Jason Kur, MD, FRCPC, ABIM, Barry Koehler, MD, FRCPC

# Rheumatologist demographics in British Columbia: A looming crisis

To meet future demands for rheumatological services, it will be necessary to address inequalities of remuneration, support new models of care, and recruit more physicians.

**ABSTRACT:**

***Background*: Health systems planning requires accurate, up-to-date information to prepare for future physician needs. Because little is known about rheumatologists practising in BC, a provincial study of demographics and practice patterns was undertaken to characterize the current population of these specialists.**

***Methods*: The British Columbia Society of Rheumatologists conducted an online survey in May 2010. The survey was sent electronically to all RCPSC-certified and practising rheumatologists in BC. The overall response rate was 98% (49 questionnaires completed and analyzed).**

***Results*: In May 2010, BC was served by 32 full-time equivalent rheumatologists practising predominantly in urban settings. Of the working rheumatologists, 23.4% plan to retire in the next 5 years and another 27.7% plan to retire within 10 years, representing a potential loss of 24 clinical rheumatologists. When survey findings were compared with data from the Canadian 2007 National Physician Survey, BC rheumatologists were shown to have been practising for more years than the national average for clinical specialists.**

***Conclusions*: We have a looming crisis in the rheumatology physician workforce. Despite a growing patient population and ongoing demand for care, the rheumatology workforce in BC is aging and losses from retirements are likely to outpace gains from the certification of new specialists. More effective methods of physician recruitment, innovative models for the delivery of care, and strategies to address the inequalities in remuneration will be required to meet the demands of the province in future.**

Dr Kur is a clinical assistant professor in the Division of Rheumatology at the University of British Columbia. He is also on the clinical staff of Vancouver General Hospital, and is president of the British Columbia Society of Rheumatologists. Dr Koehler is clinical professor emeritus in the Division of Rheumatology at UBC and chair of the Human Resources Committee of the Canadian Rheumatology Association.

*This article has been peer reviewed.*

## Background

Planning for future physician needs in Canada is a challenging endeavor. While there have been attempts to examine the need for training positions in some specialties in British Columbia,[1] there have been few attempts to examine demographics and practice issues in rheumatology. The field of rheumatology has faced a number of changes to clinical practice in recent years, many of which stem from the marked enhancement in the options to control inflammatory arthritides. Rheumatology has also faced increasing concerns about recruitment and retention. It is clear that more information is required about the demand for rheumatological services and the practice patterns of rheumatologists in BC.

National attempts at characterizing physician practices and demographics are well documented.[2] Although past studies have provided valuable information about trends in the Canadian physician workforce regarding family practice and the larger clinical specialties, little detailed information about these trends is available for rheumatology.

Rheumatologists are subspecialists within internal medicine, caring for

patients with systemic inflammatory diseases, such as rheumatoid arthritis, lupus, vasculitis, and spondyloarthropathies. In addition, rheumatologists deal with the full range of noninflammatory musculoskeletal diseases, including osteoarthritis and complicated mechanical back pain. They frequently work with a team of health care professionals, including physiotherapists, occupational therapists, and nurses, predominantly in an outpatient setting. After completing medical school, 3 years of internal medicine training are required, followed by at least 2 years of rheumatology fellowship training. The Canadian Resident Matching Service oversees the fourth-year residency medicine subspecialty match nationwide. In 2010, only 15 available residency positions in adult rheumatology were filled. By comparison, there were 58 available residency positions filled in cardiology, 38 in gastroenterology, and 35 in respirology for the same year (www.carms.ca/eng/operations_R4reports_10_e.shtml.

Recognizing that a more comprehensive analysis of the BC rheumatologist population was needed to guide future training program requirements and to determine trends in the rheumatology workforce, the British Columbia Society of Rheumatologists (BCSR) decided to survey rheumatologists working in British Columbia and, where possible, to compare the results with those from the most recent Canadian National Physician Survey (NPS).[2]

## Methods

The British Columbia Society of Rheumatologists conducted a membership survey in early 2010. The Internet-based survey was sent to all members of the BCSR. This group constitutes all specialists in the province who practise rheumatology. Complete details on the survey are available from the BCSR.

