Recruitment and Retention of Rural and Remote Physicians – the Role of Alternate Payment Models [Abridged Report]

8 July 2020

The Health Technology Assessment Unit

University of Calgary

Acknowledgements

This SPOR Evidence Alliance project was authored by Brenlea Farkas, Dr. Braden Manns, Dr. Yewande Ogundeji, Dr. Darryn Wellstead, and Dr. Fiona Clement on behalf of the HTA Unit at the University of Calgary, with funding in part by the Canadian Institutes of Health Research (CIHR) under the Strategy for Patient Oriented-Research (SPOR) initiative. Braden Manns is the Associate Chief Medical Officer, Alberta Health Services, Strategic Clinical Networks. No other conflicts of interest to declare. The researchers will also like to thank rural and remote physicians who participated in study interviews and validated findings of the qualitative study.

Cite as:

Farkas, B., Manns, B., Ogundeji, Y., Wellstead, D., Clement, F., (2020). Recruitment and Retention of Rural and Remote Physicians – the Role of Alternate Payment Models. Produced by the HTA Unit at the University of Calgary with support from the SPOR Evidence Alliance.

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1 Executive Summary

Health disparities between urban and rural-dwelling Canadians are well documented, and highlight the importance of recruiting and retaining physicians to rural areas. In this study, our objectives were to identify factors important in the recruitment/retention of rural physicians, and to understand the role payment models may play in supporting these efforts.

Existing literature has identified factors that influence recruitment and retention across four main themes: personal (e.g., rural background), community (e.g., social and recreational activities), education (e.g., rural placement during training), and policy (e.g., payment models, incentives). Within the literature, there were three overarching conclusions: 1) studies consistently note that payment models are not the most important contributing factor, but rather are considered amongst other non-monetary factors; 2) a combination of monetary and non-monetary incentives are most strongly associated with rural recruitment/retention; and, 3) there is consistency in the most important trade-offs physicians are willing to make in order to work in rural settings (e.g., income, locum relief, and desirable on-call arrangements). Noticeably missing from this literature is attention to Indigenous rural and remote communities, and how preference for payment models might differ by physician demographics (e.g., physician sex, country of medical training, age).

To further understand the role of payment models in retention and recruitment in Alberta, we conducted interviews with 13 Alberta rural physicians. Findings highlighted the importance of professional factors (e.g., variation and scope of practice, attractiveness of rural living). Physicians emphasized the challenges associated with rural practice, which may impact retention (e.g., poor locum support and heavy on-call burden; challenges of a complex patient panel). Our findings indicate that payment models play a limited role on their own in addressing these challenges, but that they might attract additional physicians to rural areas. This could reduce workload and on-call burden, and facilitate a collaborative "team-based" care model, optimizing where and how physicians spend their time. Physicians stressed that distrust in government might impede their considerations for alternate payment models, but that this could be mitigated involving physicians in the development of contracts.

Based on the findings of our work, we present five key considerations (Box 1).

Box 1. Considerations based on research findings

Key Considerations

1. Focus attention on non-financial barriers through professional support to reduce on-call hours, and improve locum coverage and community integration;
2. Include rural physicians in the development and implementation of alternate payment models to ensure they are perceived to be flexible, fair, and tailored to the specific needs of the community;
3. Avoid perverse incentives of all payment models by ensuring accountability mechanisms are in place for all physician payment models;
4. Advertising alternate payment options by highlighting transparency and trust, flexibility based on community needs, income security, and team-based care;
5. Target physicians most likely to remain in rural settings (e.g., those with rural backgrounds), rather than incentivizing recruitment for physicians unlikely to remain long-term (e.g., internationally trained physicians).

