

# Factors Influencing the Decision to Practise Obstetrics Among Québec Medical Students: A Survey

Marie-Josée Bédard, MD, FRCSC,<sup>1,2</sup> Sylvie Berthiaume, MD, FCMF,<sup>2</sup>  
Marie-Dominique Beaulieu, FCMF, MD, MSc,<sup>3</sup> Céline Leclerc, MD, FCMF<sup>4</sup>

<sup>1</sup>University of Montreal, Faculty of Medicine, Montréal, Québec

<sup>2</sup>Centre Hospitalier Universitaire de Montréal, Hôpital Saint-Luc du CHUM, Montréal, Québec

<sup>3</sup>Doctor Sadok Besrouer Chair in Family Medicine, Department of Family Medicine, University of Montreal, CHUM Research Centre, Notre Dame Hospital, Montréal, Québec

<sup>4</sup>Université Laval, Faculty of Medicine, Québec

## Abstract

**Objective:** The objectives of this study were to track changes in medical students' interest in obstetrics from the beginning of their studies in medicine to the end of their pre-clinical clerkships and to identify factors that influenced this interest.

**Methods:** This was a cohort study of all Québec medical students who, in 2003, were about to begin their clerkships (n = 500). A questionnaire was administered at this time (T1) and at the end of the clerkship (T2). The main outcome variables were an intention to provide prenatal care without deliveries and an intention to deliver infants in future practice. Logistic regression analysis was used to assess relationships between the various determinants and the decision to practise obstetrics.

**Results:** A total of 353 students, or 70.6% of the cohort, completed both questionnaires. At the end of their clerkships, 32 students (9.1%) were definitely planning to include complete obstetrical care in their future practices, and 45 (12.7%) said that they probably would. Between the beginning and the end of their clerkships, only 8% of students had changed their minds in favour of an obstetrical career, and 20% had decided against it. An intention to deliver infants is associated with the following factors: considering the practice of obstetrics gratifying (odds ratio [OR] 6.73; 95% confidence intervals [CI] 3.30–13.70); having been exposed to obstetrical care outside the clerkship in obstetrics and gynaecology (OR 4.4; 95% CI 1.6–10.26); having completed university studies before studying medicine (OR 4.08; 95% CI 1.11–15.3); and having had a decisive, positive experience with obstetrics (OR 2.86; 95% CI 0.96–8.50). Students who believed that specialists had played a key role in their decision and that obstetrics is a demanding practice were less likely to plan a career that included delivering infants (OR 0.43; 95% CI 0.23–0.69 and OR 0.35; 95% CI 0.21–0.59, respectively).

**Conclusion:** This study shows that an interest in practising obstetrics emerges very early in medical training. However, a student's learning experiences during an obstetrical rotation affect this decision. Departments of family medicine and obstetrics and gynaecology may be able to work together to create more positive role models.

## Résumé

**Objectif :** Les objectifs de cette étude étaient de faire le suivi de l'évolution de l'intérêt porté à l'obstétrique par les étudiants de médecine, et ce, du début de leurs études jusqu'à la fin de leurs stages précliniqués, ainsi que d'identifier les facteurs qui influençaient cet intérêt.

**Méthodes :** Il s'agissait d'une étude de cohorte portant sur tous les étudiants de médecine du Québec qui, en 2003, étaient sur le point d'entamer leur stage (n = 500). Un questionnaire a été administré à ce moment (T1) et à la fin du stage (T2). Les principaux critères d'évaluation étaient l'intention d'offrir des soins prénatals, sans procéder à des accouchements, et l'intention de procéder à des accouchements dans le cadre de la pratique à venir. Une analyse de régression logistique a été utilisée pour évaluer les relations entre les divers déterminants et la décision de pratiquer l'obstétrique.

