# Association between family physician gender and patient service times

## Evidence from Ontario

Boris Kralj PhD Lyn Sibley PhD Jasmin Kantarevic PhD Kathleen Clements MBA
Meredith Vanstone PhD Danielle O'Toole MD MSc CCFP FCFP Arthur Sweetman PhD

## Abstract

**Objective** To quantify differences between self-reported service times of male and female family physicians (FPs) in Ontario.

**Design** Cross-sectional census survey of FPs in active practice and survey weights for nonresponse.

**Setting** Ontario.

**Participants** A total of 1055 FPs practising in Ontario who completed the survey.

**Main outcome measures** Self-reported duration, in minutes, of the services Ontario FPs most commonly provide.

**Results** For 19 of the 20 services examined, female FPs reported longer average service times than those of their male colleagues. Female-male differences ranging from 15% to 20% were statistically significant and clinically relevant. For the most frequently billed service, the intermediate assessment (bill code A007), female FPs spent an average of 3.9 minutes (22.3%) longer per service than male FPs ($P$<.001). The Papanicolaou test (bill code G365) was the only service for which the reported service times were the same for both male and female FPs. Gender differences were less pronounced among international medical graduates and those who completed their residency outside of Canada, suggesting that training background influences service time.

**Conclusion** Female FPs in Ontario reported spending more time per patient than their male colleagues across a range of services, with the association attenuated for those with non-Canadian medical degrees or residencies. Current payment models do not account for time spent, thereby potentially structurally disadvantaging female physicians in terms of overall earnings. The gender pay gap in family practice could be reduced if current fee structures were replaced by, or amended to include, time-based payments.

# Association entre le genre des médecins de famille et le temps consacré aux services aux patients

## Données probantes de l'Ontario

Boris Kralj PhD Lyn Sibley PhD Jasmin Kantarevic PhD Kathleen Clements MBA
Meredith Vanstone PhD Danielle O'Toole MD MSc CCFP FCFP Arthur Sweetman PhD

## Résumé

**Objectif** Quantifier les différences entre les hommes et les femmes médecins de famille (MF) dans le temps consacré aux services aux patients, tel que signalé par les intéressés.

**Type d'étude** Un sondage de recensement transversal auprès des MF en pratique active et la pondération du sondage en fonction des non-réponses.

**Contexte** L'Ontario.

**Participants** Au total, les 1055 MF exerçant en Ontario qui ont répondu au sondage.

**Principaux paramètres à l'étude** La durée en minutes des services fournis communément par les MF de l'Ontario, telle qu'ils l'ont rapportée.

**Résultats** Pour 19 des 20 services examinés, les femmes MF ont signalé une durée moyenne de services plus longue que celle de leurs collègues masculins. Les différences femmes-hommes, variant de 15 à 20 %, étaient statistiquement significatives et pertinentes sur le plan clinique. Pour les services les plus souvent facturés, l'évaluation intermédiaire (code de facturation A007), les femmes MF passaient en moyenne 3,9 minutes (22,3 %) de plus par service que les hommes MF ($p$ <,001). Le test de Papanicolaou (code de facturation G365) était le seul service pour lequel la durée consacrée au service qui était rapportée était la même chez les hommes et les femmes MF. Les différences selon le genre étaient moins prononcées chez les diplômés internationaux en médecine et chez ceux qui ont suivi leur résidence à l'extérieur du Canada, ce qui porte à croire que les antécédents de formation influent sur la durée consacrée aux services.

**Conclusion** Les femmes MF en Ontario ont signalé passer plus de temps par patient que leurs collègues masculins dans une diversité de services, cette association étant atténuée chez ceux qui ont reçu un diplôme en médecine ou suivi une résidence ailleurs qu'au Canada. Les modèles actuels de rémunération ne tiennent pas compte du temps passé à donner le service, ce qui pourrait, par conséquent, désavantager les femmes médecins sur le plan des revenus globaux. L'écart de salaire selon le genre en pratique familiale pourrait être diminué si les structures actuelles de rémunération étaient remplacées par des paiements à l'heure ou modifiées de façon à les inclure.

