

# Intrapartum care by general practitioners and family physicians

## *Provincial trends from 1984-1985 to 1994-1995*

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### abstract

**OBJECTIVE** To determine provincial trends in provision of intrapartum care by general practitioners and family physicians (GP/FPs) for the 11 years from 1984 to 1995.

**DESIGN** Analyses of provincial Medical Care Fee-for-Service Utilization data for births from 1984-1985 to 1994-1995.

**SETTING** 10 provinces of Canada.

**MAIN OUTCOME MEASURES** Proportion of vaginal births billed by GP/FPs (expressed as total number of vaginal births billed by GP/FPs divided by total number of vaginal births).

**RESULTS** In 1994-1995, the proportion of vaginal births billed by GP/FPs ranged from 77.2% in British Columbia and 70.8% in Nova Scotia to 28.9% in Ontario and 23.6% in Prince Edward Island. These proportions have remained relatively high and stable during the period studied in some provinces, such as British Columbia and Nova Scotia, and have declined steadily and notably in others.

**CONCLUSIONS** Data show that GP/FPs' involvement in vaginal births in most Canadian provinces is decreasing. This trend demonstrates a shift in GP/FPs' practice patterns and could indicate a coming shortage of obstetrical care providers.

### résumé

**OBJECTIF** Déterminer les tendances provinciales dans la prestation de soins *intra-partum* par les omnipraticiens et les médecins de famille pendant les 11 années écoulées entre 1984 et 1995.

**CONCEPTION** Des analyses des données provinciales sur l'utilisation des services médicaux rémunérés à l'acte pour les naissances survenues de 1984-1985 à 1994-1995.

**CONTEXTE** Les dix provinces canadiennes.

**PRINCIPALES MESURES DES RÉSULTATS** La proportion des accouchements vaginaux facturés par des omnipraticiens ou des médecins de famille (exprimée en termes du nombre total d'accouchements vaginaux par des médecins de cette catégorie divisé par le nombre total d'accouchements vaginaux).

**RÉSULTATS** En 1994-1995, la proportion des accouchements vaginaux facturés par des omnipraticiens ou des médecins de famille variait de 77,2% en Colombie-Britannique et 70,8% en Nouvelle-Écosse à 28,9% en Ontario et 23,6% à l'Île-du-Prince-Édouard. Ces proportions sont demeurées relativement élevées et stables durant la période étudiée dans certaines provinces, comme en Colombie-Britannique et en Nouvelle-Écosse, et elles ont baissé de manière constante et notoire dans d'autres.

**CONCLUSIONS** Les données indiquent que la participation des omnipraticiens et des médecins de famille aux accouchements vaginaux dans la majorité des provinces canadiennes est en déclin. Cette tendance fait valoir une réorientation dans la pratique médicale des médecins de cette catégorie et pourrait indiquer une éventuelle pénurie à venir de dispensateurs de soins en obstétrique.

*This article has been peer reviewed.*

*Cet article a fait l'objet d'une évaluation externe.*

*Can Fam Physician 2000;46:587-597.*

## RESEARCH

### Intrapartum care by general practitioners and family physicians

**G**eneral practitioners and family physicians (GP/FPs) have traditionally provided intrapartum care in all provinces in Canada as a routine part of their practice. In more recent years, however, some GP/FPs have chosen to exclude intrapartum care from their core services.

A severe shortage in obstetric manpower in the future has been forecast as fewer obstetrics specialists are trained<sup>1</sup> and many practising obstetricians are expected to retire within the next few years.<sup>2</sup> At the same time, large numbers of GP/FPs and obstetrician-gynecologists have stopped practising intrapartum care altogether.<sup>3</sup> Some provinces have licensed midwives, but current trends indicate the number of midwives available will be insufficient to meet the resulting shortfall in most provinces for many years to come.<sup>4</sup> This shortage of manpower is already being felt in many rural areas of the United States and Canada where women are required to travel long distances and be separated from their families in order to give birth safely.<sup>5-7</sup>

Family physicians opt out of intrapartum care for many reasons, such as lifestyle factors,<sup>8</sup> fear of litigation,<sup>9,10</sup> and concern that they have insufficient obstetric training.<sup>11</sup> They opt out despite the fact that studies of practising family physicians show that those who include obstetrics in their practices are, on the whole, more satisfied with their working lives, less likely to be sued for obstetric cases than nonobstetric ones,<sup>12,13</sup> and more likely to have balanced age and sex distributions in their patient populations than those who do not.<sup>14</sup>