2 Overview

The HTA Unit worked with members of the UofC Health Economics group to develop an abridged report which summarizes key findings from our report on the role of alternate payment models in the recruitment and retention of rural physicians (Appendix A: Full Report). This work was funded by the SPOR Evidence Alliance, with co-funding from a CIHR foundation grant. The overarching objectives of this abridged report were to: 1) synthesize evidence from recent studies on factors related to recruitment/retention of rural physicians; and their preferences for payment models and incentives (monetary and non-monetary); and 2) report the perspectives of Alberta rural physicians on factors that influence recruitment and retention through key informant interviews. This abridged report also provides pragmatic considerations that could be utilized as Alberta endeavours to improve the recruitment and retention of physicians in rural or remote settings, including exploring the role of alternate payment models. We acknowledge the critical role of primary care for rural Indigenous populations, whose needs are not fully met by primary care currently. We also acknowledge that Indigenous researchers, organizations and communities are best positioned to advance the needs of Indigenous communities. Thus, recruitment and retention for primary care for rural indigenous communities is beyond the scope of this current abridged report.

3 Facilitators and Barriers to Rural Physician Recruitment and Retention: what the literature tells us

Based on current theoretical thinking and published literature around physician recruitment and retention, factors across four main themes emerged: personal, community, education, and policy (Figure 1). Understanding the interrelation between these main factors should inform recruitment and retention strategies to mitigate barriers and increase the number of family physicians choosing rural practice.

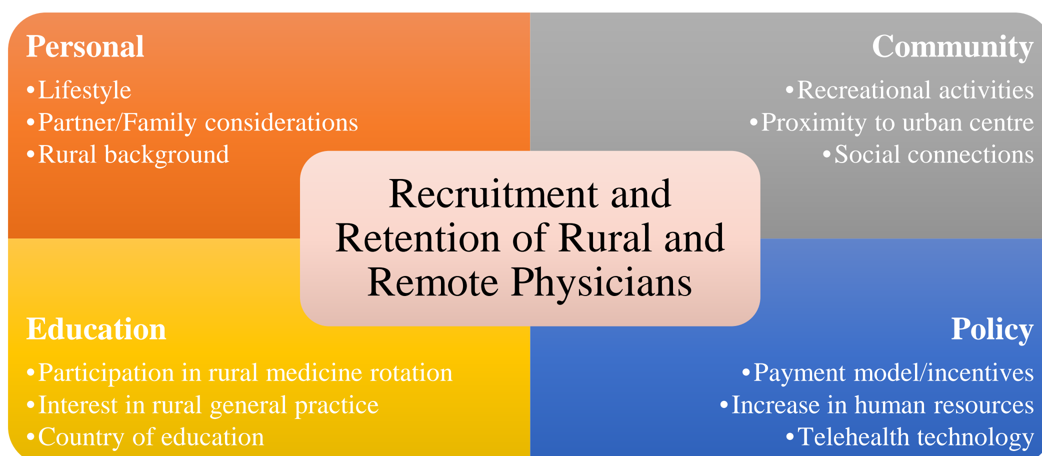

Figure 1. Themes of factors for recruitment and retention for rural and remote physicians.

Within each of the four main themes, there are facilitators and barriers for both recruitment and retention. Successful *recruitment* strategies will ideally target individuals who are most likely to remain in rural setting once they have established their practice. One of the most consistently reported factor in successful recruitment is targeting physicians who have a rural background (e.g., graduated from rural high school, rural placement in medical school).[1-4] Barriers to recruitment for rural practice lay primarily in the urban experience of the physician, and the perception of rural living and practice (e.g., perception of inadequate facilities, social isolation, and inability of spouse to find work). [2,5] Successful *retention* strategies encourage and support physicians to integrate and adapt to their rural community, and establish their practice. Feeling appreciated by their community, valuing personal relationships with patients, and spousal job satisfaction are often cited as facilitators of retention. [2,3,6] Retention barriers differ from recruitment barriers as they are based on the lived experience of the physician, including their integration into the community, and experience in establishing their practice (e.g., spouse unable to find fulfilling work, no connection to community, poor on-call arrangements and/or locum relief)[4,6,7] (Table 1).