The proportion of female physicians practising in Canada has been increasing and women now represent 50% of family physicians (FPs) in practice, up from about 35% 20 years ago.[1,2] Yet gender pay gaps in medicine continue—particularly in specialties with higher proportions of women[3,4]—within various health care systems and across Canada.[4-9] Research has consistently shown that female physicians earn less than their male colleagues, even after accounting for factors such as specialty, experience, and total hours or days worked.[5,6,8] While some attribute these differences to variations in practice style, patient preferences, and referral patterns,[6] others emphasize the effects of structural factors embedded in compensation models that disadvantage female physicians.[9] In addition, international medical graduates (IMGs) and physicians who completed their residencies outside of Canada may influence service delivery patterns as a result of differences in training backgrounds, including time spent per patient.

A key factor possibly contributing to gender pay gaps is the physician compensation system, which primarily relies on fee-for-service (FFS) and related payment models. With FFS, payments are based on the type and volume of services provided, as defined by specific fee codes where the fees reflect, in part, historical average service delivery times. This model rewards physicians based on the quantity and type of services delivered rather than the time dedicated to each patient. In a primarily FFS system and for physicians who use similar billing codes for services, longer service times result in lower hourly earnings.

Research in the United States has shown that compared to their male counterparts, female FPs tend to spend more time per patient, highlighting concerns about whether current payment structures are fair in terms of accounting for time-based service provision.[10] Yet, no research has been published to date on service time gaps between male and female physicians in Canada. Documenting service delivery times based on gender could inform policy development regarding gender pay gaps.

FPs are the cornerstone of primary care, acting as conduits to most health care services. Thus, this survey study seeks to quantify the differences in service times for common services (as indicated by billing codes) through self-report by male and female FPs in Ontario. By analyzing these self-reports and evaluating the implications for physician compensation, we aim to provide evidence to inform policy.

## Methods

### Study design

We analyzed data from a survey of FPs practising in Ontario, Canada's most populous province, which has universal public insurance for medically necessary physician services. The survey targeted all Ontario FPs who were primary members of the Section of General and Family Practice and practising as of August 2023; students and retired FPs were not included. Of the 10,708 FPs identified through the Ontario Medical Association (OMA) membership database and invited to participate in the survey by email, 1485 responded (13.9% response rate). We analyzed data from 1055 respondents who fully completed the survey. This survey study was approved by the Hamilton Integrated Research Ethics Board (HiREB project ID: 16653).

### Survey

The survey questionnaire (Appendix 1, available from **CFPlus***) was available on the Alida Research Platform (Alida Inc) from August 24, 2023, to October 22, 2023. FPs received an email with a link to and a brief description of the purpose of the survey. To encourage participation, reminder emails were sent to nonrespondents on September 7, 2023, and September 22, 2023. To preserve anonymity, each response was de-identified and linked to a unique encrypted identifier.

The survey gathered data on demographic characteristics, practice models, and training locations. In this article, undergraduate and postgraduate training locations and terms such as IMG or Canadian medical graduate (CMG) indicate where physicians obtained their medical training rather than their practice style or cultural influences.

As our focus was the differences in male and female FPs' self-reported service times, respondents were asked to identify their gender as female, male, or nonbinary. Only 5 respondents self-described as nonbinary; as this is insufficient for statistical analyses, their data were excluded from the analyses.[11,12]

For each of the 20 most common services Ontario FPs provide, which constitute 50% of the total payments to FPs, the survey questionnaire asked about service times (length in minutes) and service intensity (defined as effort relative to other services on a 5-point scale, where 1 was equivalent to least intense, 2 to less intense, 3 to average intensity, 4 to more intense, and 5 to most intense). The participating FPs were asked to take into account all non–time-related and non–overhead-related elements of a service (eg, communication and interpersonal skills; knowledge and judgment; risk and stress; technical skills; and complexity) when determining the intensity of a service. Because only a few FPs rated the intensity of a service as least intense, we combined the least intense and less intense categories into 1 for the analyses.

### Data analysis

We summarized continuous variables using measures of central tendency, and reported frequencies and proportions

*Appendices 1 and 2 are available from **https://www.cfp.ca**. Go to the full text of the article online and click on the **CFPlus** tab.

for categorical variables. To evaluate differences between male and female FPs in service times, we conducted significance tests on mean service times using univariate ordinary least squares (OLS) regression with heteroskedasticity-consistent standard errors. The factors influencing service time differences were analyzed using multivariate OLS regression. All statistical analyses incorporated survey weights, adjusted for age and sex based on the OMA's 2023 physician population data, and were conducted using STATA statistical software, version 18.5 (StataCorp LLC).