Several other factors have been advanced as potential influences on involvement of GP/FPs in provision of intrapartum care, including the ratio of obstetricians to the population,<sup>15</sup> the effect of role models on practice patterns of students and residents,<sup>12,16</sup> the "feminization" of the GP/FP profession,<sup>17</sup> certification of physicians by the College of Family Physicians of Canada (CFPC),<sup>18</sup> rising malpractice insurance rates,<sup>19</sup> and consumer preferences.<sup>20</sup>

Trends in provision of intrapartum care by GP/FPs have been investigated for some Canadian provinces for the period 1975 to 1983<sup>15</sup>; more recently trends in Ontario were investigated.<sup>4</sup> Nationally, the

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proportion of vaginal births billed by GP/FPs decreased significantly from 54.8% in 1984-1985 to 45.0% in 1994-1995, with an average annual decrease of 1.1% or about 2000 births.<sup>21</sup>

This study describes the involvement of GP/FPs in provision of intrapartum care in 10 Canadian provinces, as evidenced by billing data from 1984-1985 to 1994-1995, and considers the implications of these trends for women, provincial and national governments, and health professionals.

## METHODS

This study is based on Medical Care Fee-for-Service Utilization numbers derived from the National Physician Database and obtained from the Canadian Institute for Health Information (CIHI). This database includes all direct fee-for-service billings for vaginal and cesarean births (reported separately) for each province from 1984-1985 to 1994-1995 by physician specialty. Physicians paid under alternative forms of reimbursement, such as salary, sessional fees, or capitation, are not included. Births attended by midwives are also excluded. Data are based on gross direct payments; reciprocal billings are not included. Yukon and Northwest Territories do not currently submit their data to CIHI. Due to the exclusion criteria outlined above, CIHI billing data capture from 93.8% to 99.6% (depending on year) of information on births annually relative to the annual number of births reported by Statistics Canada during the period studied.

The proportion of vaginal births billed by GP/FPs (expressed as total number of vaginal births billed by GP/FPs divided by total number of vaginal births) was calculated annually for each province for the period studied. The denominator included vaginal births billed by obstetricians and gynecologists and births billed by other specialists (ie, general surgeons).

Scatter plots of provincial data suggested that linear trends were reasonable. Data were examined using the Durbin-Watson test for serial correlation, applying Theil-Nagar Q-values,<sup>22</sup> but, since there was no indication of significant autocorrelation for any of the models estimated, the ordinary least square regression was used to fit and test trends. Estimated 11-year trends (unstandardized regression coefficients [ $\beta$ ]), 95% confidence intervals (CIs), and  $R^2$  were then derived from the fitted values.

In view of the exploratory nature of this study, the importance of maintaining adequate analytical power, and the absence of an a priori specified hypothesis,

$P < .01$  (two-tailed) was accepted as the minimum criterion for significance in our analyses.

Data were analyzed using StatView II (version 1.04 for Macintosh; Abacus Concepts Inc, 1990) and MS Excel (version 8.0 for Macintosh; Microsoft Corporation, 1983-1998) software.

## RESULTS

In 1994-1995, the proportion of vaginal births billed by GP/FPs ranged from 77.2% in British Columbia (BC) and 70.8% in Nova Scotia (NS) to 28.9% in Ontario and 23.6% in Prince Edward Island (PEI) (Table 1, Figure 1). In BC and NS, these proportions remained relatively stable during the period studied ( $\beta$  -0.06, 95% CI -0.27 to +0.15,  $P = .505$  and  $\beta$  -0.20, 95% CI -0.41 to +0.01,  $P = .056$ , respectively) (Figure 2). The remaining eight provinces experienced significant decreases in the proportion of vaginal births billed by GP/FPs during the same period (Figure 1, Figure 3, Figure 4, and Table 1). These provinces had significant decreases, regardless of the initial proportion of vaginal births attended by GP/FPs in each province (1984-1985).