Table 1. Facilitators and Barriers cited for Recruitment and Retention of Rural Physicians

<table>
<tr><th></th><th>Recruitment</th><th>Retention</th></tr>
<tr><td rowspan="2">Facilitators</td><td>• Interest in generalist practice
• Positive rural experience in medical school</td><td>• Feel appreciated by community
• Value having a mixed professional-personal relationship with patients
• Strong connection and sense of duty to community
• Spouse job satisfaction
• Ability to practice full skill set
• Social support systems
• Adequate paid annual leave</td></tr>
<tr><td colspan="2">• Rural background of physician and/or spouse
• Desirable recreational/social activities
• Monetary and non-monetary incentives</td></tr>
<tr><td rowspan="2">Barriers</td><td>• Perception that rural physicians are less qualified than urban physicians
• Perception of inadequate facilities
• Perception that spouse will be unable to find suitable work
• Inadequate or negative experience in rural medicine elective</td><td>• No connection to community
• Inability for spouse to find career
• Inadequate remuneration
• Poor locum support
• Poor on-call arrangements
• Perceived lack of appreciation for services provided</td></tr>
<tr><td colspan="2">• Desire for urban living
• Isolation from friends and family</td></tr>
</table>

Of note, the importance or impact of these factors may differ amongst physician demographics such as sex, age, and country of medical education. For example, physicians who acquired training from an international medical school may use a rural position as a stepping stone into the Canadian system; however, their desire for urban living may result in leaving rural practice for an urban setting once they have established their career in Canada.[8]

3.1 Alberta Context

A number of studies have been conducted in Alberta that add to the broader understanding of rural recruitment and retention. Evidence in Alberta is largely consistent with national and international evidence noted above. A 2012 study examined retention factors cited by physicians, spouses, health care staff, and community members to inform the development of a retention framework. Using data gathered through interviews with participants from four diverse rural Alberta communities, the authors suggest three domains that are all interrelated: personal retention (e.g., individual choice, spousal and family support, goodness-of-fit), professional retention (e.g., physician dynamics, physician supply, practice set-up, scope of practice), and community retention (e.g., active support, recreational assets, connection).[9,10] Additionally, a 2012 evaluation of the Enrichment Program, an initiative of the Rural Physicians Action Plan to improve and upgrade physician skills and training, indicated that five-year retention was 1.3 times greater amongst physicians enrolled in the Enrichment Program vs. un-enrolled physicians matched according to age, size of community, physician-type, and years of practice.[11]

3.2 Preferences for Payment Models

A diverse methodology is applied in the literature, although nearly half (n=5) of the 12 studies were discrete choice experiments (DCE), which enable measurement and quantification of preferences.[12-14] A notable finding from this literature review is that payment models are not often considered in isolation (e.g., without considering other incentives) in the rural recruitment/retention literature over the past 10 years. With the exception of Russell et al.,[15] most studies do not report payment models to be of high importance in choosing to select and stay in a rural community to practice medicine, regardless of the model (e.g., private practice vs. salary). Rather, payment models are considered in combination with other incentives, and other factors (e.g., personal, community, and education) seem to be stronger predictors of rural recruitment and retention. Within the DCE studies, physician preferences were strongest for the following factors:

income, hours worked per week, spousal/partner employment, on-call rotation, housing availability, practice type, clinic technology, continuing medical education/training, community incentives, locum relief, and location.

4 Interviews with Rural and Remote Physicians in Alberta

4.1 Overview and Objectives

We conducted semi-structured qualitative interviews with 13 primary care physicians in rural or remote communities in Alberta, Canada. The objectives were to provide a clearer understanding of the factors that attract and retain rural physicians, including the role that alternative payment models could play, and to determine the preferences of rural physicians for alternate payment models, and what specific features are important to them.

4.2 Methods

Two researchers led the collection and analysis of data. Thirteen interviews were held with primary care physicians practicing under FFS (seven), alternative payment model (APM) (five), or blended (one) models. An interview guide was used to elicit responses from participants. Interview data was analyzed using the thematic framework approach, and data saturation for the main themes was achieved after eight interviews. The findings are presented under seven themes that emerged from the data analysis, which are described below and in Table 2, including selected quotes. Detailed methods and results are reported in the appendix.