**Résultats :** Au total, 353 étudiants (ou 70,6 % de la cohorte) ont rempli les deux questionnaires. À la fin de leurs stages, 32 étudiants (9,1 %) planifiaient avec certitude d'inclure des soins obstétricaux complets au sein de leur pratique à venir et 45 (12,7 %) autres ont indiqué qu'ils incluraient probablement de tels soins à leur pratique à venir. Entre le début et la fin de leurs stages, seulement 8 % des étudiants ont changé d'avis en faveur d'une carrière en obstétrique, tandis que 20 % des étudiants ont décidé d'y renoncer. Une intention de procéder à des accouchements est associée aux facteurs suivants : le fait de considérer la pratique de l'obstétrique comme étant gratifiante (rapport de cotes [RC], 6,73; intervalle de confiance [IC] à 95 %, 3,30–13,70); le fait d'avoir été exposé à des soins obstétricaux dans un autre contexte que celui du stage en obstétrique-gynécologie (RC, 4,4; IC à 95 %, 1,6–10,26); le fait d'avoir terminé des études universitaires avant d'étudier la médecine (RC, 4,08; IC à 95 %, 1,11–15,3); et le fait d'avoir eu une expérience décisive et positive en ce qui a trait à l'obstétrique (RC, 2,86; IC à 95 %, 0,96–8,50). Les étudiants qui estimaient que

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les spécialistes avaient joué un rôle clé dans leur décision et que l'obstétrique constituait une pratique exigeante étaient moins susceptibles de planifier une carrière comprenant le fait de procéder à des accouchements (RC, 0,43; IC à 95 %, 0,23–0,69 et RC, 0,35; IC à 95 %, 0,21–0,59, respectivement).

**Conclusion :** Cette étude démontre que l'intérêt envers la pratique de l'obstétrique naît très tôt au cours de la formation en médecine. Cependant, les expériences d'apprentissage d'un étudiant au cours d'une rotation en obstétrique exercent un effet sur cet intérêt. Les départements de médecine familiale et d'obstétrique-gynécologie pourraient être en mesure de collaborer afin de créer des modèles plus positifs.

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## INTRODUCTION

During the last 15 years, there has been a progressive loss of interest in and abandonment of obstetrics among family physicians in Canada and elsewhere.<sup>1–6</sup> The number of specialists in obstetrics and gynaecology has declined over the same period, in part because of the aging of this population and falling recruitment levels.<sup>6</sup> Even if the practice of midwifery can grow enough to begin to meet these needs, this decline in medical resources creates a problem and prompts the questions (1) what factors lead medical students to favour or decide against practising obstetrics? and (2) when during medical training is this choice made?

Most studies have examined medical students' choices to offer obstetrical care when they begin residency in family medicine.<sup>7–13</sup> Some have focused on the factors that would influence undergraduate students to pursue a specialist career in obstetrics and gynaecology.<sup>14–17</sup> Understanding the determinants of career choices during the clerkship period would foster better planning of strategies to encourage students to practise obstetrics.

This study aimed to develop an understanding of the choices related to obstetrics made by students as they plan their careers as family physicians or specialists. It also aimed to identify the main factors behind these decisions, taking into account experience acquired during medical training.

The objectives of this survey were (1) to estimate the proportion of medical students who, at the end of their clerkships, plan to offer prenatal care and/or deliver infants in their future practices; (2) to identify when during their undergraduate training the students make this decision; and (3) to identify factors affecting this choice (such as sociodemographic characteristics, their educational institution, their personal values, perceptions of the practice of obstetrics, and the effect of specific learning experiences and professors).

## METHODS

### Design

The research strategy was a cohort study. A questionnaire was administered to medical students before the clinical clerkship period began and after its completion (one to two years, depending on the university). The project was approved by the Research Ethics Committee of the Faculty of Medicine of the University of Montreal.

### Study Population

The study population consisted of all first-year clinical clerks of the four faculties of medicine in the Province of Québec (at University of Montreal, McGill University, Sherbrooke University and Laval University) in 2003 ( $n = 500$ ). The subjects were approached during one of their classes after approval by administrators in each medical school. The questionnaire was developed by our research team and was based on ideas from the literature, particularly those from work by Godwin et al,<sup>11,12</sup> on factors affecting the decision to practise obstetrics among Ontario residents in family medicine. The questionnaire was translated from French to English and pre-tested in both languages with a group of 15 students.

### Variables

The primary outcome measure was the student's intention to take up obstetrics in his or her future career. The measure was designed to include two main dependent variables: an intention to provide prenatal care without delivering infants and an intention to deliver infants. These variables were recorded twice: first at the end of the pre-clinical years (i.e., before the students began their clerkships) (T1), and then at the end of the clerkship (T2). Two independent variables were considered: positive and negative changes in the desire to practise obstetrics at the end of the clerkship period.