In PEI and Manitoba, the downward trends were steepest ( $\beta$  -3.69, 95% CI -4.59 to -2.79,  $P < .001$  and  $\beta$  -2.19, 95% CI -2.55 to -1.82,  $P = .001$ ) with an average annual decrease of 3.7% and 2.2%, respectively, in the proportion of vaginal births billed by GP/FPs

(Table 1, Figure 3). Decreased involvement of GP/FPs, while less pronounced, was also evident in other provinces, including the two provinces with the largest populations, Ontario ( $\beta$  -1.09, 95% CI -1.39 to -0.80,  $P < .001$ ) and Quebec ( $\beta$  -0.50, 95% CI -0.67 to -0.33,  $P < .001$ ) and the lowest initial proportions (ie, 1984-1985: Ontario 40.3%, Quebec 48.7%). These two provinces had steep downward trends similar to provinces that started at much higher initial levels (ie, 1984-1985: Saskatchewan 79.4%; Newfoundland 65.2%) (Table 1, Figure 4).

## DISCUSSION

The overall decreased involvement of GP/FPs in provision of intrapartum care in Canada<sup>15</sup> conceals some important provincial variations. The proportion of vaginal births billed by GP/FPs has remained relatively high and stable during the period studied in two provinces (BC, NS) while declining steadily and significantly in the remaining eight provinces. This descriptive study was designed to document important provincial variations and temporal patterns of practice in intrapartum obstetric care. Our objective was to describe these variations and invite discussion on the larger issue of GP/FPs' changing patterns of practice and the resultant shortage of intrapartum care across Canada if current trends continue.

**Table 1. Linear regression analysis of year-to-year change in proportion of vaginal deliveries billed by GP/FPs from 1984-1985 to 1994-1995, by province**

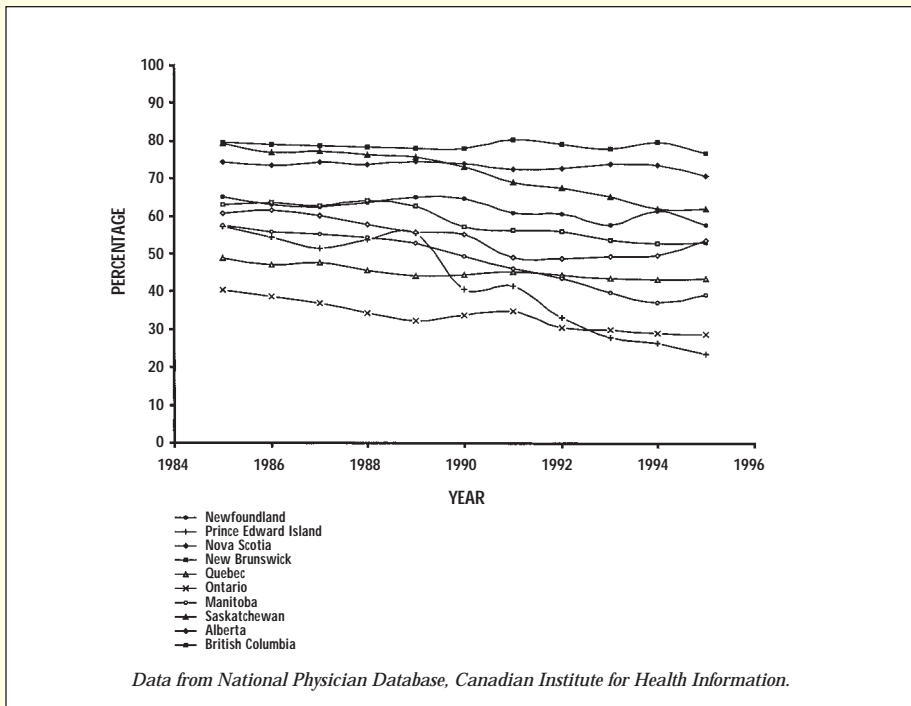
PROVINCE	NO. OF VAGINAL BIRTHS BILLED IN 1994-1995 (%*)	VAGINAL BIRTHS BILLED BY GP/FPS IN 1984-1985 (%)	VAGINAL BIRTHS BILLED BY GP/FPS IN 1994-1995 (%)	% CHANGE	SLOPE	95% CONFIDENCE INTERVAL	P VALUE	VARIANCE ( $R^2$ )
Newfoundland	3685 (1.2)	65.2	57.8	-7.4	-0.68	-1.03 to -0.33	.002	0.68
Prince Edward Island	1312 (0.4)	57.2	23.6	-33.6	-3.69	-4.59 to -2.79	<.001	0.91
Nova Scotia	10 487 (3.4)	74.5	70.8	-3.7	-0.20	-0.41 to +0.01	.056	0.35
New Brunswick	7206 (2.3)	63.2	53.2	-10.0	-1.30	-1.66 to -0.93	<.001	0.88
Quebec	72 608 (23.3)	48.7	43.5	-5.2	-0.50	-0.67 to -0.33	<.001	0.83
Ontario	117 491 (37.7)	40.3	28.9	-11.4	-1.09	-1.39 to -0.80	<.001	0.89
Manitoba	13 028 (4.2)	57.7	39.2	-18.5	-2.19	-2.55 to -1.82	<.001	0.95
Saskatchewan	12 907 (4.1)	79.4	63.3	-17.1	-1.86	-2.18 to -1.53	<.001	0.95
Alberta	35 977 (11.5)	60.6	53.7	-6.9	-1.28	-1.87 to -0.68	<.001	0.72
British Columbia	36 975 (11.9)	79.6	77.2	-2.4	-0.06	-0.27 to +0.15	.505	0.05