4.3 Findings (also see Table 2 below)

4.3.1 What attracts physicians to rural or remote practice?

Overall, study participants viewed the decision to pursue rural medicine as a "package deal". This package included: (i) *community factors*, such as quality of life, attraction to the rural lifestyle, and the sense of valued contribution to the community; (ii) *monetary and non-monetary incentives*, such as relocation support; (iii) *personal factors*, such as previous rural experience, and family-related factors, and (iv) *professional factors*, including autonomy in practice, broad scope of practice, and strong patient-physician relationships. Of these factors, physicians emphasized the broad scope of practice alongside the attractiveness of rural living as key elements motivating them to work in rural and remote locations. Thus, both professional fulfillment and lifestyle considerations weigh into the decision to work rurally.

4.3.2 Barriers and challenges associated with rural/remote practice:

Physicians identified a number of challenges associated with rural practice, categorized under five key domains including *practice and professional challenges*, *family-related and personal factors*, *challenges related to patient care*, and *community challenges*. The most commonly cited challenges were professional including workload and on-call burden, inadequate access to specialists, and equipment that was not up to date. There was a recognition that rural medicine is more challenging as it necessitates a breadth and depth of skills not required in urban practice. This was both a draw and a challenge for physicians.

4.3.3 Factors that facilitate retention including the role of payment models:

Physicians in our study expressed a number of factors that could improve retention, but no one single factor was sufficient on its own. *Financial incentives* were viewed as helpful in recruitment, but insufficient to retain doctors over the longer term. Physicians also felt that an erosion of trust in government negatively influenced their willingness to continue in rural practice in Alberta. Specifically, they felt undervalued by government in general, and perceived that recent changes by government reflected a lack of respect for rural physicians/rural practice. Physicians expressed that government could undertake a number of actions to help them feel supported, which would, in turn, help them to tolerate the challenges associated with rural practice. Suggestions included support around *professional and practice factors*, including improved coordination of specialist support systems, support for locums, education support for rural residents, and innovative healthcare delivery options, such as virtual care. They also emphasized that sometimes it is *personal and community factors* (such as personal needs, or spousal concerns), that shape their decision of whether or not to stay in rural practice.

4.3.4 Factors that physicians consider in decisions around payment model changes:

Overall, the majority of the physicians were open to considering other payment models. Of note, while APM physicians were more reluctant to consider FFS, some FFS physicians were more open to alternative payment models contingent on the government/AH addressing specified concerns. For physicians who were willing to consider alternate payment models, they emphasized the importance of *developing "fair contracts" that were clear, simple, and adequately compensated*. Physicians also emphasized that *APMs ought to be developed in collaboration with physicians according to the specific to the needs of the community to account for peculiarities such as population fluctuations or a more complex patient panel in some locales*. They also expressed concerns about implementing and administering alternate

payment models but noted that these concerns might be mitigated if physicians were involved in contract design.

4.3.5 The potential role of payment model in retention:

Physicians generally felt that payment models have some role to play in attracting and retaining rural physicians. This view was expressed primarily from physicians operating under APMs. In these cases, physicians perceived that certain attributes of APMs might appeal to doctors considering making the move to rural practice, including facilitating a collaborative, "team-based" care model. For instance, they described how collaboration with allied health professionals in clinical practice could spread out the workload and triage patient care such that more minor issues could be dealt with by nurse practitioners, or through phone follow-ups with physicians, while more serious issues could be reserved for in-person physician appointments. On the other hand, a few FFS physicians expressed that they would not be interested in APMs, as they were concerned that APM contracts might be vague or might be cancelled without due consultations. In these cases, a change in payment model from FFS to APM was likely to negatively influence their decision to keep practicing in rural/remote towns in Alberta.