## Results

### Descriptive findings

The mean ages, ethnicity, training location, and practice attributes of the FPs participating in the survey are summarized in **Table 1**. Of the FPs, 53.2% were female and 46.8% male. Female FPs were on average 5.7 years younger than male FPs (46.5 years versus [vs] 52.2 years; *P*<.001). Almost two-thirds of FPs (64.6%) self-reported as white, 14.0% as South Asian (eg, East Indian, Pakistani, Sri Lankan), and 8.1% as Chinese. A larger proportion of female FPs than male FPs completed their residency in Canada (92.7% vs 85.2%; *P*<.001).

Male FPs were more likely to practise in rural or remote areas (28.4% vs 19.5% female FPs; *P*=.002). Female FPs had, on average, smaller practices than their male colleagues, with approximately 240 fewer patients (1114 vs 1351 patients; *P*<.001). Female FPs had higher proportions of female patients (61.7% vs 50.4% male FPs; *P*<.001).

The intermediate assessment (bill code A007), the service most frequently provided by Ontario FPs, accounted for almost 30% of all payments to FPs or about $700 million in fiscal year 2023-2024 (table A1 in Appendix 2, available from **CFPlus***). We focused our analysis on this service code because it showed the largest female-male gap. Female FPs reported longer mean service times (21.4 vs 17.5 minutes; *P*<.001) (**Table 1**), longer median service times (20 vs 15 minutes; *P*<.001), and a much broader range of service times (measured as interquartile range; 10 vs 5 minutes) (**Figure 1**) for A007 compared to male FPs. Although the difference in reported service intensity levels was not statistically significant (**Table 1**), for each level of service intensity, female FPs reported longer service times (**Figure 2**).

Female FPs also self-reported longer average service times for each of the 20 most frequently billed services, except for Papanicolaou tests (bill code G365), for which the reported times were the same for both male and female FPs (**Table 2**). The female-male gaps ranged from 15% to 20%, with the largest observed gap being 22.3% (equivalent to 3.9 minutes) for intermediate assessments.

### Inferential findings

Across the full sample of respondents who completed the survey and controlling for the factors in the regression analysis model, female physicians reported spending 2.93 more minutes per service than their male counterparts (*P*<.001), with similar patterns for CMGs (3.05 minutes; *P*<.001) and physicians who completed their residency in Canada (3.05 minutes; *P*<.001) (**Table 3**). Among IMGs and physicians who completed their residency outside of Canada, female physicians' slightly longer service times (1.89 and 1.53 minutes, respectively) were not statistically significant. Although these findings are not definitive, they suggest that training experiences or practice environments may shape gender differences in clinical practice.

In the overall sample, more intense services were associated with an increase of nearly 3 minutes in service time compared with less intense services, though this effect was not consistently statistically significant. However, among IMGs, average intensity services extended service times by 5.2 minutes (*P*<.01), and more intense services extended service times by 8.6 minutes (*P*<.001) compared to less intense services (**Table 3**). Likewise, for physicians who completed their residency outside of Canada, more intense services were associated with service times that were 7.45 minutes longer (*P*<.05) than less intense services. These findings suggest that for certain groups, particularly IMGs, higher service intensity leads to significantly longer patient interactions, potentially reflecting differences in clinical complexity or practice style.

The analysis also shows that FPs with larger patient panels (a proxy for busier practices) tend to have marginally shorter service times. Factors such as capitation payment status, the percentage of female patients enrolled in the practice, and physician immigrant status and ethnicity did not show strong or consistent associations with service time.

## Discussion

To our knowledge, this is the first Canadian study to measure self-reported FP service times for a range of services. Our analysis indicates that compared to their male colleagues, female FPs in Ontario spend markedly more time per patient encounter. To put this in perspective, a back-of-the-envelope calculation suggests that, in an 8-hour workday that exclusively billed for intermediate assessments, female FPs would see just over 4 fewer patients than their male colleagues, and their billings would be less as a result. The existing payment system does not recognize or reward the per-patient effort, leaving female FPs at a structural disadvantage in terms of earnings.

