Canadian Rheumatologists: An Endangered Species

HISTORICAL AMBITIONS GONE AWRY
In the 1940s, an ambitious plan for rheumatology was developed by leaders of the Canadian medical and lay communities. These leaders became the founders of the Canadian Rheumatology Association (CRA) and the Arthritis Society; they hoped to provide experts in rheumatic-disease care that would serve the population in a ratio of approximately one rheumatologist per 100,000 people.

Despite excellent training programs and concerted efforts by many leaders, Canadian rheumatology has never reached this initial goal—and currently is falling behind. More realistic estimates of population needs, requirements from diagnostic assessments, treatment-regimen complexity, and the demands of academic programs indicate that a more accurate estimate would be one rheumatologist per 70,000 people.

Canada is currently in a deficit situation of 230 rheumatologists if it is to meet minimum expectations for arthritis treatment. This manpower deficit will grow to 300 or more in the next 10 years, if current trends continue. From an ecological perspective, rheumatologists are currently on the endangered-species list. As the environment changes, and critical habitat in the medical community is lost, we face the distinct possibility of extinction. The niche we currently occupy will be filled by family doctors, orthopedic surgeons and internists—none of whom will have the specific medical interests in arthritis and rheumatic-disease care that rheumatologists currently cultivate. A large segment of the population will seek the advice of alternative-health practitioners, totally unaware of the benefits of proven rheumatic-disease diagnosis and treatment.

By the year 2025, one could predict that the Canadian public (25% of whom will be over the age of 65) will receive rheumatic-disease care similar to that provided in the 1940s.

For those suffering from arthritis, expertise in the management of arthritic processes can lead to early treatment, a better ability to alter disease course and a better quality of life. Rheumatologists, specialists in medicine with at least five years of post-graduate training in the diagnosis and treatment of arthritis, can best address these problems. Rheumatologists are severely under-represented in the medical community, however, and are only able to meet less than half of the current population need.

BURDEN OF ILLNESS AND ESTIMATED NEED
The total burden of arthritic illness captured simplistically as the loss of gross national product (GNP) from disability is estimated to be $8.9 billion annually in Canada (based on 1999 GNP figures and estimates of work disability from the literature). Another consideration is that four million Canadians are personally affected by arthritis. People with inflammatory arthritis, such as rheumatoid arthritis (RA), have a three- to four-year shorter life span than healthy individuals.

Based on conservative population and disease-prevalence estimates, data projections indicate that Canada should have 500 rheumatologists right now, including 380 full-time community-based rheumatologists, 110 academicians and 10 full-time administrators. In 10 years, the population would need to be served by 600 rheumatologists, many of whom would have special interests in the rheumatic problems brought on by aging. This estimate is based on the following conservative assumptions of prevalence, clinical management time and training requirements:

• 1% inflammatory polyarthritis (1.5 hrs/year for all cases)
• 0.1% crystal arthropathy (1 hr/year for all cases)
• 0.1% connective-tissue disease (2 hrs/year for all cases)

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• 0.05% vasculitis (3 hrs/year for all cases)
• 5% soft-tissue diseases, including fibromyalgia (1 of 20 seen for 0.75 hrs/year)
• 10% degenerative joint disease (DJD) (1 of 10 seen for 0.75 hrs/year)

(Note: no allowance has been made for osteoporosis, and the number of patients seen for DJD and fibromyalgia is conservative).

These calculations indicate that, with Canada’s current demographic profile, a total of at least 850,000 hours clinical time per year is required for a population of 30 million. This requirement is twice what current manpower estimates show are possible. Ninety per cent of this clinical time would be provided by community rheumatologists, leaving 10% of care to be provided in training programs, which will hopefully increase the numbers of new rheumatologists.

A community rheumatologist working 46 weeks per year in clinic (five weeks holiday; one week conference), and spending 80% of a 55-hour week seeing patients, could contribute 2,024 hours per year. The clinical time includes triaging referrals, assembling laboratory and x-ray information, interviewing and examining patients, communicating with other health providers and patients, prescribing treatment, arranging and reviewing follow-up tests, documenting care and dealing with administrative problems. A total of 380 community rheumatologists seeing “joint and soft tissue” patients 40 hours per week, 46 weeks per year are needed to fulfill this expectation of health delivery using existing approaches to care.

An academic involved with training, research and presentations for 25% of a 60-hour week (including travel and conference presentation time) could contribute 690 clinical hours per year. The total number of academicians relates to the amount of training and research required to fill the gap over the next 10 years. Funding for research positions is expected to remain at a ratio of least 2 to 1, and, therefore, only 35 of the 110 academics would be dedicated to leading training programs in Canada’s 10 academic institutions that are active in rheumatology.

