Editor's key points

- Changes in family medicine practice patterns related to the COVID-19 (coronavirus disease 2019) pandemic and the rapid introduction of telemedicine visits have resulted in potential reductions in average annual physician income (billings after overhead) by 27% to 78% in Alberta.
- Reduced income from existing fee-for-service structures, at current fee levels, could make fee-for-service office-based family medicine practice unsustainable for some FPs.
- In family medicine, it is likely that the postpandemic practice change to a blend of office-based visits and telemedicine will become permanent. Changes in fees or alternative payment approaches will be required to maintain many community-based family medicine practices.
- After the COVID-19 pandemic, effective primary care will be needed to support high-functioning health care systems. Roles of community-based FPs include the management of patients with chronic diseases, provision of preventive care, and appropriate triage and referral to specialist colleagues.

Can you afford to keep practising?

Family medicine finances transformed by COVID-19 in Alberta

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Abstract

Objective To estimate the impact of the coronavirus disease 2019 (COVID-19) pandemic on FP finances in Alberta.

Design A financial model that included fees, visits per day, number of days of practice, and overhead costs.

Setting Alberta before, during, and after the COVID-19 pandemic.

Participants Hypothetical fee-for-service FP practices.

Interventions Changes in practice modes caused by the pandemic and changes to fees set by the Government of Alberta (no interventions were controlled by the researchers).

Main outcome measures Annual average FP billings and annual average FP income after overhead expenses.

Results Practice changes related to COVID-19 could result in a reduction in average FP income (billings after expenses) of 27% to 78%.

Conclusion Practice pattern changes, including the rapid adoption of telemedicine owing to the COVID-19 pandemic, will reduce incomes for fee-for-service community FP practices in Alberta. Fees at current levels could make some practices unsustainable.

Avez-vous les moyens de continuer d'exercer?

La COVID-19 transforme le portrait financier de la médecine familiale en Alberta

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Résumé

Objectif Estimer les répercussions de la pandémie de la maladie à coronavirus 2019 (COVID-19) sur les finances des MF en Alberta.

Type d'étude Un modèle financier qui comprenait les honoraires, les visites par jour, le nombre de jours de pratique et le coût des frais généraux.

Contexte L'Alberta avant, durant et après la pandémie de la COVID-19.

Participants Des pratiques hypothétiques de MF rémunérés à l'acte.

Interventions Les changements dans les modes de pratique causés par la pandémie et les changements aux honoraires établis par le gouvernement de l'Alberta (aucune intervention n'a été contrôlée par les chercheurs).

Principaux paramètres à l'étude La facturation annuelle moyenne des MF et le revenu annuel moyen des MF après la déduction des dépenses en frais généraux.

Résultats Les changements dans la pratique liés à la COVID-19 pourraient se traduire par une réduction de l'ordre de 27 à 78 % dans le revenu moyen des MF (facturation après les dépenses).

Conclusion Les changements dans les habitudes de pratique, dont l'adoption rapide de la télémédecine en raison de la pandémie de la COVID-19, réduiront les revenus des pratiques communautaires de MF rémunérés à l'acte en Alberta. Les honoraires aux niveaux actuels pourraient rendre certaines pratiques insoutenables.

Points de repère du rédacteur

- Les changements dans les habitudes de pratique en médecine familiale imposés par la pandémie de la COVID-19 (maladie à coronavirus 2019) et l'adoption rapide des visites en télémédecine se sont traduits par des réductions potentielles de l'ordre de 27 à 78 % dans le revenu annuel moyen des médecins (facturation après les frais généraux) en Alberta.
- Le revenu réduit associé aux structures existantes de rémunération à l'acte, au niveau actuel des honoraires, pourrait faire en sorte que la pratique de la médecine familiale rémunérée à l'acte en clinique soit insoutenable pour certains MF.
- Il est probable qu'en médecine familiale, l'adoption postpandémique d'une combinaison de visites en clinique et de télémédecine devienne permanente. Des changements dans les honoraires ou des modes de rémunération alternatifs seront nécessaires pour préserver de nombreuses pratiques de médecine familiale dans la communauté.
- Après la pandémie de la COVID-19, il faudra des soins primaires efficaces pour soutenir des systèmes de santé à haut rendement. Parmi les rôles des MF dans la communauté figurent la prise en charge des patients atteints de maladies chroniques, la prestation de soins préventifs et un triage approprié des demandes de consultations auprès de collègues spécialistes.