The following sociodemographic variables were taken into account: age, gender, previous training, marital status, being a parent, and the type of practice planned.

Intentions with respect to practising obstetrics and exposure to obstetrical care before entering a faculty of medicine and during the pre-clinical years were captured in the first questionnaire (T1).

Attitudes with respect to obstetrical practice were surveyed at T1 and T2 through a series of 13 statements rated on a Likert scale of 1 to 5. These statements were developed by Godwin et al.<sup>11,12</sup> The factorial analysis produced two factors: (1) obstetrics as a gratifying practice (Cronbach  $\alpha = 0.82$ ) and (2) obstetrics as a demanding practice (Cronbach  $\alpha = 0.63$ ) (see Appendix).

**Table 1. Medical students' intentions with respect to the practice of obstetrics at the beginning of their clerkships (T1), by university**

	Total N = 485 (%)	University 1 n = 139 (%)	University 2 n = 115 (%)	University 3 n = 130 (%)	University 4 n = 101 (%)	$\chi^2$ Value of P
Planned to practise obstetrics before beginning medical studies						
Yes	154 (32.0)	41 (29.9)	35 (30.4)	47 (36.4)	31 (31.0)	3.43 0.753
No	235 (48.9)	68 (49.6)	56 (48.7)	57 (44.2)	54 (54.0)	
Undecided	92 (19.1)	28 (20.4)	24 (20.9)	25 (19.4)	15 (15.0)	
If yes, as:						
Obstetrician-gynaecologist	41 (26.6)	7 (17.1)	19 (54.3)	7 (14.9)	8 (25.8)	24.85 0.000
General practitioner	75 (48.7)	18 (43.9)	11 (31.4)	27 (57.4)	19 (62.3)	
Undecided	38 (24.7)	16 (39.0)	5 (14.3)	13 (27.7)	4 (12.9)	
Changed mind between the time they entered medicine and the beginning of the clerkship						
More positive towards practising obstetrics	56 (11.5)	24 (17.3)	5 (4.3)	14 (10.8)	16 (15.8)	21.60 0.010
More negative towards practising obstetrics	54 (11.1)	12 (8.6)	18 (15.7)	16 (12.3)	3 (3.0)	
Changed mind but remained undecided	9 (1.9)	2 (1.4)	1 (0.9)	3 (2.3)	3 (3.0)	
Did not change mind	368 (75.9)	101 (72.7)	91 (79.1)	97 (74.6)	79 (78.2)	
Had some exposure to obstetrical care since the beginning of studies in medicine						
Yes	317 (65.6)	99 (71.2)	76 (66.7)	70 (54.3)	72 (71.3)	10.80 0.013
No	166 (34.4)	40 (28.8)	38 (33.3)	59 (45.7)	29 (28.7)	
Perceptions of obstetrics*						
Factor 1: Stimulating practice	3.27 (0.96)	3.15 (0.93)	2.93 (0.95)	3.47 (0.93)	3.27 (0.96)	$P > 0.001$
Factor 2: Demanding and risky practice	2.46 (0.98)	2.15 (0.90)	2.39 (0.99)	2.57 (0.97)	2.82 (0.93)	$P > 0.001$

\* Score and standard deviation on a scale of 1 to 5, 1 = strongly disagree, 5 = strongly agree. The comparison of averages is based on an analysis of variance (F statistic of 11.62, 10.74 and 2.01, respectively).

Learning experiences during the clerkship in obstetrics and gynaecology were measured at T2. In addition to determining the number of deliveries observed or performed under supervision, we evaluated students' perceptions of the rotation through a series of nine statements rated on a Likert scale of 1 to 5. A factorial analysis produced three factors: (1) the role model provided by specialists and the general experience during the rotation (Cronbach  $\alpha = 0.67$ ), (2) the role model provided by general practitioners and the general climate created by nurses (Cronbach  $\alpha = 0.40$ ), and (3) a positive role model provided by residents (Cronbach  $\alpha = 0.80$ ) (see Appendix). We then used these factors in our analyses. Finally, open questions were used to explore the existence of a turning point, either negative or positive, during the rotation when the students' intentions changed.

## Analysis

The descriptive data were analyzed using conventional bivariate measures of associations. Associations between

the factors and the decision to practice obstetrics were assessed by logistic regression.