\*Proportion of all vaginal deliveries billed in Canada in 1994-1995 ( $n = 311\ 676$ ).

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**Figure 1. Estimated trend in proportion of vaginal deliveries billed by GP/FPs from 1984-1985 to 1994-1995: Data are based on direct fee-for-service claims. Reciprocal billing data have not been included. Physicians paid under alternative forms of reimbursement are not included. The 1994-1995 data are preliminary.**



**Figure 2. Estimated trend in proportion of vaginal deliveries billed by GP/FPs from 1984-1985 to 1994-1995: A) British Columbia and B) Nova Scotia.**

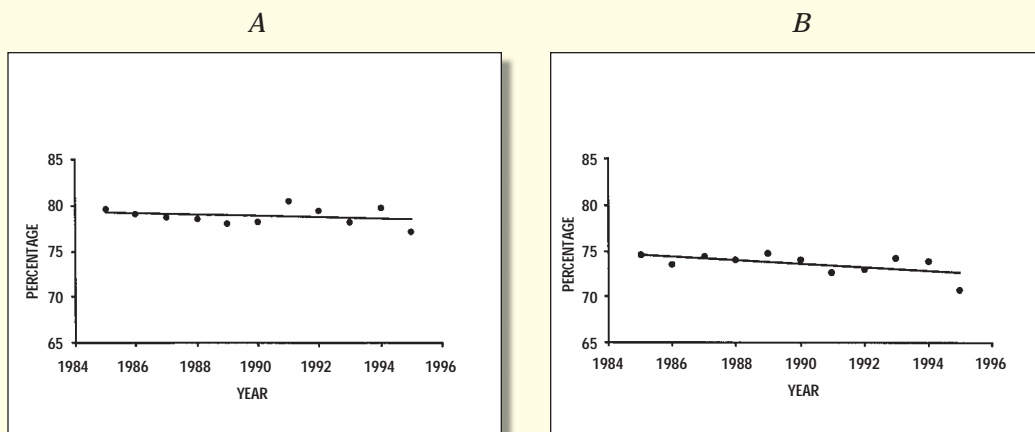
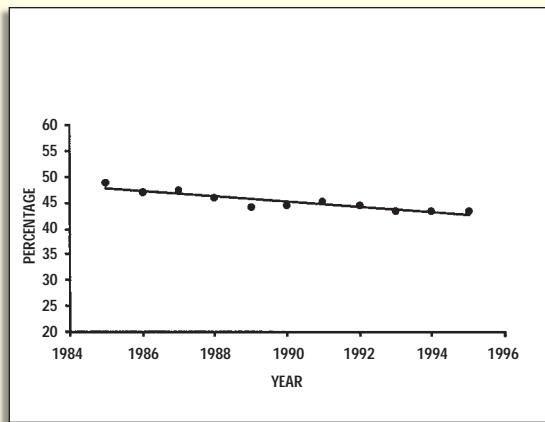
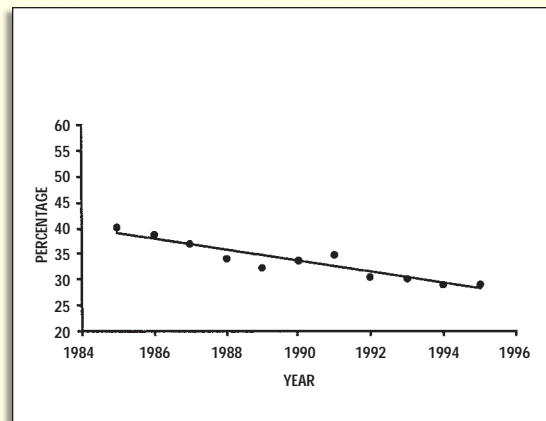