In a matter of months, the coronavirus disease 2019 (COVID-19) pandemic brought dramatic changes to primary care practice in Canada and other countries.[1-3] Most FPs have experienced periods of office closure and other periods of decreased ability to provide office-based care. To compensate for these reductions in face-to-face care, FPs were required to rapidly develop skills in telemedicine and to transition many of their visits from office-based to telemedicine or virtual care.[4] It is likely that many of these changes will become permanent after the pandemic, with community-based family medicine practices needing to provide a combination of office-based and telemedicine visits for their patients.[5,6] These changes have resulted in substantial stresses for community-based family medicine. One important area of concern is the financial impact of the COVID-19 pandemic on community FPs remunerated by fee-for-service.[7]

This article provides an economic assessment of these changes' potential financial impact on community-based FPs remunerated by fee-for-service in Alberta and considers some of the implications of this impact on the future maintenance of high-quality community-based family medicine in the post–COVID-19 era. Similar financial impact would likely be experienced by community-based FPs in other provinces in Canada.

Methods

Financial models

In our financial model (definitions in **Table 1**), FPs' *billings* are the product of fee per visit, visits per day, and the number of days worked. Physician *income* is equal to physician billings minus overhead expenses (*overhead*). Overhead would include costs for office space, staff, licences, professional fees, and malpractice fees. We undertook a sensitivity analysis to examine the effect change in visit patterns (telemedicine vs office visits), reduced overhead, and increased days of work on billings, overhead, and income.

Before the COVID-19 pandemic

Before the COVID-19 pandemic, FPs in private practice paid by fee-for-service in Alberta had an average of 22 patient visits per day, according to Alberta Health data,[8] and an average fee of $60 per service was paid.[9] We assumed that each visit includes only 1 service. We estimated that doctors worked an average of 227 days per year. Therefore, we calculated the average billings per FP in 2018-2019 to be $299 640, before overhead expenses.[9]

During this period, there were 5268 fee-for-service FPs in Alberta.[9] The number of services delivered by these physicians in 2018-2019 was 25 497 355 (unpublished data from Alberta Health). Office visits (assessments) and consultations accounted for almost 76% of the fee-for-service payments to FPs.[9]

According to the 2017 Canadian Medical Association Physician Workforce Survey, the mean percentage of billings by FPs in Alberta that went toward running their practices was 27% in 2017.[10] We assumed that the 2018-2019 overhead expenses for FPs would be similar. Relative to physicians in other provinces in Canada, Alberta physicians pay the highest overhead expenses. The mean percentage of gross professional income going toward overhead for all specialties in Canada for 2017 was 24%, compared with 27% for all specialties in Alberta.[10]

Table 1. Definitions

TERM	CALCULATION
Billings	Total fee-for-service billings from provincial health care agencies (Alberta Health)*
Overhead expenses	Includes costs for office lease or rental, operating costs, staffing costs, licence, and professional and malpractice fees
Income	Billings minus overhead expenses

*Does not include third-party billings.

Health care use during the COVID-19 pandemic

In response to the COVID-19 pandemic, FPs changed the type of office visits from in-office visits to primarily telemedicine consultations.[1-6] Based on survey data from the Commonwealth Fund in the United States,[11] total office visits to FPs fell by approximately 30%, and there was a reduction in in-office visits to almost zero for several months.[11] This resulted in an average of 15 telemedicine consultations per day.[11] We assumed that Alberta patterns of practice were similar.

Post–COVID-19 pandemic health care use

Post–COVID-19 pandemic practice changes will likely result in a combination of telemedicine or virtual visits and office visits, with telemedicine visits becoming a permanent part of office-based FP care. We assumed that a reasonable estimate would be that 30% of visits would be telemedicine and 70% would be office visits, with a slight reduction in average office visits per day from 22 to 20 owing to the increased time needed for telemedicine visits.