## RESULTS

### Sociodemographic Characteristics

A total of 485 students (97%) completed the questionnaire at T1. The average age of respondents at T1 was 24 years (20 to 38 years), and 61.6% were female. Of the 485 students, 353 (70.6%) completed the questionnaire at T2. The analyses were performed on this cohort. No statistically significant differences in terms of age, intention to provide prenatal care and deliver infants, or attitudes about obstetrics at the end of their pre-clinical studies (T1) were found between the students who responded to both questionnaires and those who were lost between T1 and T2. However, a significant difference was found in the variables for university attended (chi-square = 57.04;  $P < 0.0001$ ) and gender (35.4% of respondents were male; 46.2% of non-respondents were male; chi-square = 4.7;  $P = 0.02$ ).

**Table 2. Description of respondents' intentions at the end of the clerkship by university**

	Total N = 353 (%)	University 1 n = 100 (%)	University 2 n = 55 (%)	University 3 n = 111 (%)	University 4 n = 87 (%)	$\chi^2$ Value of P
Student planning to provide prenatal care in future medical practice						
Most definitely	51 (14.4)	14 (14.0)	9 (16.4)	15 (13.5)	13 (14.9)	11.81 0.461
Probably	67 (19.0)	23 (23.0)	7 (12.7)	18 (16.2)	19 (21.8)	
Undecided	35 (9.9)	15 (15.0)	3 (5.5)	9 (8.1)	8 (9.2)	
Unlikely	74 (21.0)	18 (18.0)	11 (20.0)	33 (29.7)	12 (13.8)	
Very unlikely	126 (35.7)	30 (30.0)	25 (45.5)	36 (32.4)	35 (40.2)	
Student planning to deliver infants in future medical practice						
Most definitely	32 (9.1)	9 (9.0)	6 (10.9)	8 (7.2)	9 (10.3)	10.50 0.572
Probably	45 (12.7)	13 (13.0)	10 (18.2)	11 (9.9)	11 (12.6)	
Undecided	52 (14.7)	16 (16.0)	5 (9.1)	15 (13.5)	16 (18.4)	
Unlikely	63 (17.8)	19 (19.0)	8 (14.5)	28 (25.2)	8 (9.2)	
Very unlikely	161 (45.6)	43 (43.0)	26 (47.3)	49 (44.1)	43 (49.4)	
If yes, as:						
Specialist in obstetrics and gynaecology-	18 (23.4)	6 (27.3)	(31.3)	6 (31.6)	1 (5.0)	9.29 0.158
General practitioner	56 (72.7)	14 (63.6)	10 (62.5)	13 (68.4)	19 (95.0)	
Undecided	3 (3.9)	2 (9.1)	1 (6.3)	0	0	
Student changed mind about a career that includes obstetrics since entering medicine						
More positive towards obstetrics	59 (8.4)	11 (11.3)	6 (10.9)	7 (6.4)	5 (5.9)	14.28 0.283
More negative towards obstetrics	86 (19.9)	16 (16.5)	10 (18.2)	23 (21.1)	20 (23.5)	
Changed mind but remained undecided	39 (11.3)	14 (14.4)	1 (1.8)	15 (13.8)	9 (10.6)	
Did not change mind	209 (60.4)	56 (57.7)	38 (69.1)	64 (58.7)	51 (60.0)	
Perceptions of obstetrics*						
Factor 1: Stimulating practice	3.73 (1.00)	3.75 (0.98)	3.48 (1.10)	3.70 (0.91)	3.92 (1.04)	P = 0.07
Factor 2: Demanding and risky practice	2.94 (1.00)	3.39 (1.01)	2.74 (1.04)	2.98 (0.80)	2.58 (0.98)	P < 0.001

\* Score and standard deviation on a scale of 1 to 5, 1 = strongly disagree, 5 = strongly agree. The comparison of averages is based on an analysis of variance (F statistic of 2.33, 13.78 and 8.67, respectively).

### Intention to Practise Obstetrics Before Beginning the Clerkship

Table 1 summarizes intentions to practise obstetrics at T1.

Approximately one third of the students said that they were interested in practising obstetrics in their future careers before they had even begun their studies in medicine. The majority had not changed their minds between the time they began medicine and the start of their clerkships. Obstetrical practice is considered more stimulating at university 3, and it is more likely to be considered demanding and risky at university 4. Since beginning their studies in medicine, 65.6% of the students had had some exposure to obstetrical care through either a personal or a professional experience. These experiences varied by university.

