Paediatrician human resource planning in Canada: A 10-year follow-up

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BACKGROUND: Paediatrician human resource planning in Canada is currently a major concern. The optimal mix of physicians by type of practice and geographical distribution also remains controversial for many groups of physicians.

OBJECTIVE: To compare 10-year trends (1987 to 1997) in paediatric practice with respect to age, sex and percentage of paediatricians practicing tertiary care.

METHODS: Information on the demographics and practice patterns of Canadian paediatricians obtained from national surveys conducted in 1987 and 1997 was examined.

RESULTS: In the 1987 survey, 1960 paediatricians were mailed a questionnaire, and 1352 questionnaires were returned (response rate of 69%). In the 1997 survey, 1706 of 2337 paediatricians returned the completed questionnaire (response rate of 73%). In 1987, 26.2% of paediatricians were women compared with 38.5% in 1997 ($P<0.0001$). When men and women were combined, 14.5% of paediatricians were in the 25- to 34-year age bracket in 1987, compared with only 9.7% in 1997 ($P=0.0002$). In 1987, 37.7% of paediatricians reported practicing tertiary care versus 38.7% in 1997 ($P=0.61$). In addition, tertiary care paediatricians have become more centralized in communities with more than 100,000 people.

CONCLUSIONS: The results confirm that the paediatric workforce is aging, located primarily in large urban areas and shifting toward more women. Shortages of paediatricians, especially in remote and rural areas, continue to be a major concern and show no signs of improvement. The potential impact of these changes on delivery and quality of child-care services in the future needs to be assessed.

Key Words: Paediatricians; Physician human resources; Workforce

Physician supply in Canada is a major concern (1). A recent report (2) from the Association of Canadian Medical Colleges found that while the number of openings to medical schools increased by 31% between 1999 and 2002, there was only a 2.7% increase in the number of applications and a 28% increase in the proportion of accepted applicants. These numbers, coupled with the government cutbacks in Canadian training posts that began in the mid 1980s, are worrisome given the aging of the paediatric workforce and the recent estimation that 40% of the current paediatric workforce will have retired by the year

La planification des effectifs pédiatriques au Canada : Un suivi de dix ans

HISTORIQUE : La planification des effectifs pédiatriques est une préoccupation majeure au Canada. La combinaison optimale de médecins selon le type de pratique et la distribution géographique demeure également controversée pour de nombreux groupes de médecins.

OBJECTIF : Comparer les tendances sur dix ans (de 1987 à 1997) de la pratique pédiatrique à l'égard de l'âge, du sexe et du pourcentage de pédiatres exerçant en soins tertiaires.

MÉTHODOLOGIE : L'information sur les profils démographiques et d'exercice des pédiatres canadiens obtenue dans le cadre d'enquêtes nationales menées en 1987 et en 1997 a été examinée.

RÉSULTATS : Pour l'enquête de 1987, 1 960 pédiatres ont reçu un questionnaire par la poste, et 1 352 l'ont renvoyé, pour un taux de réponse de 69 %. Pour l'enquête de 1997, 1 706 des 2 337 pédiatres ont répondu à l'enquête (taux de réponse de 73 %). En 1987, 26,2 % des pédiatres étaient des femmes, par rapport à 38,5 % en 1997 ($P<0,0001$). Une fois les hommes et les femmes combinés, 14,5 % des pédiatres faisaient partie des 25 à 34 ans en 1987, par rapport à seulement 9,7 % en 1997 ($P=0,0002$). En 1987, 37,7 % des pédiatres indiquaient qu'ils exerçaient en soins tertiaires, par rapport à 38,7 % en 1997 ($P=0,61$). En outre, les pédiatres de soins tertiaires se sont centralisés dans les collectivités de plus de 100 000 habitants.

CONCLUSIONS : Les résultats confirment que la main-d'œuvre pédiatrique vieillit, qu'elle se trouve surtout dans les grands centres urbains et qu'elle se compose de plus en plus de femmes. La pénurie de pédiatres, surtout dans les régions éloignées et rurales, continue d'être une grave préoccupation et ne démontre aucun signe de fléchissement. Les répercussions potentielles de ces changements sur la prestation et la qualité des soins aux enfants à l'avenir doivent être évaluées.

2010 (3). The optimal mix of physicians by type of practice and geographical distribution also remains controversial for many groups of physicians.