4.3.6 Physician perspectives on the potential impact of alternate Payment models (APMs):

When asked about their perspectives on APMs, physicians practicing under APMs generally felt that this model afforded them the flexibility to structure their practice according to the needs of the community and/or their patient panel. Physicians felt this style of practice might be attractive to physicians looking to move into rural practice, and indeed, some participants noted that the payment model did in fact shape their choice about where to practice. In addition, physicians practicing under both FFS and APMs noted that APMs were appealing because they could provide income security and paid vacation time. Some FFS physicians felt like working under an APM would be less stressful than working in FFS, since there is less pressure to pay overhead costs during time off. Despite these appealing aspects, physicians highlighted some potential drawbacks of APMs, which included concerns about loss of autonomy and worries that this model could create "free riders" leading to an imbalance in workloads.

4.3.7 Physician perspective on the potential impact of FFS

FFS physicians articulated that FFS provided them the opportunity to work as much or as little as they like, and to customize their own schedule. This was sometimes driven by concerns around earning enough to cover overhead costs or paying off student debt. Since

FFS incentivized doctors to book more appointments, some physicians felt that this payment model supported patient access to healthcare but might lead to shorter visits. Participants also emphasized the potential drawback of FFS, in that a small number of doctors might be inclined to see too many patients or schedule more follow-ups than are necessary in order to maximize their earnings.

4.4 Discussion

Overall, study participants viewed the decision to pursue rural medicine as a package deal and considered many interrelated factors as being important to recruitment and retention, not just payment models. We identified physicians' perspectives on benefits and drawbacks to both APMs and FFS payment models for rural practice and noted that these play a limited role on their own in recruiting and retaining physicians. In addition to ensuring that a payment model accommodates the peculiarities of rural practice and specific community needs, the comments about both payment models strongly suggests the need to have accountability mechanisms to minimize perverse incentives associated with both payment models.

Of note, this study had some limitations including a small sample size due to low response rate, which might limit the generalizability of the study. However, saturation was achieved during data collection and no additional major themes were emerging from additional interviews. Also, the findings of this study are consistent with existing literature (discussed above) on factors that facilitate recruitment and retention to rural practice, including scope and variability of practice, personal or family related factors, financial incentives, and strong physician-patient relationships.

Many physicians noted a recent erosion of trust in government and emphasized the need for physician involvement in contract design, which would not only support them in feeling valued for their work in rural regions, but also allow for the design of contracts to maximize both physician satisfaction as well as patient care.