An administrator with a regional health authority, university or medical association working 5% of a 60-hour week in clinic could contribute 276 hours per year. Administrative estimates are based on the increasing demands of complex medical systems in urban settings, as well as the increased need to work with provincial organizations to plan for resource allocation, medication usage and program development.

The total contribution of 500 rheumatologists, therefore, would match the current clinical requirement of the population. Canada has about 270 rheumatologists, which includes those involved in community, academic and administrative settings. Over the next five years, attrition (i.e., retirement, death, illness, emigration) of 10% is expected, while graduations will provide a potential of 10 new rheumatologists per year. These predictions would give Canada 293 rheumatologists in five years, yet the requirement will have increased to at least 550 rheumatologists (due to increased DJD, more difficult management of inflammatory arthritis and greater public expectations). In 10 years, the gap will be greater (due to the increased rate of rheumatologist attrition and increased population need caused by population dynamics).

Clearly, the number of graduating rheumatologists must double immediately if 10-year targets are to be met. In addition, rheumatologists need to expand their capacity to deal with existing disease burden. Better clinical program support, new biological agents applied judiciously, tested remittive agents effectively monitored, improved input into community associations and better communication with general practitioners will help address some of the immediate need.

CALL TO ACTION
Canadian rheumatology is in a significant deficit situation, and will need to develop new strategies for recruitment, retention and increased effectiveness. Concerted actions to allow us to increase
our ability to deal with the existing and predicted burden of illness could include:

1. Increase reimbursement schedules for rheumatologists with an inclusion to supplement office staffing with “arthritis-qualified” health assistants and adequate information-processing tools, such as computers and Internet connections.

2. Increase the profile of rheumatology in medical schools by increasing the availability of clinician and research mentors.

3. Increase the number of slots for residents in at least 10 of the internal-medicine programs to a total of 20 per year (double the current number).

4. Initiate programs and find incentives for general practitioners to work as a team with rheumatologists.

5. Increase public awareness of the value of rheumatologists in the management of joint and soft-tissue problems.

6. Increase our integration with regional programs that allow better use of our time (e.g., through the use of information systems, laboratories, and radiology).

7. Use technology more appropriately (e.g., computerized registries, digitized radiographs, electronic data exchange of laboratory information, pharmacy information systems, and secure Internet communication).

8. Develop better communication with other disciplines (such as orthopedic surgery and physiatry) to improve the timing and delivery of these services.

9. Encourage applied research approaches, including assessment of novel health-delivery methods, psychosocial and behavioural approaches to improve patient care, in addition to the necessary basic science that will lead to new treatment regimens.

10. Position research differently, as with the program undertaken through the Canadian Arthritis Network (CAN). Their National Centres of Excellence (NCE) program has the potential to successfully position rheumatic-disease research in Canada; the new Institute for Musculoskeletal Health and Arthritis—part of the Canadian Institutes for Health Research (CIHR)—will also assist in this regard.

All of these action items require close coordination with federal and provincial governments, as well as universities and organizations such as the Arthritis Society and the Lupus Society. Our colleagues in internal medicine and surgery will also need to be supportive for success to occur in a substantial way. Maintenance of certification at the Royal College level will need to include activities that enhance our effectiveness to reach the targeted patient populations. The ineffective dissociation of national responsibilities, such as the Canadian Pension Plan for arthritis disability, and provincial responsibility for resource and medication allocation needs to be made patently clear to the voting public and the political leaders of all parties.

SUMMARY

The Canadian public is at severe risk of losing a valuable resource: the rheumatology profession. Patients with arthritis are waiting longer for diagnoses, receiving fewer expert opinions on investigative maneuvers, and turning in greater numbers to unproven remedies and alternative treatment. As the population ages, there is an increasing likelihood that they will suffer greater disability and more severe problems with disease and treatment. Although other diseases, such as cardiovascular and neurological conditions, will also be of concern in the near future, rheumatologists have the grave predicament of approaching extinction. Fewer academics, fewer training spots, more retirements and reduced clinical time by community rheumatologists all could lead to a downward spiral.

Concerted action needs to be taken to preserve our community rheumatologists, increase the attractiveness of the discipline, strengthen our training programs and improve our effectiveness with better tools and teamwork. The Canadian Rheumatology Association will take a leadership role in moving this agenda forward at a national level. Individuals in each province will be required to provide local direction and support.