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Retaining Family Physicians in the Regions: A Persistent Challenge

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Simply attracting family physicians to underserved regions is not enough: they must also stay there. A new CIRANO study (Fortin and Gbeto, 2026) examines this issue, using data covering the period from 1975 to 2024. The analyses show substantial disparities across Quebec. In university or peripheral regions, half of physicians will have left their region after 23 years, with that period being 16 years in intermediate regions and only 6 years in remote or isolated regions. Higher fees can encourage longer stays in the regions and make practising there more financially attractive. Rules governing practice locations, also have an effect. The authors call for the initial placement and eventual retention of new physicians in the regions to be considered together, while taking into account practice conditions and physicians' personal choices.

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A region can succeed in recruiting physicians while, at the same time, struggling to retain its workforce. If many doctors leave after only a few years, the region must continually attract new ones. The length of their stay therefore matters just as much as their decision to come to the region in the first place. Retention, in the context of this study, refers to a region's ability to keep physicians who have settled there. Better retention can facilitate continuity of patient care, stabilize teams and reduce recruitment costs. It can also limit service disruptions caused by departures.

A CIRANO study published in 2025 examined the ability to attract new family physicians to different regions of Quebec (Fortin et al., 2025). The study showed that measures implemented to bring family physicians to areas outside major centres had the intended effect. The present study is an update of the one from 2025 study and focuses on regional retention, analyzing the length of physicians' stays and their regional moves between 1975 and 2024.

Three measures that try to encourage more practice in the regions

Quebec offers both financial incentives and rules restricting the choice of practice location. These measures address the same concern: improving the distribution of physicians across the territory.

Higher remuneration in certain regions

Different rates of remuneration allows higher fees to be paid in several remote or isolated regions. Its intention is to make practising in these regions more financially attractive. One example would have a female general practitioner in 2025 who chose to practise in Rimouski receiving 120% of the basic health-insurance fee schedule if she worked in a health facility and 115% if she worked in a private practice. In an isolated region such as Nord-du-Québec, the premium would be even higher: 130% of the basic fees for practising in a health facility and 120% in private practice. By contrast, if the same physician practised in Montreal, Quebec City or Sherbrooke, she would have received the regular rate.

Thus, from an economic perspective, a female general practitioner may be encouraged to establish a practice in a region where remuneration is more advantageous than elsewhere. Likewise, an improvement in relative remuneration in that practice region may encourage her to stay there longer. This formulation thus offers up mechanisms for both attracting and retaining physicians to a region.

Bursaries in exchange for a service commitment

Bursaries with a service obligation provide a specific type of financial assistance during training. In exchange for the funding, the recipient commits to practising for several years in a remote or isolated region. Two questions must be distinguished here: Will the physician practise in the region for the duration of the commitment? And once the commitment ends, will the physician choose to remain there? It is the second question that speaks to long-term retention.

Rules governing practice locations

Introduced in 2004, regional medical workforce plans, called Plans régionaux d'effectifs médicaux (PREMs), require new physicians to obtain a compliance notice to practise in a region. This notice is granted only if the PREM has not yet reached its targeted number of physicians. Practising without that compliance can result in a 30% reduction in remuneration. The rules were tightened in 2015, with the penalty being applied more broadly: physicians must now perform at least 55% of their billable days in their designated sub-territory. These rules aim to guide the distribution of the medical workforce, but they may also limit opportunities to move between regions.

New data for tracking physicians over the years

The data from the Canadian Institute for Health Information (CIHI), to which we had access, make it possible to track the movement of family physician practices from 1975 to 2024. They indicate physicians' main practice region, as well as characteristics such as age, gender, language and the university they graduated from, when it is a Quebec university.