The following demographic characteristics were gathered: years since first licensed to practise medicine, sex, medical practice setting, and primary population served. Information was also gathered about time dedicated to patient care as represented by the number of half-day outpatient clinics worked per week and predicted retirement times. Data regarding years since first licensed to practise medicine were compared with the NPS data for clinical specialists available through the collaboration of the Royal College of Physicians and Surgeons of Canada, the College of Family Physicians of Canada, and the Canadian Medical Association.

## Results

The survey response rate was 98.0%. Forty-nine completed questionnaires were returned and analyzed.

Analysis of the basic demographic characteristics showed that 31% of the respondents were female, compared with 69% male. The majority of respondents (55%) consider themselves private practice solo physicians. Another 23% were in private practice with a group, while another 16% were in academic practice and 2% of respondents were not actively practising rheumatology and 4% did not respond to the question (**Figure 1**).

Rheumatologists were found to practise in overwhelmingly urban settings: 66.7% of respondents work

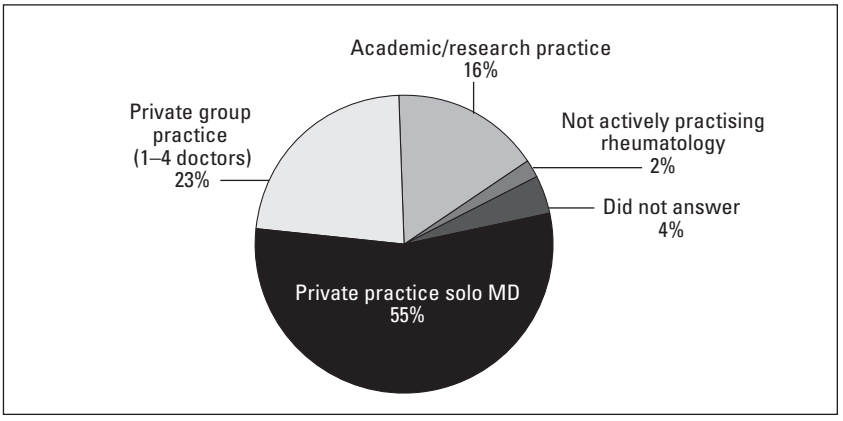


**Figure 1.** Practice settings of 49 rheumatologists in British Columbia, 2010.

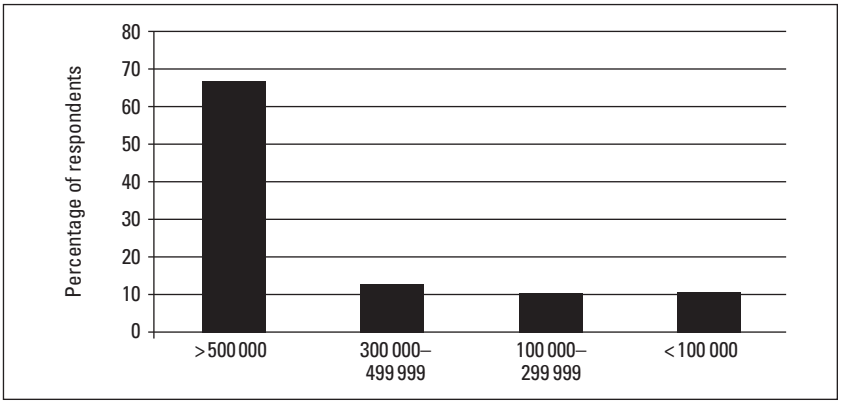


**Figure 2.** Population of regions served by 49 rheumatologists in British Columbia, 2010.

in a region of more than 500 000 people, while another 12.5% practise in a region of 300 000 to 499 999 people (**Figure 2**).

Data were also collected on the amount of time respondents spent in direct clinical outpatient care: 32.6% of respondents reported full-time practice of nine to ten half-day clinics a week and another 23.9% indicated they conducted seven to eight half-day clinics a week. For the purposes of full-time equivalent (FTE) physician comparisons, we calculated the number of FTE rheumatologists providing outpatient rheumatological care. Based on practice information from the 49 respondents, the number of FTE rheumatologists was 32. That is, the amount of clinical rheumatological outpatient care available in BC today is equivalent of 32 rheumatolgists working 5 days a week in a strictly outpatient setting.

