

Impact of Payment Models on Medical Specialist Physician Practice Patterns

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ABSTRACT

Objectives: Many health systems are leveraging physician payment models to improve care quality and value for money. However, there is little published evidence regarding physicians' perspectives about how the payment models might affect specialist physician behavior and practice patterns, particularly for patients with chronic diseases. This study sought to understand the impact of payment models on specialist physician practice.

Study Design: This was a planned secondary analysis of a qualitative study.

Methods: In-depth, open-ended interviews with 32 specialist physicians practicing under fee-for-service (FFS) and salary-based payment models in Alberta, Canada. Data were analyzed using a thematic framework approach.

Results: Physicians in our study believed that that variation in physician practice was more likely to relate to individual physician factors outside the payment model than to the payment model itself. However, there was a general consensus that FFS may help improve patients' access to care by reducing specialist wait times. Physicians also emphasized that the salary-based payment model enhances team-based care and virtual care and provides flexibility to spend time with patients with complex health needs.

Conclusions: Physician payment models may play a role in aligning physician practice with health system goals, but the impact may not be as important as other factors. This highlights the need to consider interventions beyond payment models to better align physician practice with health system goals, optimize patient outcomes, and improve health system efficiency.

The American Journal of Accountable Care. 2022;10(1):8-18

Physicians are key health care decision makers at the individual patient level, and this allows them to influence around 70% of health care expenditure through their practice (eg, prescribing, admission of patients, ordering of diagnostic tests and procedures).¹⁻³ Therefore, aligning physician practice with health system goals is important and potentially beneficial to the health system. There are various ways to align physician practice with health system goals, including education, training, and decision support, but one that is among the most topical and more commonly used is physician payment models.⁴⁻⁶

Fee for service (FFS) is the predominant physician payment model in Canada and the United States.⁷ However, many health systems are exploring alternate physician payment methods (eg, salary, capitation, pay for performance, blended payment) as part of their health care reforms.⁸⁻¹² In Canada, more than 16% of medical specialists and 34% of family physicians received more than half of their total clinical payments via alternate methods between 2018 and 2019. Within this time frame, alternate payment models accounted for 27.4% of all clinical payments compared with 10.6% in 2000.¹³ Similarly, in the United States, about 30% of Medicare payments were through alternative payment models between 2010 and 2015, which was accelerated by the Affordable Care Act.¹⁴

In addition to being the method of physician compensation, physician payment models are seen as mechanisms to influence physicians' practice patterns and align their practice with health system goals. These may include reduced wait times, reduced hospital length of stay, increased use of high-value health care, reduced use of low-value tests or procedures, use of guideline-recommended care processes, and team-based care. Published information that assesses the impact of physician payment models suggests that the effects are mixed, and where changes are observed, they are modest and transient.¹⁵⁻¹⁸ For example, episode-based payment has increased rates of

chlamydia screening but reduced receipt of postpartum care in the United States.¹⁹ Similarly, FFS payment decreased emergency department wait times, but this increase was not sustained in the long term.²⁰ Unintended consequences such as increased hospital length of stay, increased resource use, and gaming in performance-based payment models have also been reported.^{17,21,22}

However, a significant proportion of the available evidence on the impact of payment models is focused on primary care physicians. Evidence for the effects of these payment models on specialist physician practice is sparse and often focused on surgical specialties.¹⁷ The effects of payment models reported in the literature have largely emphasized their impact on quality of care (eg, adherence to clinical or prescription guidelines), utilization, and clinical outcomes.^{10,17,23,24} Limited data exist on the other impacts of payment models on specialist physician practice, including efficiency and unintended consequences. Medical specialist physicians play a critical role in managing chronic diseases, which represents an increasingly prioritized health system burden in Canada and the United States, given their aging populations. Medical specialists often care for those patients at risk of complications, poor health outcomes, and hospital admissions.^{23,25} Therefore, detailed knowledge about the impact of payment models on medical specialist physicians and their practice would be valuable.