Figure 3. Estimated trend in proportion of vaginal deliveries billed by GP/FPs from 1984-1985 to 1994-1995: A) Quebec, B) Ontario, C) Prince Edward Island, and D) Manitoba.

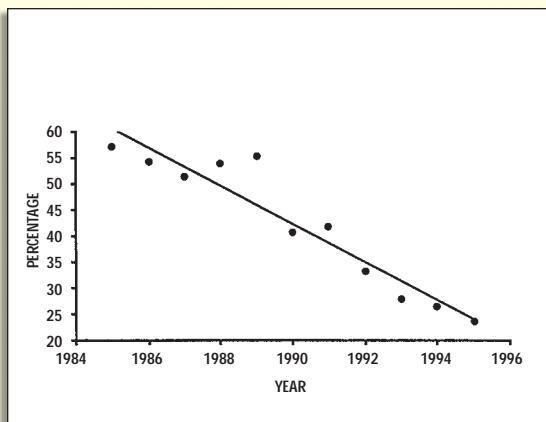
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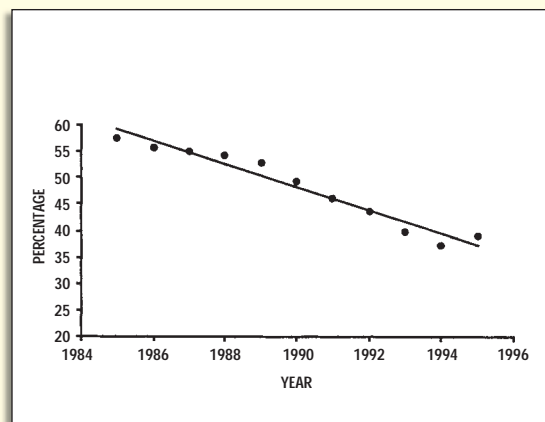
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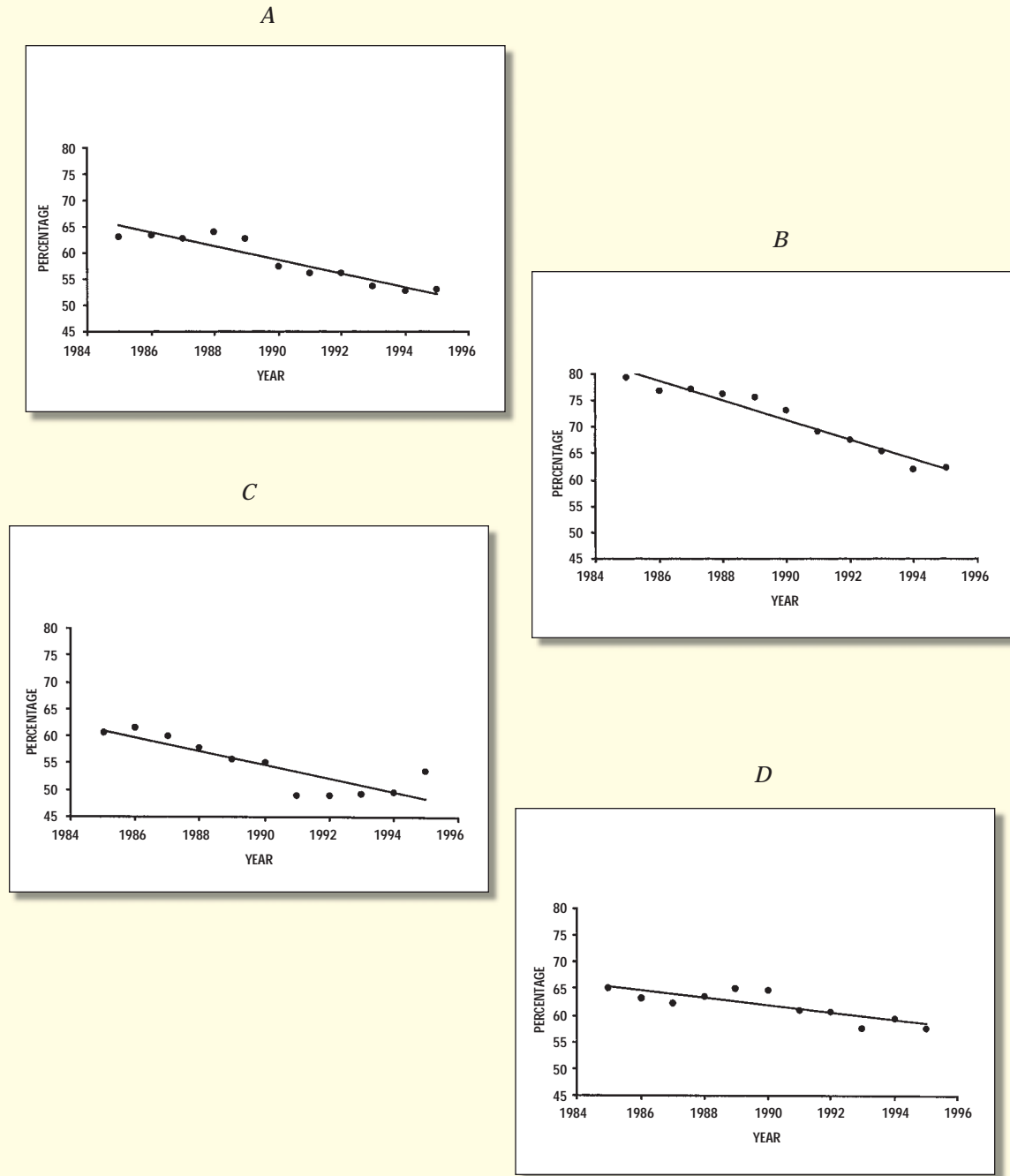
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**Figure 4. Estimated trend in proportion of vaginal deliveries billed by GP/FPs from 1984-1985 to 1994-1995: A) New Brunswick, B) Saskatchewan, C) Alberta, and D) Newfoundland.**