Three factors were associated with an intention to practise obstetrics when measured at the end of the pre-clinical years: being female (OR 3.17; 95% CI 1.18–5.84), having had an exposure to obstetrical care during pre-clinical training (OR 2.94; 95% CI 1.65–5.25), and perceiving the practice of obstetrics as potentially gratifying (OR 1.92; 95% CI 1.40–2.67).

### Intention to Practise Obstetrics at the End of the Clerkship

Table 2 provides a summary of intentions to practise obstetrics at the end of the clerkship period.

The percentage of students who planned to deliver infants in their future careers had fallen. This decline was at the expense of those who were undecided at T1. Some students

**Table 3. Learning experience in obstetrics by university**

	Total N = 353	University 1 n = 100	University 2 n = 55	University 3 n = 111	University 4 n = 87	$\chi^2$ Value of P
With the exception of the obstetrics rotation, had some exposure to obstetrical care in the last year						
Yes	71 (20.2%)	22 (22.0%)	19 (34.5%)	11 (10.0%)	19 (21.8%)	12.97
No	281 (79.8%)	78 (78.0%)	36 (65.5%)	99 (90.0%)	68 (78.2%)	0.005
Have been encouraged to practise obstetrics						
Yes	152 (43.4%)	54 (54.5%)	26 (47.3%)	37 (33.9%)	35 (40.2%)	9.66
No	198 (56.6%)	45 (45.5%)	29 (52.7%)	72 (66.1%)	52 (59.8%)	0.022
Have been discouraged from practising obstetrics						
Yes	106 (30.8%)	34 (35.8%)	16 (29.6%)	34 (32.1%)	22 (25.6%)	2.25
No	238 (69.2%)	61 (64.2%)	38 (70.4%)	75 (68.8%)	64 (74.4%)	0.522
Number of deliveries observed (average, range)	20.1 (1–85)	22.5 (1–50)	30.6 (2–85)	22.6 (3–80)	7.7 (1–30)	F = 47.76 0.000
Number of deliveries performed (average, range)	7.1 (1–50)	10.1 (1–40)	7.8 (1–50)	3.5 (1–20)	4.7 (1–40)	F = 11.38 0.000
Percentage of contacts with a general practitioner in the delivery room	15.8% (1–100%)	12.1% (1–50%)	17.8% (1–50%)	11.0% (1–100%)	24.4% (1–100%)	F = 9.24 0.00
Student experienced an event that had a decisive influence on his or her perception of obstetrics						
Yes	112 (31.7%)	33 (33.0%)	24 (43.6%)	34 (30.6%)	21 (24.1%)	6.051
No	241 (68.3%)	67 (67.0%)	31 (56.4%)	77 (69.4%)	66 (75.9%)	0.109
Evaluation of the experience of the obstetrics rotation*						
Factor 4: Role model provided by specialists	3.20 (1.00)	3.35 (0.90)	3.28 (1.06)	2.92 (1.05)	3.35 (0.93)	0.004
Factor 5: Role model provided by general practitioners	2.69 (1.00)	2.64 (0.92)	3.06 (1.10)	2.59 (0.97)	2.63 (1.02)	0.023
Factor 6: Sense of security brought by residents in the specialty	1.88 (1.00)	1.66 (0.96)	1.99 (1.00)	1.94 (1.03)	1.99 (1.01)	0.075

\*Score and standard deviation on a scale of 1 to 5, 1 = strongly disagree, 5 = strongly agree. The comparison of averages is based on an analysis of variance (F statistic of 4.55, 3.20 and 2.32, respectively).

looked on the idea more positively (8.4%) and others more negatively (19.9%).

The majority planned to practise obstetrics as general practitioners (72.7%). No differences were found between the universities in terms of intentions to practise and the perception that practising obstetrics is gratifying. However, students at universities 1 and 2 perceived obstetrics as a demanding and risky practice, and students at university 2 perceived the conditions of practice as unattractive. It should be noted that 20.2% of students reported exposure to obstetrics outside the required rotation during the clerkship.

### Learning Experiences During Clerkship

Table 3 summarizes experiences during the students' rotations in obstetrics.