Table 2. Summary of themes and categories

Themes	Subthemes	Categories*	Quotes
What attracts physicians to rural areas	Community factors	**Attracted to rural lifestyle**; Quality of Life; Valued contribution or work in community	*"it's about different activities. We go biking. We interact a lot with the community. My children are still little, so my neighbour is usually the one who's watching them when I have extra shifts if my husband is busy with work. So, all these factors made us love staying [here]. "* **APM physician**
	Financial incentives	Monetary and Non-monetary incentives	*"I wouldn't have been able to come here without the rural program. Yeah, they sponsored my anesthesia assessment and I got a stipend throughout that"* **FFS physician**
	Personal/family related factors	Access to childcare; retirement plan; Previous personal rural experience; Spousal factors	*"I come from a really small town. I really loved where I grew up. I recognize that there were some serious gaps in clinical care as I was growing up, and certainly wanted to mitigate some of that when I got out of med school"* **APM physician**
	Professional factors (motivators)	Autonomy or Independence; Patient physician relationships; **Variety in scope of practice**	"*In a rural centre you just having a broader scope of practice being able to work in different environments and different types of medicine."* **FFS physician**
Barriers and challenges associated with rural remote practice	Challenges related to patient care	**Complex patient panel**; Limited access to specialist; Outdated or old equipment or facilities	*The other big thing is access for our patients to diagnostic tests. So, I can't get an echocardiogram here or a stress test here. I'm limited, I can get some kinds of ultrasound... So those are probably the major things."* **APM physician**
	Community challenges	Cold or severe climate; Cultural or Ideological differences; community pressures	*"the intensity of the work, the hours, the inability to switch off, you always have kind of a duty of care when needed within your community, right now for me, the biggest challenges."* **FFS physician**
	Family related and personal factors	**Season of life needs**; Spousal factors; **Work life balance**	*"Most physicians that I see that move and that's once again immigrants like myself, move because they believe there's better schooling to bigger cities or private school."* **FFS physician**
	Practice and Professional challenges	Keeping up with variable clinical knowledge; **High on call burden**; Travel/professional related barriers	*"It's absolutely relentless is what I would say. So, like you are never off duty. You don't just do your days' work and walk away. So, I think it's very difficult in a rural or remote practice to really be switched off."* **FFS physician**
Factors that facilitate/ impede retention	Financial incentives	Rural retention bonuses	"*I think the rural retention bonuses….definitely make the job more attractive, but it's not enough to be a driver to work rurally unless, you know, some young doctors are doing locums or whatever just trying to make some money, but generally it's not enough to be a driver but it is a nice added incentive*." **FFS physician**
	Personal/family factors	Family support; Investment in community; Spouse's employment situation	*"I've worked in [places where] the community members, they come up to me and they say, can we help, you know, getting your husband a job? I think that, you know, if we did have governmental supports in that sense, that would be fantastic."* **APM physician**
	Professional and system factors	**Health System Support**; Innovative care or delivery models; Strong specialist referral systems	"*When we go on holidays, we cannot get a locum to cover us. So, our bills just build up while we are on holidays. so yeah, like a good locum program, because Alberta has a locum program and it's totally insufficient. A better locum program would make a huge difference*." **FFS physician**
	Distrust in government	**Physicians feel undervalued**	"*I intend to remain in mostly rural practice, but I'm not sure if I will remain in this practice because of how we have been treated recently by our Minister of Health."* **FFS physician.**

Factors that physicians consider in decisions around payment model changes	Contract concerns	**Fair contracts;** Potential to earn less; Fear of loss of autonomy and flexibility; Feasibility of one payment model for all types of clinical work; **Involvement of physicians in payment model design**	*"I know one of the current issues and concerns that a lot of physicians have is of the, the contract is actually quite vague and people are concerned that going into a varied contract you actually lose a lot of autonomy and in a fee-for-service model it's very clear and you are kind of in control, whereas in an APM you are kind of giving over that control and you have this obligation to provide all of this care, but it's the goal posts can be moved at any point. So, I think that's one of the current concerns regarding it"* **FFS physician**
	Implementation concerns	**Difficulty in administration;** Financial Losses associated with changing payment models	*"I actually looked into it last year, so when the AMA were talking about that I contacted their team to see, get more information on it and see if it would be applicable to our practice, and at the time my colleagues were not interested in that model, so I didn't go any further,".* **FFS physician**
	Peculiarities of rural practice	**Population fluctuations**; Travel costs	*"I think number one factor is the number of hours that you have to work, and the load, because as I mentioned earlier if I'm practicing in a busier place than <town> then I would definitely would prefer a fee-for-service instead of working 24-hours and seeing only a small load of patients"* **APM physician**
The role of payment models in retention		Ability to share workload with allied healthcare workers on an APM; **APM could attract new physicians**	*"I think if [an APM contract] was attractive it would make it easier to recruit to this area. So I think like having an extra person to share the workload would reduce my workload, so that in itself would certainly be helpful."* **APM physician**
Physician perspectives on the potential impact of APM	Impact Physician practice	Free rider problem; Potential loss of autonomy; Reduces paperwork; **Loss of drive to innovate, improve or see patients**; **Income security; Paid vacation time;** Potential cost savings	*"when I'm working in Emerg and someone else prints off on the computer that they've registered, I'm like, ah dam it, I just want to go to sleep. And, if I was actually paid person and I was knowing that I was getting, you know, the middle of the night rate for seeing someone in Emerg, I'd probably be happy because that's me making a ton of money, right, but because I'm salary, I just want to go to bed, leave me alone, stop coming to Emerg."* **APM physician**
	Impact on Patient care	Enables holistic patient care; **More time with patients**	*"I feel like I'm less rushed. I'm not turning so much, I'm not on the treadmill. If we are seeing them (patients), we are just focused on measures more. You know, how often has their blood pressure been done? What's their cholesterol? What's their risk factors? Is there something we are missing?".* **APM physician**
Physician perspective on the potential impact of FFS	Impact on Physician practice	**Customized schedule/workload**; **Under pressure for income to keep practice running;** Income less stable; Increased paperwork; Might create incentives in a small proportion of physicians to see too many patients	*"The one thing that's nice about being on the fee-for-service is I can sort of hustle if I want to. I can take more shifts. I can see more patients. I'm kind of the guy right now if you have a patient in the hospital you are not getting along with or someone that's been dumped by every other doctor in town, I'm the one that takes them on. I'm willing to take on that work".* – **FFS physician**
	Impact on Patient care	**Improved patient access;** Tendency to have more follow ups; **Tendency to spend shorter time periods with patients**	*"it constrains in the sense that you do feel like under pressure to see a certain number of patients per day to make sure that your income is secure and you know, sometimes you would like to spend longer with less patients in what fee-for-service would allow."* **FFS physician**