This study sought to understand the impact of payment models on specialist physicians' practice in Alberta, Canada. Insights from this study may inform decisions regarding sustainability, expansion, and suitability of specialist physician payment model reforms to achieve health system goals.

METHODS

Study Design

Semistructured interviews were conducted with specialist physicians who were paid through either an FFS or salary-based (Academic Medicine and Health Services Program [AMHSP]) payment model in Alberta, Canada. This study was approved by The Conjoint Health Research Ethics Board at The University of Calgary (REB #19-0725) and the interviews were carried out from July to October 2019 as part of a larger qualitative program of research described in an earlier publication.²⁶

Study Setting and Participant Recruitment

In Alberta, Canada, an alternate specialist physician payment model (now known as the AMHSP) was introduced in 2004, predominantly in the province's 2 main urban centers (Calgary and Edmonton). Physicians participating in the AMHSP have individualized fixed contracts that are similar to a salary-based payment, although physicians remain independent contractors.

(For simplicity and consistency with physician payment literature, in this paper, we generally refer to the AMHSP model as a salary-based payment model.) About one-fourth of specialist physicians in Alberta are currently compensated through the salary-based model.²⁷

It is important to note that although AMHSP physicians are remunerated for clinical, administrative, and academic responsibilities (teaching and research) equally, the amounts of clinical care, administration, and teaching/research performed are highly variable among individual physicians.

For this study, we recruited FFS and AMHSP medical specialist physicians from the 2 main urban centers in Alberta—Calgary and Edmonton. We used a purposive sampling method to identify potential participants to ensure a good representation of physicians across the 2 payment models (salary based and FFS), gender, and location in Alberta (Calgary or Edmonton). Potential participants were identified by members of a physician payment research advisory group (consisting of 4 FFS and 5 salary-based specialist physicians) who provided strategic oversight to the research team studying physician compensation. The principal investigator contacted potential participants via email, provided information about the study, and invited them to participate. We contacted 43 specialist physicians to participate in the interviews. Among the 43 specialist physicians, 10 did not respond and 1 physician responded to say they were not interested in participating in the study. A total sample of 32 specialist physicians were interviewed.²⁸

Data Collection

The interviews were completed by the first author, who had no prior relationship with the respondents. Explicit informed verbal consent was obtained from all participants. No participants dropped out of the study. The interview guide ([eAppendix](#) [available at ajmc.com]) included semistructured open-ended questions, which were informed by existing literature, developed iteratively, and then refined by the physician payment advisory group. The interview guide was piloted with 3 specialist physicians and further refined to enhance comprehension. We provided opportunities for participants to expand on their views and frequently explored their perspectives using probes and prompts. Data saturation was reached after about 17 interviews, but interviewing continued past saturation to validate and further enhance the development of themes and assess consistency of results among various types of physicians.²⁹

The interviews were conducted both face to face and over the telephone, accompanied by field notes that were collated during and after the interviews. The interviews were audio

recorded and transcribed verbatim. Interviews lasted a mean of 50 minutes, ranging from 30 to 90 minutes.

Data Analysis

The first author, supported by 2 other authors, analyzed the data from the interviews using the framework approach by Ritchie and Spencer,³⁰ which was facilitated using NVivo 12 (QSR International). The framework approach allows a transparent audit trail by which the results have been obtained from the data, which enhanced the rigor of the analytical processes.³¹

Data analysis commenced as data collection was ongoing. The researchers began by reading the transcripts independently to identify key themes and categories and then comparing their notes. Through this comparative process, the researchers identified and refined initial themes and identified emergent themes to facilitate the grouping of data into meaningful conceptual categories (**eAppendix B**). After coding was completed, the coded data were imputed into a

framework matrix to identify patterns and connections within and among the themes as well as across participants.

