Regardless, there is a clear need to train more hepatologists (3), particularly as modelling suggests that in 2023, 2028, and 2033, there will be shortages of 10%, 23%, and 35% adult hepatology providers, respectively (1,3,4).

Training more hepatologists is an interesting option, but it is also cost-prohibitive, and a multi-pronged interdisciplinary approach offers a unique solution. Although surveyed hepatologists and

gastroenterologists believe that training in hepatology should remain within the context of current gastroenterology training programs (1), the majority of hepatologists responded that not enough time was devoted to liver disease in current gastroenterology training programs (1). We must also consider that statistically, most of the population with a liver disease do not have a clinically critical liver disease. For example, if we consider the NAFLD epidemic, most patients with NAFLD have bland steatosis, and since that state is not associated with cirrhosis, nor are their therapeutics available, arguably this subset of patients does not need a hepatologist to manage them. Similarly, other diseases such as alcoholic steatosis without any or significant hepatitis, or chronic hepatitis C or B, can be managed by trained primary care doctors with a model, whereas a hepatologist may provide broad guidelines on whom to refer. The medicolegal framework and scope of practice of non-hepatology trained clinicians can perhaps be better defined by our governing colleges, thereby encouraging cross-disciplinary mentorship between PCPs and hepatologists. Given the prevalence of chronic liver disease, medical education and residency training in GI and non-GI specialties, including primary care, should include strategies for the interdisciplinary management of chronic liver disease.

As individual clinicians, we are limited in the impact we can make, and each of us can only hope to reach a certain number of patients in our careers. However, it is incumbent upon us to reflect on what we can collectively do with our limited time and resources. To truly make an impact on the looming pandemic of chronic liver disease in Canada, we must address the lack of sufficient hepatology care and find innovative solutions to harness the collective expertise and care we can offer to our patients. Finally, we need to engage the public more effectively at prevention, which fundamentally remains the best medicine.

**DISCLOSURES:** The authors have nothing to disclose.

## REFERENCES

1. Bain VG, Wong WW, Greig PD, Yoshida EM. Hepatology and the Canadian gastroenterologist: interest, attitudes and patterns of practise: results of a national survey from the Canadian Association of Gastroenterology. Can

- J Gastroenterol. 2003;17(1):25–9. <https://doi.org/10.1155/2003/709303>. Medline:12560851
2. Moon AM, Singal AG, Tapper EB. Contemporary epidemiology of chronic liver disease and cirrhosis. Clin Gastroenterol Hepatol. 2020;18(12):2650–66. <https://doi.org/10.1016/j.cgh.2019.07.060>. Medline:31401364
  3. Ordway SM, Singla MB, Young PE, Satoskar R, Kwok RM. Factors influencing decisions about a career in hepatology: a survey of gastroenterology fellows. Hepatol Commun. 2017;1(4):347–53. <https://doi.org/10.1002/hep4.1040>. Medline:29404464
  4. Russo MW, Fix OK, Koteish AA, et al. Modeling the hepatology workforce in the United states: a predicted critical shortage. Hepatology. 2020;72(4):1444–54. <https://doi.org/10.1002/hep.31425>. Medline:32898922