Changes in FP fees with COVID-19

Because of the shift of patients from office visits to telephone or virtual consultations, the emergence of COVID-19 brought about changes in FP fees. These are summarized in **Table 2**.[12,13] Data were obtained from the Alberta Medical Association Fee Navigator website[12] and the Alberta Health Schedule of Medical Benefits.[13] The in-office fee structure remained the same as before COVID-19. Alberta Health compensated doctors $38.03 for routine examinations if the visit and related administrative time lasted less than 15 minutes; Alberta Health added an incremental payment (complex fee modifier) of $18.48, on top of the basic visit fee, for each 10-minute

Table 2. Alberta FP fees related to COVID-19

DESCRIPTION OF VISIT	FEE	IDENTIFICATION
Full examination, up to 30 min (allowed once per y)	$104.60 (in-office)	• Code 03.04A • Includes doctor's administrative time
Extra time on examination, over 30 min	$31.43 (in-office)	• Code CMXC30
Basic patient visit	$38.03 (in-office)	• Code 03.03A • < 15 min including doctor's administrative time
Extra time on basic visit (10-min increments after initial 15 min)	$18.48 per increment (in-office)	• CMGP modifier (complex patient visit) • Includes nondirect patient time*
Telephone or virtual consultation	$20.00 flat fee	• Code 03.01AD • Telephone or virtual consultation up to 10 min • No physician administrative time included
Telephone or virtual consultation over 10 min	$38.03 flat fee	• Code 03.03CV • Flat rate for telephone or virtual consultation above 10 min • Telephone or direct virtual time only • No physician administrative time included

COVID-19—coronavirus disease 2019.
*Complex modifier fee codes are under review by Alberta Health.
Data from Alberta Medical Association[12] and Alberta Health Schedule of Medical Benefits.[13]

increment after 15 minutes had elapsed. Physicians were allowed to bill for administrative (non–face-to-face) time used on the same day as the visit. Doctors received a fee of $104.60 for a complete medical examination (up to 30 minutes) and if the visit (face-to-face) time and the related doctor's administrative time exceeded 30 minutes, they were compensated for extra time by a single complex fee modifier of $31.43.

Payments for telephone or virtual consultations were funded differently, especially after changes were introduced during the COVID-19 pandemic on March 18, 2020. Based on Alberta Health's revised telemedicine fees, doctors were paid $20 for basic telephone or virtual consultations up to 10 minutes, and a flat fee of $38.03 for telephone or virtual consultations that lasted more than 10 minutes. Doctors could not include administrative time in their billings for telemedicine visits. Although the telemedicine fee was initially meant as a temporary adjustment to be in effect for the duration of the COVID-19 medical emergency in Alberta, it remains unchanged as of October 25, 2021.

Results

Base case

Before the COVID-19 pandemic, average FP billings were estimated to be $1320 daily or $299 640 annually. Per physician, average overhead expenses of 27% would therefore amount to $80 903 per year. After deducting overhead costs of $80 903 per year, average income (billings minus overhead) was $218 737. During the COVID-19 pandemic, a switch entirely to telephone or virtual visits, all billed at the maximum rate of $38, but with a 30% reduction in visits per day to 15, would yield annual billings of $129 390. After deducting overhead costs (unchanged at $80 903), these changes would result in average annual physician income of $48 487, a reduction of 78% from the pre–COVID-19 period. In the post–COVID-19 pandemic period, the base case scenario includes a combination of 70% office and 30% telemedicine visits, which would yield average billings of $242 436 per year. After the deduction of the overhead ($80 903), this combination would result in an average physician income of $161 533, a reduction of 27% from the pre–COVID-19 pandemic period.

Sensitivity analysis

In our first sensitivity analysis (case 1, **Table 3**), we assume that the FP has 22 visits per day, half in-office and half as telemedicine. Billing rates are $60 for in-office visits. Half of the telemedicine consultations are billed at $38 and half at $20. Annual billings are therefore $222 233, and average income after deducting office overhead ($80 903) is $141 330, a reduction of 35% from the pre–COVID-19 pandemic period.