The research team met to review and reach consensus on emerging themes and key findings from the analysis. We also corroborated findings with members of the physician payment advisory group, and findings are supported with extensive verbatim quotes to ensure transparency and minimize bias to the greatest extent possible.³²

RESULTS

Participants

Thirty-two medical specialist physicians—18 men and 14 women—from the province's 2 major urban centers (Calgary and Edmonton) were interviewed. FFS physicians made up almost 60% (n=19) and salary-based physicians about 40% (n=13) of the interviewed physicians (**Table 1**). Six physicians had switched from the salary-based model to FFS, and 4 had switched from FFS to the salary-based model. The cohort of participants on the salary-based model had a variable range

Table 1. Participant Characteristics

	Salary-based model n = 13	FFS n = 19
Gender		
Men	6 (19%)	12 (37%)
Women	7 (22%)	7 (22%)
Location		
Calgary	10 (30%)	11 (36%)
Edmonton	3 (9%)	8 (25%)
Specialty		
Cardiology	1 (3%)	3 (12.5%)
Endocrinology	6 (18%)	3 (9%)
Nephrology	2 (6%)	3 (9%)
General internist and gastroenterology	4 (12%)	7 (21.5%)
Other (with specialties in critical care, colorectal surgery, hepatology)	0 (0%)	3 (9%)
Career stage		
Early to mid-career (up to 15 years in practice)	8 (25%)	7 (22%)
Late career (more than 15 years in practice)	5 (16%)	12 (37%)
Primary practice site (where physicians spend >70% of their time)		
Hospital	13 (40%)	5 (16%)
Community	0	14 (44%)

FFS, fee for service.

of clinical workload compared with other activities (including teaching, research, and administration), as stipulated by their contracts. About 40% of the salary-based physicians had clinical workloads ranging from 25% to 40%, whereas the other 60% had clinical workloads ranging from 50% to 75% of their working time.

Themes

Physicians in our study described the impact of both the FFS and salary-based payment models around 4 themes: their perspectives on the strength of the effects of payment models, impact on innovative ways of providing care, direct impact on care, and impact on recruitment and physician skills.

Strength of the Effects of Payment Models

Many participants reported that payment models did not have a large influence on physician practice patterns; they perceived that individual physician factors beyond the payment model may have a greater impact on physician practice patterns. Physicians who have experienced both types of payment models in their career also explained that they did not think the switch in payment models changed their practice in a major way but noted that there might be small differences in the way they practice compared with when they were on a different payment model. Other physicians in our study further suggested that the impact of the payment model will vary among individual physicians and there might be a group of activities or objectives that are better served by FFS or salary-based models (Table 2, quotes 1-3).

Other physicians in our study were also of the opinion that payment models were not wholly responsible for potential impacts on patient care or practice patterns. These physicians explained that sometimes their practice patterns were influenced by other factors, including their clinical group and/or specialty or decisions related to access and improved care for patients (Table 2, quote 4). A salary-based physician explained that while he was on FFS he decided to stop receiving new referrals so as not to create long wait times for patients whom he decided to accept, which he felt was the reasonable thing to do regardless of his payment model (Table 2, quote 5).

Perceived Impact on Innovative Ways of Providing Care

Many salary-based physicians indicated that their payment model allowed them to be more innovative regarding patient care because they did not have to worry about income or loss of income. The innovation described by these physicians mainly centered around team-based care and involving other nonphysician team members, such as nurse practitioners, to deliver care (Table 3, quotes 1 and 2).