The 18 health regions of Quebec can be classified into five categories

University regions: Montreal, Capitale-Nationale and Estrie
 Peripheral regions: Chaudière-Appalaches, Laval, Lanaudière, Laurentides and Montérégie
 Intermediate regions: Saguenay-Lac-Saint-Jean, Mauricie-Centre-du-Québec and Outaouais
 Remote regions: Bas-Saint-Laurent, Abitibi-Témiscamingue, Côte-Nord and Gaspésie-Îles-de-la-Madeleine
 Isolated regions: Nord-du-Québec, Nunavik and Terres-cries-de-la-Baie-James

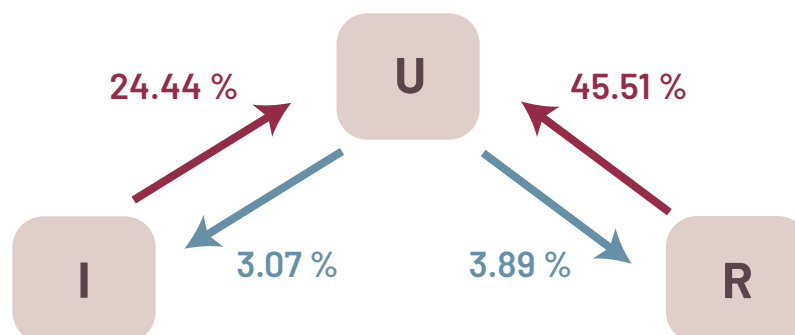
For simpler comparisons, we grouped the regions into three sets

University or peripheral regions, designated "U"
 Intermediate regions, designated "I"
 Remote or isolated regions, designated "R"

Having three sets of regions means looking at six possible movements. For example, $E \rightarrow R$ corresponds to leaving a remote or isolated region for a university or peripheral region. A physician may have several stays over the course of a career. If a physician leaves a region and later returns, two separate stays are observed. Semi-retired physicians, physicians on parental leave and residents are excluded from the analysis. It should also be noted that the data count physicians, but do not measure their presence in terms of full-time equivalents.

Among all changes observed between the three sets of regions, 45.51% are from remote or isolated regions to university or peripheral regions. The reverse movement accounts for only 3.89% of changes. Departures from intermediate regions to university regions represent 24.44% of observed movements, while those from university regions to intermediate regions represent 3.07%. These figures concern regional changes. They do not mean, for example, that 45.51% of physicians in remote regions leave their region every year.

Several reasons may explain this attraction to major centres: professional opportunities, specialized networks, employment for a spouse or partner, schools and proximity to family. Our data do not allow us to measure the separate weight of each of these reasons.



Frequencies of transitions between sets of regions, 1975 to 2024

Much shorter stays in remote regions

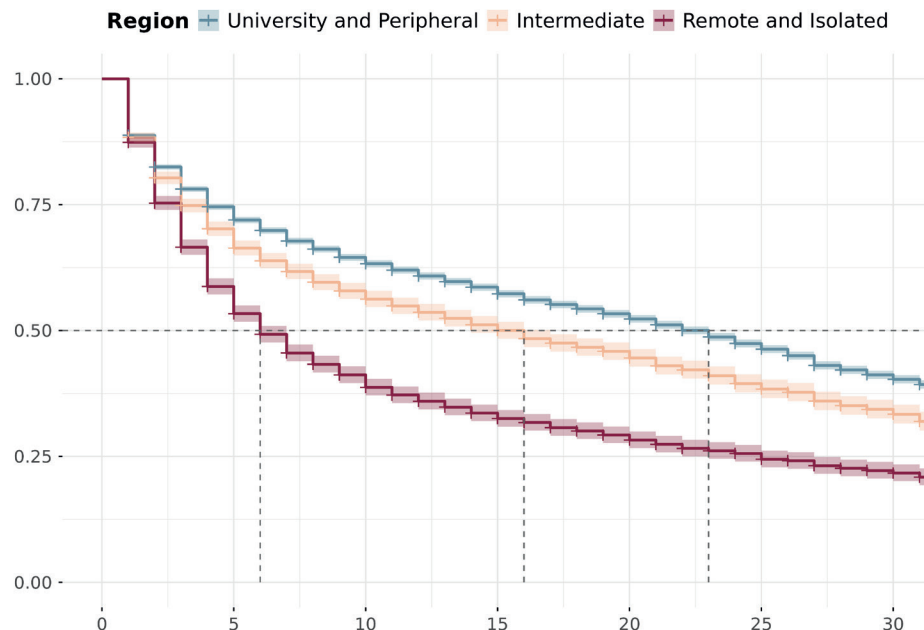
The period for the data used in the study ends in 2024. At the end of that year, some physicians were still practising in the region where they had settled. While our data allow us to determine how long they had already been in the region, it does not provide the total length of the stay, since it was still ongoing at the end of the observation period. An example would be a physician that began practising in a region in 2020 and was still practising there in 2024, the last year covered by the data. We know that the stay lasted at least four years, but we do not know its total duration. It would therefore be incorrect to consider that stay to have ended in 2024.