In our second sensitivity analysis, we consider a reduction in overhead expenses of 25% from $80 903 to $60 677 in the COVID-19 pandemic (100% telemedicine) base case (case 2a, **Table 3**). In this scenario, we assume that the FP has 15 visits per day with billings remaining at the COVID-19 pandemic levels (base case estimate of $129 390). In this case, physician income would be $68 713 rather than $48 487, a reduction of 69% rather than 78%, from the pre–COVID-19 pandemic period income of $218 737. If we then consider a variation of the scenario in case 1, assuming a practice with 25% reduced overhead, a blend of 50% office visits and 50% telemedicine visits, and average annual billings of $222 233, then the average annual physician income would be $161 556, a 26% reduction from the pre–COVID-19 pandemic average physician income (case 2b, **Table 3**).

Table 3. Average FP billings and income: *COVID-19 pandemic practice scenarios.*

PRACTICE SCENARIOS	BILLINGS*	AVERAGE FEE PER VISIT	VISITS PER DAY	DAYS WORKED PER YEAR	OVERHEAD†	INCOME‡
Base case scenarios						
• Pre–COVID-19 pandemic	$299 640	$60	22	227	$80 903	$218 737
• COVID-19 pandemic (100% telemedicine)	$129 390	$38	15	227	$80 903	$48 487
• Post–COVID-19 pandemic (70% office visits, 30% telemedicine visits; fees split)	$242 436	$53.40	20	227	$80 903	$161 533
Sensitivity analyses						
• Case 1—50% office and 50% telemedicine	$222 233	$44.50	22	227	$80 903	$141 330
• Case 2a—overhead reduction by 25% (100% telemedicine)	$129 390	$38	15	227	$60 677	$68 713
• Case 2b—overhead reduction by 25% on case 1	$222 233	$44.50	22	227	$60 677	$161 556
• Case 3—increased physician workdays by 10%§	$142 500	$38	15	250	$88 993§	$53 507

COVID-19—coronavirus disease 2019.
*Total fee-for-service billings from provincial health care agency (Alberta Health).
†27% of prepandemic billings.
‡Billings minus overhead expenses.
§Overhead increased by 10% for increased days worked.

In our third sensitivity analysis (case 3, **Table 3**) we estimate the effect on average income if the FP increased workdays by 10% from 227 to 250 per year, with an associated 10% increase in overhead. In this case, we assume that the FP has 15 telemedicine visits per day, billed at $38 per visit. This scenario results in average annual billings of $142 500, an average annual overhead of $88 993 and an average income of $53 507, a 76% reduction from the pre–COVID-19 pandemic average physician income of $218 737.

Discussion

The results of our analysis suggest that community-based FPs remunerated by fee-for-service in Alberta will experience substantial reductions in average annual income owing to practice changes related to the COVID-19 pandemic. Similar estimates for reductions in gross physician revenue were also found for primary care practices in the United States.[7] It is likely that changes in FP practice patterns to include a combination of office-based and telemedicine visits will become permanent in the future.[1-6] Our analyses suggest that even with a return to pre–COVID-19 pandemic levels of demand for office visits, FP incomes will be reduced considerably at current fee levels. Currently in Alberta, more than 90% of community-based FPs rely on fee-for-service for their incomes.[9]

These financial changes in gross income could have important implications for the future viability of the practices of community-based FPs. Many FPs might find that these reduced levels of remuneration for their practices might make them unsustainable. Family physicians could move to other practice locations, transition to other forms of institutional care, or leave practice altogether through earlier retirement. Over a longer term, a shortage of FPs could result. It is also important to emphasize the importance of primary care to high-functioning health care systems in the prevention of illness and death and in a more equitable distribution of health.[14]

Limitations

There are some limitations to our study. First, we included only fee-for-service billings in our analysis. We have excluded private third-party billings, such as drivers' licence tests and disability insurance forms that would increase income, because these data were not available. Second, this analysis was based on data from Alberta. To conduct this analysis for other provinces and territories, our figures would have to be adjusted based on the fees provided in these locations. Third, after the COVID-19 pandemic, there might be changes in the severity of patients' illnesses that change the pattern or number of office visits. Finally, we estimated the changes in service volumes using US data.[11] Eventually, some of the data in our model (eg, service numbers) will become available for Alberta. In the meantime, we used US-based estimates to fill the gaps of missing data on visits during the COVID-19 pandemic.