Additional time spent on services may be explained by gendered communication patterns. Research has noted that female physicians tend to hold longer discussions and adopt a more empathetic, partnership-building approach to care.[13-16] In the primary care setting, female physicians generate lower visit volumes and

**Table 1. Characteristics of survey respondents by gender**

| CHARACTERISTICS[†] | WEIGHTED MEAN (SEM)* | | | *P* VALUE |
|---|---|---|---|---|
| | ALL FPs, N=1055 | MALE FPs, n=494 | FEMALE FPs, n=561 | |
| Mean age, y | 49.2 (0.4) | 52.2 (0.7) | 46.5 (0.4) | <.001 |
| Immigrant status, % | 28.7 (1.4) | 31.4 (2.4) | 26.4 (1.7) | .100 |
| Ethnicity, % | | | | |
| • White | 64.6 (1.5) | 65.3 (2.5) | 64.0 (1.8) | .695 |
| • South Asian | 14.0 (1.1) | 11.0 (1.6) | 16.5 (1.4) | .015 |
| • Chinese | 8.1 (0.8) | 7.7 (1.4) | 8.5 (1.1) | .661 |
| • Arab | 3.2 (0.5) | 4.8 (1.1) | 1.8 (0.5) | .020 |
| Training location, % | | | | |
| • Canadian medical degree | 79.6 (1.2) | 76.8 (2.2) | 81.9 (1.5) | .059 |
| • Canadian residency | 89.2 (1.0) | 85.2 (1.8) | 92.7 (1.0) | <.001 |
| Practice attributes | | | | |
| • Rural or remote area, % | 23.6 (1.3) | 28.4 (2.3) | 19.5 (1.5) | .002 |
| • Capitation payment, % | 71.6 (1.4) | 68.9 (2.4) | 74.0 (1.7) | .093 |
| • Practice size, n | 1224.6 (23.0) | 1350.9 (42.0) | 1114.3 (25.2) | <.001 |
| • Female patients enrolled, % | 56.4 (0.4) | 50.4 (0.5) | 61.7 (0.5) | <.001 |
| A007[‡] details | | | | |
| • Service time, min | 19.6 (0.2) | 17.5 (0.3) | 21.4 (0.3) | <.001 |
| Service intensity,[§] % | | | | |
| • Least and less intense | 3.2 (0.5) | 4.0 (1.0) | 2.5 (0.6) | .223 |
| • Average intensity | 68.4 (1.5) | 68.9 (2.4) | 67.9 (1.8) | .758 |
| • More and most intense | 28.4 (1.4) | 27.1 (2.2) | 29.6 (1.7) | .408 |

FP—family physician, SEM—standard error of the mean.
*All statistical analyses incorporated survey weights for nonresponse and were adjusted for age and sex based on the Ontario Medical Association's physician population data in August 2023.
[†]For the survey questionnaire, which shows the answer options to each question, see Appendix 1, available from **CFPlus**.
[‡]A007 is the bill code for the intermediate assessment, the service most frequently billed by Ontario FPs.
[§]Service intensity was defined as effort relative to other services, taking into account all non–time-related and non–overhead-related elements of a service (eg, communication and interpersonal skills, knowledge and judgment, risk and stress, technical skills, and complexity).

gross billings than their male counterparts, but spend more time in direct patient care per visit, per day, per year.[17] That female physicians tend to spend more time with individual patients and use more patient-centred communication may be in part due to patient expectations.[13,15,18] However, volume-based reimbursement structures disincentivize such an approach.[19]