Respondents were asked the year they were licensed to practise medicine in Canada. The median year for first licence to practise medicine for BC rheumatologists was 1983 (1966–2008), and the majority of rheumatologists were licensed more than 20 years ago. When these licensing figures were compared with results from the Canadian 2007 National Physician Survey, BC rheumatologists were found to have been licensed earlier than the national average for clinical specialists (**Table**). While 67.3% of BC rheumatologists were licensed more than 20 years ago, the national average for clinical specialists licensed more than 20 years ago was only 56.2%. Similarly, there were fewer recent graduates in rheumatology in BC compared with the national data for the past 10 years.

Intentions for retirement were also gathered in the survey, with 23.4% of practising BC rheumatologists indicating they plan to retire in the next 5 years and another 27.7% planning to retire in the next 10 years (**Figure 3**).

**Table. Responses from BC rheumatologists to question about number of years licensed to practice and responses from Canadian clinical specialists to similar question in National Physician Survey.**

| Years licensed to practice | BC rheumatologists, 2010 % (n) | Canadian clinical specialists, 2007[2] % |
|---|---|---|
| 1–4 | 6.1 (3) | 7.1 |
| 5–9 | 10.3 (5) | 11.6 |
| 10–14 | 8.2 (4) | 8.9 |
| 15–19 | 6.1 (3) | 12.2 |
| 20+ | 67.3 (33) | 56.2 |
| No response | 2.0 (1) | 4.1 |
| **Total** | 100.0 (49) | 100.0 |

These figures mean that soon 24 fewer rheumatologists will be practising in the province.

## Conclusions

Our study is the first to characterize the rheumatologist population in British Columbia. The survey had a very high response rate (98%) and was missing data only from one member. Our findings indicate that the vast majority of rheumatologists practise in urban centres in British Columbia. Calculations based on the time the 49 respondents reported spending on clinical outpatient care indicate that BC has 32 FTE rheumatologists serving a population of over 4 million.[3] The discrepancy between the number of respondents and the number of calculated FTEs may stem from the fact that a number of rheumatologists, particularly those in academic practice, participate in research or are involved in teaching or administration. Others may practise a portion of general internal medicine and some are partially retired. The FTE calculation does not include care provided by rheumatologists in inpatient settings, but this is likely a relatively small amount of time, as the majority of rheumatic diseases are managed in outpatient settings.

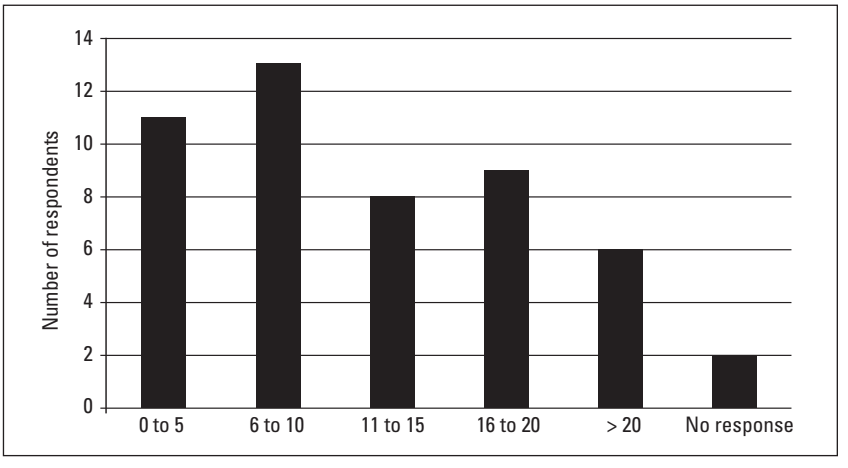


**Figure 3. Estimated years to retirement from clinical practice for 49 rheumatologists in British Columbia, 2010.**

The Canadian Rheumatology Association recommends a ratio of one rheumatologist for every 75 000 people (oral communication with the Human Resources Committee, Canadian Rheumatology Association, November 2010). In 1990 the American College of Rheumatology conducted an extensive study of rheumatology care models and workforce requirements. The results in the United States at the time indicated a rheumatologist to population ratio of 1 to 85 000 and estimates for the year 2000 placed the ratio at 1 to 67 000 based on trends in enrolment and training.[4] Based on a 2010 population estimate of 4 494 232 and 32 FTE rheumatologists in BC, the current ratio is approximately 1:140 000. This means the present number of FTE rheumatologists is about 30 fewer than recommended for the province.