Conclusion

Changes from office-based visits to telemedicine visits related to COVID-19 for community-based fee-for-service FPs have the potential to result in substantial reductions in FP income. This loss of income could reduce the viability of many community-based fee-for-service family practices. Loss of community-based practices would

have long-term consequences for the overall functioning of effective, high-quality health care systems.

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Contributors
All authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests
None declared

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References

1. Thornton J. Covid-19: how coronavirus will change the face of general practice forever. *BMJ* 2020;368:m1279.
2. Roehr B. Covid-19 is threatening the survival of US primary care. *BMJ* 2020;369:m2333.
3. Krist AH, DeVoe JE, Cheng A, Ehrlich T, Jones SM. Redesigning primary care to address the COVID-19 pandemic in the midst of the pandemic. *Ann Fam Med* 2020;18(4):349-54.
4. Mahal I. Coronavirus has sped up Canada's adoption of telemedicine. Let's make that change permanent. *Medical Xpress* 2020 Apr 6. Available from: **https://medicalxpress.com/news/2020-04-coronavirus-sped-canada-telemedicine-permanent.html**. Accessed 2020 Aug 21.
5. *What do Canadians think about virtual health care? Nationwide survey results, May 2020*. Ottawa, ON: Abacus Data; 2020. Available from: **https://abacusdata.ca/what-do-canadians-think-about-virtual-healthcare/**. Accessed 2020 Aug 21.
6. Berwick DM. Choices for the "new normal." *JAMA* 2020;323(21):2125-6.
7. Basu S, Phillips RS, Phillips R, Peterson LE, Landon BE. Primary care practice finances in the United States amid the COVID-19 pandemic. *Health Aff* (Millwood) 2020;39(9):1605-14. Epub 2020 Jun 25.
8. *Physician funding framework*. Edmonton, AB: Alberta Health; 2021. Available from: **https://www.alberta.ca/physician-funding-framework.aspx**. Accessed 2020 Aug 4.
9. *Alberta Health Care Insurance Plan statistical supplement, 2018-2019*. Edmonton, AB: Alberta Health; 2019. Available from: **https://open.alberta.ca/publications/0845-4775**. Accessed 2020 Aug 4.
10. *CMA Physician Workforce Survey, 2017. National results by FP/GP or other specialist, gender, age, and province/territory* [question 16]. Ottawa, ON: Canadian Medical Association; 2017. Available from: **https://surveys.cma.ca/en/viewer?file=%2fdocuments%2fSurveyPDF%2fCMA_Survey_Workforce2017_Q16_Overhead-e.pdf#phrase=false**. Accessed 2021 Feb 27.
11. Mehrotra A, Chernew ME, Linetsky D, Hatch H, Cutler DA. The impact of the COVID-19 pandemic on outpatient visits: a rebound emerges [blog]. *To the Point* 2020 May 19. New York, NY: Commonwealth Fund; 2020. Available from: **https://www.commonwealthfund.org/publications/2020/apr/impact-covid-19-outpatient-visits**. Accessed 2020 Aug 4.
12. *Fee Navigator*. Edmonton, AB: Alberta Medical Association. Available from: **https://www.albertadoctors.org/fee-navigator**. Accessed 2021 Oct 24.
13. *Alberta Health Care Insurance Plan: schedule of medical benefits as of 31 March 2020*. Edmonton, AB: Government of Alberta; 2020. Available from: **https://open.alberta.ca/publications/somb-2020-03-31**. Accessed 2020 Aug 5.
14. Starfield B, Shiu L, Macinko J. Contribution of primary care to health systems and health. *Milbank Q* 2005;83(3):457-502.

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