Decisions to include or exclude certain services are at the discretion of individual GP/FPs, but have a profound effect on several key stakeholders: Canadian women, other health professionals, provincial and federal governments, professional colleges, faculties of medicine and health sciences, and GP/FPs themselves.

The effect on Canadian women, while not uniform, evolves around two critical issues: choice and accessibility. Many women prefer to have caregivers they know and trust attend to their prenatal needs and their babies' births. They also benefit from the continuity of care provided to the whole family. At the moment, obstetricians are easily accessible in urban settings, but one third of Canadians live in more isolated or rural settings. Choosing to exclude obstetrics from family practice could, therefore, profoundly affect accessibility for many Canadian women.

Other health professionals providing obstetric services in Canada (obstetricians and midwives) are expected to take up the slack. Concerns over such developments, however, range from whether it is cost-effective to have specialists care for low-risk pregnancies to whether there will be sufficient midwives to provide the service. These questions are further confounded by concerns over optimal use of existing resources, accessibility, and consumer choice.

There is little indication that provincial or national governments recognize both the magnitude and the urgency of the pending crisis in provision of obstetric care to Canadian women. In Europe and the United Kingdom, general practice has evolved into contracts for core services in hospitals and the community. If a similar pattern is to be followed in Canada, more effective consultation and planning with key stakeholders must take place to prevent this imminent crisis.

Professional colleges and faculties of medicine and health sciences have a stake in these decisions. Current standards for graduating residents in family medicine require that they be trained to provide obstetric services. Studies to date indicate, however, that residents are intransigent about practising obstetrics once they have made up their minds in medical school and current training programs rarely instill confidence in their ability to practise obstetrics once they have graduated.<sup>10,23,24</sup> To date, no specific training initiative has successfully addressed this problem in Canada; GP/FPs have opted out because there are no national standards of expected services in family medicine and little moral or financial incentive to include intrapartum care in practice. For

many, intrapartum care has become an unnecessary burden that can be transferred to other caregivers.