Our study shows that rheumatologists were licensed to practise earlier than the national average for clinical specialists. This indicates that they have been practising for more years and supports the fact that there is an aging rheumatologist workforce. Anticipated retirements are going to have a massive effect on access to rheumatological care.

Historically, the University of British Columbia has trained one or two rheumatologists per year. Even if every graduate from the UBC rheumatology training program remained in the province during the next 10 years, current numbers of trainees graduating would not keep pace with the estimated 24 retirements. The net deficit of practising rheumatologists will inevitably worsen. This does not take into consideration population growth, outward physician migration, the already limited access to rheumatology care in the province, or new recommendations for adequate delivery of care. In fact, there were no new Canadian internal medicine graduates entering UBC rheumatology training for 2005–2006, 2007–2008, or 2008–2009.[5] Nor does this take into consideration the fact that most rheumatologists in BC are male (68.8%), while the majority of medical school graduates in Canada are female.[6] This shift in demographics will eventually have an impact on practice patterns.[7] Exactly what the impact will be on rheumatology is unknown.

Recruiting and retaining trainees is not made easier by the fact that rheumatology is one of the most underserviced subspecialties of internal medicine and one with the lowest remuneration. Rheumatologists have witnessed the demand for rheumatology services increase exponentially, and at the same time the burden of rheumatological care has shifted to office practice.

## Possible solutions

New initiatives to promote the sustainability of the subspecialty and to recruit and retain trainees will be required in BC if rheumatologists are to deliver the best possible care to patients, particularly those with complex inflammatory and autoimmune diseases. Some possible strategies for improving this situation include:

- Correcting of the inequality of remuneration that exists between procedural and nonprocedural specialties. Despite similar training requirements, a large discrepancy in remuneration exists between procedural and nonprocedural specialties. This, combined with the burdensome overhead costs involved in outpatient medicine, is driving new trainees to other fields, such as anesthesia, cardiology, and gastroenterology, at high rates.
- Directing Ministry of Health funding to allied health practitioners with extra training in arthritis to assist rheumatologists in the delivery of outpatient care. Such models exist in parts of the country. The main constraint to broader implementation is the absence of stable funding. This treatment model would increase the ability of the rheumatologist to provide care to a wider spectrum of patients and have an impact on the lengthy waits that exist for access to rheumatology consultation.
- Consistently increasing the number of funded positions for rheumatology trainees at UBC from the present total of two per year.

Since failure to address the dwindling supply of rheumatologists in British Columbia will lead to severely hampered access to care, these strategies and others must be considered.

**Competing interests**

None declared.

**References**

1. Cardiologist numbers in British Columbia: A crisis? BC Med J 2001;43:405-407.
2. National Physician Survey. 2007. Accessed 1 October 2010. www.nationalphysiciansurvey.ca.
3. Statistics Canada Cansim database. Accessed 1 August 2010. http://cansim2.statcan.gc.ca/.
4. 4. Marder WD, Meenan RF, Felson DT, et al. The present and future adequacy of rheumatology manpower. A Study of Health Care Needs And Physician Supply. Arthritis Rheum 1991;34:1209-1217.
5. University of British Columbia Division of Rheumatology Postgraduate Training Committee Data. Minutes, 2006–2010.
6. Dhalla IA, Kwong JC, Streiner DL, et al. Characteristics of first-year students in Canadian medical schools. CMAJ 2002; 166:1029-1035.
7. Woodward CA, Hurley J. Comparison of activity level and service intensity of male and female physicians in five fields of medicine in Ontario. CMAJ 1995;153: 1097-1106.