The medical specialty most concerned with the treatment of arthritis is rheumatology. Rheumatology has become a predominantly outpatient specialty, so that, currently, most of the care is delivered in outpatient or clinic settings.

There are some data to suggest that care for arthritis provided by rheumatologists results in a better outcome than that provided by non-rheumatologists. Evidence is emerging, for example, that patients with rheumatoid arthritis (RA) who receive early and aggressive treatment with disease modifying anti-rheumatic drugs (DMARDs)—which require administration and follow-up by a rheumatologist—have better outcomes in terms of decreased disability and deformity and increased function. The implication of these studies underlines the importance of prompt and ready access to rheumatological care for people with RA and related conditions.

Arthritis is one of the most common long-term conditions, and its prevalence increases with age. With the population of Canada growing older, it has been shown that there are likely to be large increases in the number of people in this country with arthritis and related conditions. This article examines the effect of the aging population on the incidence and prevalence of arthritis in Canada, and the implications this may have for the provision of rheumatological services. This article is based on a special report to the Canadian Rheumatology Association (CRA) prepared as a working paper by the Arthritis Community Research and Evaluation Unit.

METHODS

Data on arthritis prevalence were obtained from the 1996 National Population Health Survey (NPHS). This survey was designed to collect information related to the health of the Canadian population. The target population of the NPHS includes all household residents in all provinces, with the principal exclusion of populations on Indian Reserves, Canadian Forces Bases, and some remote areas in Quebec and Ontario.

RESULTS

The population of Canada is aging and growing. Between 1996 and 2016, the number of Canadians aged 15 years and older is expected to grow from 23.9 million to 30.9 million, and the modal age group of the population will increase from 35-39 years of age to 50-54 years of age. Figure 1 displays the changing population of Canada by age distribution, and illustrates the large increase in numbers that the older age groups (i.e., 50 years and older) are expected to experience by the year 2016.

According to the authors’ projections, due to the aging of the population, the number of people with arthritis or rheumatism is expected to increase by 1.8 million people over the next 20 years—to a total of five million people. The overall prevalence of arthritis or rheumatism in Canada will, therefore, increase from 13.2% in 1996 to 16.1% in 2016.

The proportionate increase in numbers is greater than the increase in prevalence, because the number of people with arthritis is influenced by the overall population growth, as well as by the changes in age structure over time. The increase in prevalence is related only to changes in the age distribution of the population.

There are projected increases in the both the prevalence and the number of people with arthritis in all provinces. The prevalence of arthritis or rheumatism, however, does not necessarily reflect the potential need for services, which is, rather, a function of the number of people with arthritis or rheumatism.
of people affected. Figure 2 shows that, although the prevalence of arthritis or rheumatism tends to be highest in the Maritime and Prairie provinces, the largest numbers of people living with the disease reside in Ontario and Quebec—a reflection of the size of these provincial populations.

DISCUSSION

All provinces in Canada are likely to experience an increase in the number of people with arthritis or rheumatism as the population ages. Most of this increase is expected to occur in people with arthritis who are 45 years of age and older, with the largest relative increases in the groups aged 55-64 years and 75 years and older.

The relative sizes of the projected increases vary somewhat between provinces, depending on the age structure of their populations, but are nevertheless substantial. The age distribution of the expected increases is also likely to differentially influence the case-mix of the arthritis population, and to have a relatively higher impact on those conditions that either affect older people or show onset in the middle age or older (Figure 3).

The baseline prevalence of arthritis and rheumatism varies somewhat between provinces, and this variation remains following an adjustment for the different age and gender profiles of the baseline population. The reason for this variation is not well understood, and, in theory, could be as much a consequence of aspects of the survey and survey sampling in different provinces, as actual differences in the proportion of people reporting arthritis. The projections, however, are influenced more by the age distribution of the population than by the absolute magnitude of the baseline.

The authors’ projections are subject to several limitations. First, the data refer to self-reported arthritis or rheumatism that has been diagnosed by a physician. There is no confirmation that these individuals did, in fact, have arthritis or rheumatism. Second, the projections refer only to the household population of Canada, and the assumption was made that the prevalence of arthritis in the institutional population would be the same as that in the household population. The authors’ previous work shows that this is likely to be a reasonable assumption. Third, the authors’ arthritis projections to 2016 depend on the accuracy of the baseline.
Canadian population projections. In these projections, it has also been assumed that the age-sex prevalence of arthritis will remain constant over time. The prevalence of arthritis in the future, however, may be influenced by variations in incidence or new methods of treatment. The incidence of arthritis may be affected by changes in the population at risk. Advances in knowledge leading to prevention and treatment for other conditions (e.g., prevention or effective treatment of causes of premature death such as cancer), could also have a substantial effect on the nature of the population at risk for arthritis. Advances in treatment methods for the various types of arthritis could also reduce the number of people reporting these conditions. Advances in care, however, are likely to have concomitant consequences for the need for physicians, particularly rheumatologists, to provide these treatments.

Overall, the anticipated increases in the number of people with arthritis or rheumatism are likely to have consequences for the demand of rheumatological services. Data on the provision of rheumatology services is not available nationally. In 1997, there were 168 rheumatologists in Ontario, which represents 1.5 rheumatologists per 100,000 population. A 1990 estimate of the optimum provision of rheumatology services for the U.S. is 1.2 rheumatologists per 100,000 population, and within the European Community, the rate of provision is estimated to vary from 0.3 in the Republic of Ireland to 3.5 in Denmark. These figures indicate that Ontario’s provision is within the range found in other places. The per-capita rheumatology provision, however, is likely to overestimate the amount of rheumatological care actually available, since, in many cases, teaching hospitals and research/administrative commitments (particularly in university centres), reduce the real availability of care.

Coverage of rheumatology services across the province of Ontario is far from complete. Within the province, the availability of local rheumatology services in 1997 varied across the 33 District Health Councils in Ontario, ranging from zero to 18.9 half-days per week per 100,000 population, with a median of 5.8 half-days per week per 100,000 population (excluding four districts with no service). In general, the districts in the northern regions of the province had
lower levels of service provision. Similar variations are to be expected within Canada as a whole and, given the shortage of rheumatologists in some provinces, may be even more pronounced.

With the increasing number of cases of arthritis or rheumatism expected in the near future, a growing need for rheumatology services is anticipated. There are areas of Ontario and of Canada that are currently considered to be under-serviced, particularly the areas away from the major population centres.

Unless action is taken, it is likely that rheumatology services will fall even further behind in providing the necessary services to the people who require them.

References