Although there were differences between universities in terms of the number of deliveries performed, no positive or negative correlation exists between the number of deliveries observed and performed and the desire to practise obstetrics. Generally speaking, clerks have little exposure to general practitioners; in fact, 28% of clerks had no exposure at all to a general practitioner during their rotation. Of those who did, 67% found it created a supportive environment, compared with 52% who found contact with obstetrician-gynaecologists created a supportive environment. Finally, more than one quarter of respondents (28%) reported that they had not been told that it was possible to combine obstetrics with a practice in family medicine. The role model provided by the specialist was a better predictor of subsequent choice than that provided by the general

**Table 4. Predictive variables of intentions with respect to the practice of obstetrics at the end of the clerkship**

	Predictors of planning to provide prenatal care (n = 118) OR; 95% CI	Predictors of planning to deliver infants (n = 77) OR; 95% CI	Predictors of a negative change of mind (n = 86) OR; 95% CI
Sex (male = 1)	2.32 (1.19–4.56)		2.48 (1.25–4.94)
Previous training – MSc or higher		4.08 (1.11–15.30)	2.91 (1.54–5.50)
University			
University #1			0.47 (0.18–1.25)
University #2			1.98 (0.70–5.65)
University #3			1.25 (0.57–2.78)
Exposure to obstetrical care outside the rotation (person or professional)	3.68 (1.80–7.51)	4.40 (1.60–10.26)	
Decisive event with a positive impact		2.86 (0.96–8.50)	
Decisive event with a negative impact			2.15 (1.06–4.36)
Role model provided by specialists		0.43 (0.23–0.69)	
Obstetrics seen as gratifying	2.58 (1.83–4.43)	6.73 (3.30–13.70)	
Obstetrics seen as demanding		0.35 (0.21–0.59)	1.36 (0.99–1.87)

OR: Odds ratio; CI: confidence interval.

practitioner, which was in turn was a significantly better predictor than that provided by the resident.

### Factors Associated With an Intention to Practise

Three factors are associated with an intention to provide prenatal care (n = 118) (see also Table 4): having been exposed to obstetrics outside the rotation (OR 3.68; 95% CI 1.80–7.51), perceiving the practice of obstetrics as gratifying (OR 2.58; 95% CI 1.83–4.43), and being female (OR: 2.32; 95% CI: 1.19–4.56).

An intention to deliver infants (n = 77) is associated with various factors listed in Table 4. The most important are the perception that obstetrics is gratifying (OR 6.73; 95% CI 3.30–13.70) and exposure to prenatal care outside the required rotation (OR 4.4; 95% CI 1.6–10.26).

The critical factors in a negative change of opinion (n = 100) during the student's clerkship are also shown in Table 4. Witnessing a decisive event with a negative impact was a significant influence.

The sample of students whose interest in practising obstetrics grew (a positive direction) was too small (n = 51) for analysis.

### DISCUSSION

This study confirms that an interest in practising obstetrics develops early in a student's training and that few students intend to take up the practice.

Our study has several strengths. The survey had an excellent response rate: we were able to follow 70.6% of the entire 2003 population of Québec clinical clerks. In addition, it was conducted in several universities. It was also a longitudinal study, an approach that eliminates recall bias, and the questions on attitudes towards the practice of obstetrics had already been validated.<sup>11,12</sup> The main weakness of the study is the low rate of response at T2 at university 2 (47.8%). This was due to poor attendance at the academic activity selected for distribution of the questionnaire. On the other hand, the comparison between respondents and non-respondents showed that there was no relation between rate of response and intention to practise obstetrics or the students' perceptions of this practice.

The clerkship seems to have a negative effect and does not attract undecided students to obstetrics.

Subjective perceptions that obstetrics is gratifying or demanding play important roles in decisions made in this area. Perceptions did not change significantly during training. This confirms findings by Ruderman<sup>10</sup> and Godwin,<sup>11,12</sup> who studied residents in family medicine.

Exposure to obstetrical care occurring early in training and outside the rotation is an important factor in career choice. This phenomenon has also been observed in surgery.<sup>18,19</sup> A bias must be noted: students who are interested in obstetrics are certainly more likely to choose optional rotations in this area.