Primary care stresses management of problems common in the populations served. Studies of problems presented to GP/FPs indicate that a high proportion of the most common problems are obstetric or gynecologic. The decreasing involvement of GP/FPs in intrapartum care might change the structure and content of family medicine in Canada. Klein et al<sup>15</sup> argued that decreased involvement might lead to reciprocal reductions in child health care and perhaps even care of the family itself. Ideologically, family medicine is unified by the principle that medical care is most effective when delivered in the context of family, community, and society.

Finally, is it possible to reverse these trends, to encourage GP/FPs to attend births? A 1988 survey, sent randomly to a stratified national sample of GP/FPs in Canada (response rate was 50.8%), found that the proportion of respondents who reported attending births had declined from 68.4% in 1983 to 46.1% in 1988.<sup>25</sup> A study carried out on behalf of the CFPC between October 1997 and March 1998 on a random, stratified sample of 5283 GP/FPs in all regions of Canada (response rate was 58%) reported that only 19% of them continued to attend births.<sup>26</sup> A similar proportion (18%) was reported in a recent analysis of Ontario 1993-1994 billing data.<sup>4</sup>

Reversing these trends will involve careful review of training, lifestyle issues, medicolegal issues, and remuneration. If the CFPC, GP/FPs, and other stakeholders are committed to continuing GP/FPs' involvement in intrapartum care, a strategic initiative must be undertaken to reverse these trends. We do not have an easy answer to why the trends in some provinces were so markedly different from trends in other provinces, in part because these trends are likely to be determined by multiple, complex, and often historical circumstances, and in part because provincial data are likely to conceal important intraprovincial differences in organization and delivery of intrapartum care. While provincial organization of, and payment for, medical services is an attractive candidate to blame for differing provincial rates, we do not have appropriate fee schedule data to test this hypothesis empirically. We also caution against simplistic, one-size-fits-all solutions to this complex and increasing problem.

### Limitations

The data presented above and the way in which they have been analyzed have some limitations. Apart from excluding births attended under alternative payment

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#### Key points

- This study describes provincial trends in provision of intrapartum care by general practitioners and family physicians (GP/FPs) from 1984-1985 to 1994-1995, using billing data for vaginal births.
- In British Columbia and Nova Scotia, GP/FPs have consistently remained highly involved; about 70% to 80% of regional births are billed by GP/FPs.
- In the other eight provinces, involvement has declined steadily so that GP/FPs now attend only 23% to 54% of births.
- The decline in involvement in intrapartum care suggests a looming shortage of obstetrical caregivers in Canada.

#### Points de repère

- Cette étude décrit les tendances provinciales dans la prestation des soins *intra-partum* par les omnipraticiens et les médecins de famille entre 1984-1985 et 1994-1995, fondées sur les données concernant la facturation pour des accouchements vaginaux.
- En Colombie-Britannique et en Nouvelle-Écosse, les omnipraticiens et les médecins de famille sont uniformément demeurés très actifs à ce chapitre; environ 70% à 80% des accouchements en région sont facturés par des médecins de cette catégorie.
- Dans les huit autres provinces, la participation a baissé de manière constante, de sorte que les omnipraticiens et les médecins de famille n'assistent maintenant aux naissances que dans une proportion de 23% à 54%.
- Le fléchissement dans la participation aux soins *intra-partum* laisse présager une éventuelle pénurie éminente de dispensateurs de soins obstétriques au Canada.

plans and births in the territories, billing data are likely to underestimate the actual participation of GP/FPs in obstetric care. First, births attended by both obstetricians and family physicians that were originally attended during labour by family physicians are likely to be attributed to obstetricians. Second, billing data based on fees for births is likely to ignore a range of provincial and physician variations in referral patterns and thus to underestimate the actual involvement of GP/FPs. Third, some obstetricians bill as family physicians. Finally, provincial data are likely to conceal important intraprovincial differences in organization and delivery of intrapartum care, such as urban and rural differences and differing local circumstances.

#### Conclusion

There has been a steady trend to decreased involvement of GP/FPs in vaginal births for the last 11 years in most Canadian provinces as evidenced by billing data for births. In two provinces, family doctors continue to provide a high level of intrapartum care; in the remaining eight provinces, their involvement has shown a steady and significant decrease. These trends demonstrate a shift in the practice patterns of GP/FPs and need to be further investigated. Women, health professionals, GP/FPs, and governments at all levels must undertake strategic initiatives to address this important issue. ❀

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