To account for stays still ongoing at the end of the observation period, known as “right-censored” observations, we use Kaplan-Meier estimators. As illustrated by the figure below, this approach makes it possible to represent estimated survival curves for general practitioners’ practice episodes in three broad regional groupings: university or peripheral regions, intermediate regions and remote or isolated regions. The estimate covers the entire 1975-to-2024 sampling period.

The curves start at 1 because the analysis considers only episodes whose beginning corresponds to entry into one of the three regional groupings. The survival probability tends toward zero as episodes eventually end. The survival curves decline in steps as episode duration increases. This shape reflects the progressive accumulation of the risk of leaving the practice region over time.

Our analyses suggest that retention of general practitioners is substantially higher in university or peripheral regions than in remote or isolated regions. Pairwise log-rank statistical tests all reject the null hypothesis of equality of the survival curves. The observed differences between regional survival profiles are therefore statistically significant.

For a given episode duration, the survival probability is highest in university or peripheral regions. The median survival time is estimated at 23 years, corresponding to the point at which the survival curve reaches 0.50. Intermediate regions occupy an intermediate position, with a median survival time of 16 years. Finally, remote or isolated regions have the lowest survival, with a median survival time of 6 years. In other words, according to our estimates, in university or peripheral regions, half of physicians will have left their region after 23 years. This period is 16 years in intermediate regions and only 6 years in remote or isolated regions.



Survival probabilities by region, 1975 to 2024 (number of years)

Have the measures implemented in Quebec had an impact?

The study uses a proportional hazards model to examine the risk of a physician leaving an origin region for each destination region. The six movements are analyzed separately. The method accounts for time already spent in the region, observable physician characteristics and certain regional attributes, such as the number of physicians per capita and median income. The analyses also account for individual differences that the data do not directly measure. Some physicians may, for example, discover a lasting preference for rural practice. Others may face family constraints that make moving less likely. The analysis indicates that these differences play a role in each of the six movements studied.

Differential compensation is consistently associated with longer stays

Differential compensation has a positive and significant effect on regional retention, particularly in remote or isolated regions. For physicians practising in these regions, a one standard-deviation increase in remuneration is associated with an 11.3% reduction in the risk of leaving for university or peripheral regions and a 35.8% reduction in the risk of leaving for intermediate regions. In university or peripheral regions, a comparable increase is associated with a 28.7% reduction in the risk of leaving for intermediate regions and a 40.5% reduction in the risk of leaving for remote or isolated regions. These results concern the remuneration advantage of one region relative to another. An identical increase in all regions would not necessarily change this advantage.

The study also translates the results into average stay duration. In remote or isolated regions, a 1% increase in relative remuneration is associated with an increase of approximately 0.26% in average duration calculated over the first 15 years. When no duration limit is imposed, the estimated increase is 0.31%. In university or peripheral regions, the corresponding values are 0.09% and 0.12%. Remuneration therefore appears to matter more for the duration of stays in remote or isolated regions. It may offset some of the disadvantages associated with practising in these territories.