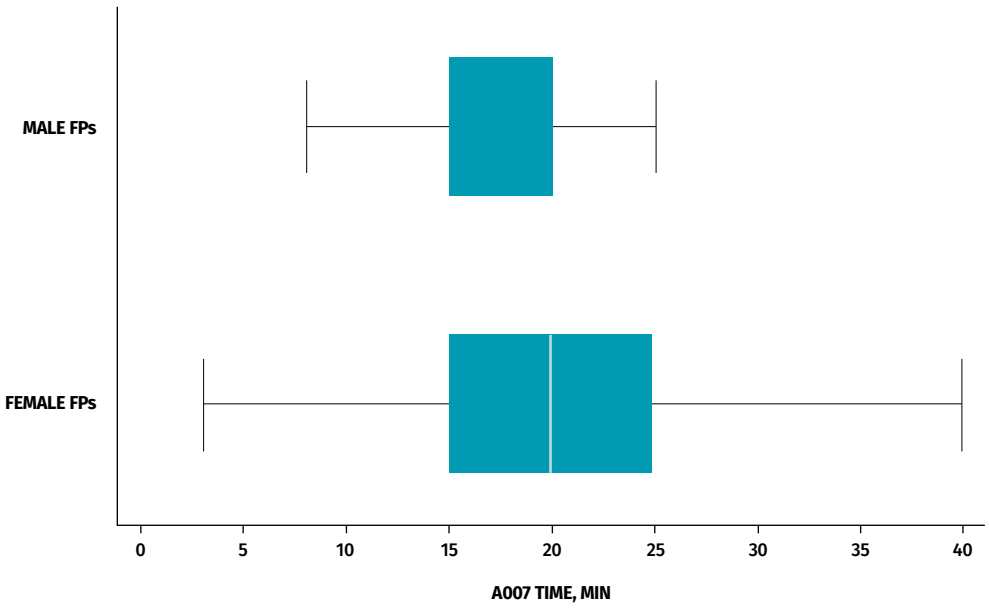
Our study results also highlight the influence of training and practice environment. Physicians who trained outside of Canada, whether as undergraduates or postgraduates, reported different patterns of service duration, with female IMGs showing smaller female-to-male time differences than their Canadian-trained peers. This suggests that medical education, professional expectations, and cultural differences may shape the way gender differences manifest in clinical settings. For example, compared with IMGs, CMGs may be more proficient with local systems such as electronic medical records, billing processes, and referral networks, reducing their cognitive and administrative burden and allowing more time with patients. CMGs may associate longer, relational visits with quality, influenced by local training and mentorship norms, while IMGs may prioritize efficiency and throughput, especially in the absence of comparable support structures. This finding has important implications, particularly as IMGs and physicians who completed their residency abroad comprise a substantial share of the physician workforce in Canada.

The health policy and planning implications of these findings are considerable. A shift toward time-based remuneration could attenuate the gender pay gap by compensating physicians for the actual time spent with patients rather than relying on a single dollar value per billing code that overlooks per-patient service time. Compensating for time spent with patients may improve professional satisfaction and reduce reports of

FP overwork and burnout among FPs.[20,21] In addition, it could promote greater fairness in physician compensation. Such compensation may also align financial incentives with patient-centred care; research shows that, in Ontario, the gender disparity in daily gross billings among FFS-billing FPs stands at about 23%, markedly higher than the 13% observed among those practising under a capitation payment model.[6]

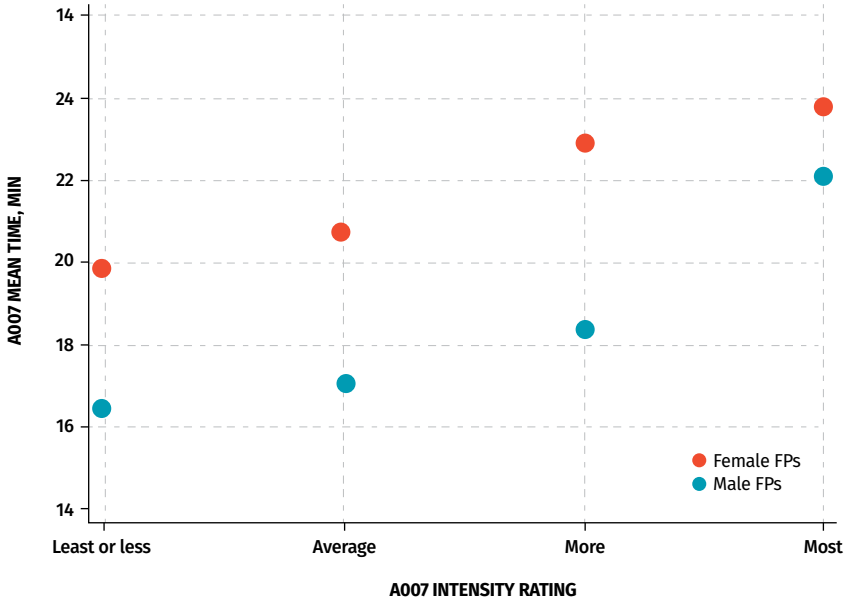
Ultimately, closing the gender pay gap in family medicine can only work if we acknowledge both structural inequities and the distinct ways in which male and female physicians tend to deliver care. Moving

**Figure 1.** Distribution of A007 bill code self-reported service time by gender




FP—family physician.