Clerks have little contact with family physicians during the rotation, and they find the environment more supportive when a family physician is present. The majority of those who want to practise obstetrics plan to do so as family physicians. One can logically conclude that the role model needed here would be a competent family physician who has a perinatal practice instead of the busy specialist whose practice is more oriented to the care of abnormal pregnancies.

The role model provided by the specialist is a negative predictor of the choice of planning to deliver. Obstetrician-gynaecologists need to examine the role model they provide. It is disturbing to see that the main negative influence would be a personality conflict with a professor.

Our study demonstrated that residents are clearly not a force in recruiting for obstetrical practice. They provide an insecure atmosphere for students.

Witnessing a decisive event during a rotation can play an important role, either positive or negative, in this career choice. Witnessing a "beautiful delivery" will likely have a positive effect; experiencing a "high-stress situation" or witnessing a "delivery that went badly" will likely have a negative effect.

Variations observed in perceptions of the practice of obstetrics between the student bodies of different institutions suggest that there are differences in how their institutional cultures view the practice of obstetrics. To the extent that these perceptions appear to influence career choices, it is important to look more closely at how obstetrics is taught in different medical schools.

Our study has identified several possible courses of action for medical undergraduate programs to increase the number of medical trainees who plan to offer obstetrical care in their practices:

- Since an early introduction to the practice of obstetrics and early learning experiences affect career choices, faculties of medicine could foster observation periods (such as mini-rotations, on-call observation, rotations in rural areas) in obstetrics for students during their pre-clinical studies.
- Contact needs to be fostered between medical students and general practitioners who practise obstetrics. This does not appear to be the case in the programs we studied. We recommend that this exposure should not be limited to the delivery room, but should also include general practitioners teaching obstetrics theory.
- Teachers need to be aware of the influence of mentorship with undergraduate students.
- Departments of obstetrics and gynaecology and of family medicine should provide an academic

environment for their staff to allow time for clinical teaching to be protected.

- Residents should be given training in teaching skills and should promote an atmosphere of security for students.
- Considering that decisive events can have such a negative effect on students' perceptions, debriefing sessions with students could be used periodically to review such experiences.

The challenge is not only to increase the number of students who are interested in this practice but also to sustain this interest so that it continues throughout the residency in family medicine. This represents a significant challenge, considering the findings of an Ontario study that reported a large drop in the number of candidates wanting to practise obstetrics during the course of their residencies in family medicine.<sup>11</sup>

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## APPENDIX

### 1. Factors Linked to Perceptions of Obstetrics

#### A Gratifying Practice (Cronbach $\alpha = 0.82$ )

- Obstetrics can be part of a stimulating and non-routine practice.
- The practice of obstetrics is gratifying.
- The practice of obstetrics allows physicians to use their technical skills.
- The practice of obstetrics is intellectually stimulating.
- The emergency situations in obstetrics make for an exciting practice.

#### A Demanding Practice (Cronbach $\alpha = 0.63$ )

- It is difficult to reconcile the practice of obstetrics with the physician's other professional activities.
- Including obstetrics in one's medical practice is too demanding in terms of one's personal life.
- The risk of litigation (lawsuits) is a significant obstacle to practising obstetrics.
- The possibility of complications linked to the practice of obstetrics results in added stress.
- Surgical emergencies can arise quickly during a delivery, so infants are best delivered by an obstetrician-gynaecologist.

### 2. Factors Related to Perceptions of the Rotation

#### Role Model Provided by Specialists and the Student's General Experience in the Rotation (Cronbach $\alpha = 0.67$ )

- I believe that I received quality instruction from gynecology specialists during my rotation.
- The role model provided by obstetrician-gynaecologists was an important part of the rotation.
- I found that my contacts with obstetrician-gynaecologists helped create a supportive environment.
- I believe that I had sufficient exposure to obstetrical practice during my rotation.

#### Role Model of General Practitioners and the General Climate Created by the Nurses (Cronbach $\alpha = 0.40$ ):

- The role model provided by general practitioners who practise obstetrics was an important part of the rotation.
- I found that my contacts with general practitioner program leaders helped create a supportive environment.
- I found that my contacts with nurses in the delivery room helped create a supportive environment.

#### Positive Roles of Residents (Cronbach $\alpha = 0.80$ )

- I believe that I received a good education from the residents in obstetrics and gynaecology.
- I found that my contact with residents in obstetrics and gynaecology helped create a supportive environment.