* **bolded categories represent categories most commonly mentioned / most important**

5 Key Findings and Pragmatic Considerations

5.1 Key Findings

The overarching aim of this abridged report was to provide a clearer understanding of factors that influence rural and remote physician recruitment and retention; in particular, how physician preference for payment model (e.g., alternate versus fee-for-service) might influence their decision to choose and stay in a rural community. We identified multiple factors that affect physician's decision to *choose* rural practice, including interest in generalist practice and positive rural experience in medical school. We also identified multiple factors that affect physician's decision to *stay* in rural practice, including strong connection to community, spouse job satisfaction, and social support systems. Some factors influence both recruitment and retention, including rural background of physician and/or spouse; professional factors including autonomy in practice, and broad scope of practice; desirable recreational/social activities, and monetary and non-monetary incentives. Noticeably missing from the literature was evidence on physician recruitment and retention in rural and remote Indigenous communities.

There are many challenges associated with rural and remote practice, including practice and professional challenges, family-related and personal factors, challenges related to patient care, community challenges, and morale. Though payment models were rarely cited to outweigh all these other factors, they can be part of the package deal that includes strategies to mitigate challenges as a way of valuing and respecting physicians. Alternate payment models can facilitate a collaborative, "team-based" care model, where allied health professionals deal with issues within their scope of practice, virtual visits could be done where appropriate and physician visits reserved for issues which cannot be dealt with entirely by allied health.

5.2 Final remarks

Given these findings, we make the following observations to inform policy-makers:

1. Attention must be paid to nonfinancial barriers that can be modified through health policy, including: professional support to ensure on-call hours are manageable; locum coverage; appropriate access to specialist support; robust virtual health; and support systems in place to enable community integration.

2. Including rural physicians in the development and implementation of alternate payment models may ensure they are perceived to be flexible, fair, and responsive to the needs of rural/remote physicians and the specific needs of the community.
3. As physicians noted, unintended “perverse” incentives occur within all payment models; as such, accountability mechanisms are needed to ensure funding models meet the needs of patients and the health system
4. To increase the uptake of alternate payment options, government should highlight: ability to tailor to local circumstances (based on patient numbers and needs); transparency and trust; flexibility; income security; paid vacation time; autonomy; potential for team-based care.
5. Recruitment strategies should target physicians most likely to remain in rural settings, rather than incentivizing recruitment for physicians unlikely to remain in the long-term. Building a pipeline of physicians most likely to remain in rural settings would include targeting medical students with rural background, and positive exposure to rural experiences during training; and offering support for these physicians to establish practice in rural areas.

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