The report from the 11th Canadian Ross Conference on Paediatrics (4) suggests an anticipated shortage in paediatricians, especially for Canadians living in rural and remote areas. The report recommends a consulting focus for community paediatricians where paediatricians and economic resources are limited. A 1999 Paediatrician Resource Survey (5) conducted by the Canadian Paediatric Society found that the future supply of Canadian paediatricians will

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be substantially reduced due to such factors as retirement, an increasing workload, migration of paediatricians to the United States and a growing population, and also to the fact that approximately 20% of recent paediatric graduates work in nonpatient care activities.

The objective of the present study was to analyze the data from a national study done for other purposes to determine whether the paediatrician human resource practice patterns changed over the previous 10 years and whether they are consistent with data obtained from the above-mentioned reports.

METHODS

In 1987, the authors conducted a national survey (6) of all paediatricians in Canada using a questionnaire developed to investigate demographics and practice patterns of Canadian paediatricians. Paediatricians were identified primarily from the Canadian Paediatric Society membership list. The study suggested the possibility of deficiencies in the number and type of paediatricians in Canada due to cutbacks in paediatric training positions and restrictions on the immigration of foreign paediatricians (6).

In 1997, the authors conducted a national survey (7,8) of paediatricians to determine their counselling practices with respect to smoking prevention and cessation. This national survey was then utilized to compare trends in paediatric practice with respect to age, sex and percentage of paediatricians practicing tertiary care with the earlier data. The χ^2 was used to compare frequencies or proportions between the two time periods.

RESULTS

In the 1987 survey, 1960 paediatricians were mailed a questionnaire, and 1352 questionnaires were returned (response rate of 69%). In the 1997 survey, 1706 of 2337 paediatricians returned the completed questionnaire (response rate of 73%).

In 1987, 26.2% of paediatricians were women compared with 38.5% in 1997 ($P < 0.0001$). The sex distribution of paediatricians was also highly age-dependent. In 1987, 47.6% of paediatricians in the 25- to 34-year age category were men, compared with only 29.8% in 1997 ($P = 0.0002$). This demonstrated that women were much more likely than men to be entering the paediatric workforce in the younger age groups in the 1990s. At the same time, men were still more likely to make up the majority of the older age groups of paediatricians, although the percentage was decreasing. For instance, 84.6% of paediatricians aged 45 years and older were male in 1987, compared with 76.4% in 1997 ($P = 0.0004$).

When men and women were combined, 14.5% of paediatricians were in the 25- to 34-year age bracket in 1987, compared with only 9.7% in 1997 ($P = 0.0002$). The lower percentage of paediatricians in the 25- to 34-year age group in

1997 occurred in conjunction with an aging paediatric workforce. In 1987, 23.5% of paediatricians were aged 55 years and older, compared with 24.9% in 1997 ($P = 0.79$).

Approximately one-third of paediatricians reported being non-Canadian graduates in both 1987 and 1997. In 1989, Rieder et al (6) noted that restrictions in the number of postgraduate training programs combined with restrictions on immigration would likely result in a shortage of tertiary care paediatricians. However, when the types of practice were compared between 1987 and 1997, there was little change overall in the proportion of paediatricians practicing tertiary care: in 1989, 37.7% of paediatricians reported practicing tertiary care versus 38.7% in 1997 ($P = 0.61$). There was a slight increase in the absolute number practicing tertiary care (429 in 1987 versus 513 in 1997).

Tertiary care paediatricians have become more centralized in communities with more than 100,000 people. In 1987, 88.8% of tertiary care paediatricians were located in communities with more than 100,000 people. This percentage rose to 93.1% in 1997 ($P = 0.02$). Overall, 78.9% of Canadian paediatricians were located in communities with more than 100,000 people at the time of the 1987 survey, compared with 82.6% in 1997 ($P = 0.02$).

DISCUSSION

The paediatric workforce in Canada is aging, includes more women and is located more commonly in large urban centres. Shortages of paediatricians, especially in remote and rural areas, continue to be a major concern and show no signs of improvement. The potential impact of these changes on delivery and quality of child-care services over the next two decades needs to be assessed by such groups as the Canadian Paediatric Society, Paediatric Chairs of Canada, and the Royal College of Physicians and Surgeons of Canada.

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