PREMs are associated with fewer departures, but also less mobility

Between 2004 and 2014, the introduction of PREMs was associated with a 43.5% reduction in the risk of leaving remote or isolated regions for university or peripheral regions. It was also associated with a 41.1% reduction in the risk of leaving university or peripheral regions for intermediate regions. The tightening of the rules in 2015 was associated with a 39.8% reduction in the risk of leaving remote or isolated regions for university or peripheral regions. The reverse movement also declined, by 38.3%. Estimated long-term average stay durations also increased.

In remote or isolated regions, the increases associated with the 2004 and 2015 measures were 11.14% and 11.39%, respectively. In university or peripheral regions, the increase associated with the 2004 PREMs was 1.97%.

These results suggest that PREMs may promote retention. They nevertheless raise another question: Do the rules also limit moves toward regions that need new physicians? Longer stays and a better distribution of physicians do not necessarily go hand in hand. In addition, PREMs impose indirect costs on physicians that should be assessed.

The lasting role of bursaries is less clear

Once their service obligation has ended, bursary recipients are less likely to leave a remote or isolated region for an intermediate region. When they practise elsewhere, they also appear more likely to return to a remote or isolated region. These results nevertheless change depending on how the initial choice of practice location is taken into account. Physicians who apply for a bursary may already be interested in practising in the regions. Some of their behaviour may therefore reflect that interest, perhaps more than what the bursary itself offers. Bursaries may ensure a presence during the commitment period. Their contribution to a sustained presence after the commitment ends is more difficult to establish.

The results also show that older physicians generally have a lower tendency to change regions; women are less likely to move from university or peripheral regions to remote or isolated regions; francophone physicians are more likely to make this move; and graduates of Université Laval and Université de Sherbrooke who practise in remote or isolated regions are less likely to leave for university or peripheral regions than graduates from outside Quebec.

One caveat remains essential: physicians who choose a remote region may already be more willing to remain there. We therefore also examine an analysis linking the initial choice of practice location to subsequent moves. The results concerning bursaries are particularly sensitive to this consideration.

What type of public policy can result from this?

The results suggest that having different remuneration and practice rules can contribute to physician retention in the regions. Nevertheless, substantial differences in the duration of their practices remain. It is therefore useful to also consider the conditions under which physicians practise and live. One strategy could combine stable regional remuneration, sufficiently flexible rules and ongoing clinical support. Other avenues worth examining: Interprofessional teams, locum opportunities and access to training facilitate more satisfying practices; employment for a spouse or partner and integration into the community can weigh on the decision to stay, as would the exposure to rural practice during training.

In addition, several medical schools, supported by the Quebec government, offer undergraduate medical training at satellite campuses that can stimulate students' interest in practising in regions other than university regions. Furthermore, some studies (such as Costa, 2024) suggest that reserving medical-school places for students from underserved regions and increasing the number of medical training positions in disadvantaged regions are more effective – and cost the same – than financial incentives. However, in the absence of Quebec-based data, our study does not directly evaluate these different approaches. A natural avenue for future research would be the collection of the data needed for a cost-effectiveness analysis of different measures. This would allow us to compare their costs with the gains achieved in terms of regional retention of family physicians.

Moreover, the data used in the study have limitations. They count general practitioners without precisely measuring their workload and without taking into account health professionals other than physicians. In addition, grouping regions into three sets masks different local situations (e.g., the average distance between patients and family physicians). Finally, the observed relationships between policies and stays do not, by themselves, constitute evidence of causality.

The main conclusion is that the initial attraction of physicians to the regions and their retention should be considered jointly. Attracting a physician can improve access to care in the short term, but the sustainability of this gain also depends on how long the physician practises in the region. Measures that encourage physicians to settle in a region must therefore be accompanied by conditions that encourage them to remain there. Moreover, while rapid turnover of physicians in a region may be a concern, it is likely that after a certain number of years of practice, particularly in small teams, a lack of renewal can hinder the evolution of practices. Finally, the optimal length of stay for a family physician in a region does not necessarily correspond to the maximum possible length of stay.

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