**Figure 2.** Mean A007 bill code service time by gender and service intensity




FP—family physician.

**Table 2.** Self-reported FP practice mean service times, by gender: ***N=1055***.

| FEE CODE* | CODE DESCRIPTOR | MEAN SERVICE TIMES, IN MINUTES | | | DIFFERENCE IN MALE AND FEMALE FPs' MEAN SERVICE TIMES | | *P* VALUE |
|---|---|---|---|---|---|---|---|
| | | ALL FPs, N=1055 | MALE FPs, n=494 | FEMALE FPs, n=561 | MINUTES | PERCENTAGE | |
| A001 | Minor assessment | 9.8 | 8.9 | 10.7 | 1.8 | 20.2 | <.001 |
| A003 | General assessment | 33.6 | 30.4 | 36.4 | 6.0 | 19.7 | <.001 |
| A005 | Consultation | 38.2 | 34.3 | 41.6 | 7.3 | 21.3 | .022 |
| A007 | Intermediate assessment or well-baby care | 19.6 | 17.5 | 21.4 | 3.9 | 22.3 | <.001 |
| A888 | ED equivalent, partial assessment | 16.5 | 14.8 | 17.8 | 3.0 | 20.3 | <.001 |
| A900 | GP or FP, complex house call assessment | 50.8 | 45.9 | 55.2 | 9.3 | 20.3 | <.001 |
| A905 | GP or FP, limited consultation | 32.1 | 28.5 | 34.5 | 6.0 | 21.1 | .011 |
| G365 | Papanicolaou smear, periodic | 15.2 | 15.2 | 15.2 | 0 | 0 | .968 |
| G370 | Injection of bursa, or injection and-or aspiration of joint, ganglion, or tendon sheath | 14.7 | 13.6 | 16.0 | 2.4 | 17.6 | <.001 |
| G590 | Influenza agent | 5.8 | 5.4 | 6.1 | 0.7 | 13.0 | .003 |
| K005 | Primary mental health care, individual care | 32.3 | 29.4 | 34.6 | 5.2 | 17.7 | <.001 |
| K013 | Counselling, individual care | 31.0 | 28.8 | 32.9 | 4.1 | 14.2 | <.001 |
| K017 | Periodic health visit, child | 23.5 | 21.9 | 24.9 | 3.0 | 13.7 | <.001 |
| K023 | Palliative care support | 34.6 | 31.7 | 37.0 | 5.3 | 16.7 | .003 |
| K028 | STD management | 24.3 | 22.6 | 25.5 | 2.9 | 12.8 | <.001 |
| K030 | Diabetic management assessment | 23.0 | 21.1 | 24.7 | 3.6 | 17.1 | <.001 |
| K131 | Periodic health visit, adult aged 18 to 64 y | 29.4 | 26.5 | 31.8 | 5.3 | 20.0 | <.001 |
| K132 | Periodic health visit, adult age ≥65 y | 34.0 | 30.6 | 36.7 | 6.1 | 19.9 | <.001 |
| P003 | General assessment (major prenatal assessment) | 34.9 | 33.1 | 36.2 | 3.1 | 9.4 | .001 |
| P004 | Minor prenatal assessment | 18.1 | 16.9 | 19.0 | 2.1 | 12.4 | <.001 |

ED—emergency department, FP—family physician, GP—general practitioner, STD—sexually transmitted disease.
*Fee codes for the 20 services most frequently billed by Ontario FPs. A full description of fee codes can be found at **https://www.ontario.ca/files/2025-03/moh-schedule-benefit-2025-03-19.pdf**.

toward compensation models that reflect patient outcomes, experience, and value—rather than sheer patient volume—would represent a meaningful step toward a more equitable and sustainable health care system.

## Limitations

While this analysis offers several insights into the factors associated with service time for various groups of physicians and provides robust evidence of gender-based differences in service times, it is not without limitations. As with any survey study, ours would be susceptible to nonresponse bias in that not all the FPs invited to participate did so. While our weighted sample was representative of the targeted population based on physician age and sex, we were unable to examine its representativeness in terms of ethnicity and immigration status as this information is not captured in the OMA administrative membership data systems. The physicians who participated may differ systematically from nonresponders.

Recall bias, or measurement error, are also risks as the respondents may have overestimated or underestimated their service times. The cross-sectional design of the survey provides a snapshot in time, precluding any inference of causality or describing changes in service delivery gaps over time.

Despite these limitations, our study provides novel data and findings on service time differences between

**Table 3.** A007 service times regression results, including full sample and subsamples

| VARIABLE [REFERENCE] | FULL* | CMG | IMG | CANADIAN RESIDENCY | NON-CANADIAN RESIDENCY |
|---|---|---|---|---|---|
| Female [male] | 2.926§ | 3.046§ | 1.886 | 3.053§ | 1.529 |
| Average intensity [least and less intense] | 0.551 | -0.959 | 5.199‡ | 0.003 | 4.989 |
| More and most intense [least and less intense] | 2.880 | 1.145 | 8.596§ | 2.354 | 7.449† |
| Age, y | -0.028 | -0.028 | 0.007 | -0.029 | 0.026 |
| Capitation payment [all other] | 0.588 | 0.573 | 0.776 | 0.548 | 0.793 |
| Practice size, no. of patients | -0.001§ | -0.001§ | -0.001 | -0.001§ | 0.000 |
| Female patient population, % | 0.025 | 0.022 | 0.042 | 0.025 | 0.052 |
| Immigrant [non-immigrant] | -0.436 | -0.853 | -0.363 | -0.680 | 0.107 |
| White [non-white] | 0.453 | -0.009 | 1.481 | 0.258 | 1.026 |
| Rural or remote [urban] | 0.245 | 0.376 | -0.159 | 0.271 | 0.697 |
| Canadian medical degree [foreign] | 0.238 | n/a | n/a | 0.435 | -2.927 |
| Canadian residency [foreign] | 1.383 | 3.59502† | 1.173 | NA | NA |
| Constant | 16.233§ | 16.418§ | 8.557† | 18.358§ | 6.725 |
| N | 1055 | 841 | 214 | 948 | 107 |
| $R^2$ | 0.114 | 0.099 | 0.135 | 0.102 | 0.039 |

CMG—Canadian medical graduate, IMG—international medical graduate, NA—not applicable.
**Full* refers to all survey participants.
†$P<.05$.
‡$P<.01$.
§$P<.001$.

male and female FPs practising in Ontario. Unfortunately, the sample size of nonbinary physicians was too small to permit analysis.

## Conclusion

Female FPs in Ontario report spending appreciably more time per patient encounter than their male colleagues across a range of services, with less pronounced differences among IMGs. Existing payment models do not directly account for time spent, thereby potentially structurally disadvantaging female physicians in terms of overall earnings. The gender pay gap in family practice would likely be reduced by replacing the current fee structures—an appreciable portion of which comprise a single payment per service, regardless of service times—with some form of time-based remuneration or similar non-FFS compensation model that accounts for measures of outcomes and patient experience. Future research into the value—in terms of improved patient health, better management of ambulatory care–sensitive conditions, reduced hospitalizations, and the like—resulting from the average additional time with patients as reported by female physicians would be a useful next step in this important topic.

**Dr Boris Kralj** is Adjunct Assistant Professor in the Department of Economics at McMaster University in Hamilton, Ont. **Dr Lyn Sibley** is Senior Director of Healthcare Evaluative Research at the Ontario Medical Association (OMA) in Toronto. **Dr Jasmin Kantarevic** is Executive Director of Economics at the OMA. **Kathleen Clements** is Director of Policy at the OMA. **Dr Meredith Vanstone** is Professor, MD/PhD Director, and Canada Research Chair in Ethical Complexity in Primary Care at McMaster University. **Dr Danielle O'Toole** is a practising family physician in Academic Family Medicine and Associate Professor in the Department of Family Medicine at McMaster University. **Dr Arthur Sweetman** is Professor in the Department of Economics at McMaster University, Ontario Research Chair in Health Human Resources, and Director of the Health Policy PhD program at McMaster University.

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**Contributors**
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**Competing interests**
None declared

**Correspondence**
**Dr Boris Kralj**; email **kraljb@mcmaster.ca**

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