Table 2. Participant Quotes on the Strength of the Effects of Payment Models

1.	"For myself, what I would say, that I can comment on obviously, pre- and post ARP, [is that] I had a similar practice pattern, I would say. I book similar lengths of time than I did [FFS] or ARP...It's been so many years that I've been [FFS], but it's conceivable that if I were [FFS] I might restrict the number of patients I see, let's say with diabetes, because they tend to take more time and the overall remuneration per hour, if you compared it [with] quicker things,...more new patients seen per hour wouldn't be as remunerative, certainly from follow-ups." – Salary-based physician (formerly FFS)
2.	"Ultimately, it's the individual, right? Some people are good, and they do the right thing, whether they are [FFS] or AMHSP [salary-based]. So, let's just say that I think at the end of the day, good doctors will practice good medicine. Suffice [it] to say there [are] some [FFS] docs who do a great job. It depends on the individual, so we might not be able to generalize to everyone." – Salary-based physician
3.	"I would say it is not the payment model, necessarily, as [much as] it is the personality and the main driver of a person." – FFS physician
4.	"So, we have nurse clinicians downstairs, and that would be very prohibitive to pay for if you were purely [FFS] in the private community. But if you have a nurse who can actually talk to the patient, get a history, go over, 'Oh, your symptoms are flaring up; OK, why don't you do this?,' they can order tests on your behalf without asking you. So that actually leads to a lot of efficiency, for sure." – FFS physician (formerly salary based)
5.	"I didn't do full weeks and then I did clinics [when I was on FFS] and then I found that my ability to respond in a timely way to general referrals was already compromised. So, somebody would send me a referral and I would say, 'OK, I'll see them,' but I would look at my clinics and my clinics were all full for the next 3 months, so I wouldn't be able to see them in a timely fashion. So, then I stopped [referrals] even before the [switch to] ARP; I stopped my general referral practice....I [decided I] wouldn't be the reason that the wait list would go too high. So, it was really less about the compensation model that changed my decision-making [in that regard] and more about my perceptions of what [was] a reasonable wait vs not." – Salary-based physician (formerly FFS)

AMHSP, Academic Medicine Health Services Program; ARP, alternate relationship plan; FFS, fee for service.

Although a few FFS physicians noted that the salary-based model might foster innovation, especially around a team-based approach to care, they also expressed concerns that such innovation could end up consuming more resources. One FFS physician explained that the salary-based model fosters collegiality among providers because there is less competition, and patients are not associated with monetary value (Table 3, quote 3).

Some physicians (both FFS and salary based) in our study also described the willingness to use phone calls or telehealth

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Reducing Readmissions for Complex Pulmonary Patients

By Sean R. Muldoon, MD, MPH, FCCP
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Recent research shows that the need for expertise in pulmonary care is increasing as the population of medically complex patients grows. Studies also reveal that long-term acute care hospitals (LTACHs) are playing a significant role in reducing readmissions for these patients.

Acute Respiratory Distress Syndrome (ARDS) and its Impact

Despite advances in care, the unplanned 30-day readmission rate for ARDS patients is 18%.¹ Studies have found that sepsis and pneumonia cause 40-60% of all ARDS diagnoses and that patients with chronic illnesses and comorbidities are more susceptible to developing ARDS.^{2,3}

There is currently no cure for ARDS. Rather, treatment involves addressing the immediate hypoxia, often through ventilation, thus allowing time to treat underlying conditions.⁴

The Increasing Demand for Respiratory Care

There are two key factors that are contributing to the rise in serious pulmonary diseases such as ARDS.

- **COVID-19:** COVID-19, and its variants, is a virus that can cause serious lung injury. Observational studies conducted in Wuhan, China, found that 42-67% of COVID-19 patients developed ARDS.⁵
- **Chronic Illnesses:** Currently, 64% of the population age 65 and older have at least two chronic conditions, which increase the likelihood of developing severe respiratory diseases such as ARDS.⁶

As the COVID-19 virus mutates and surges, and as the population ages and becomes more chronic, America's health systems can expect a greater demand for pulmonology expertise.

Despite advances in care, **the unplanned 30-day readmission rate for ARDS patients is 18%.¹**





LTACH Expertise in Pulmonary Care and Recovery

Patients with acute lung conditions, including those with COVID-19, often require long-term respiratory support and weaning from mechanical ventilation. At an LTACH, patients receive care from a team of pulmonologists and respiratory therapists. When respiratory therapists at an LTACH use ventilator weaning protocols, time on ventilator, mortality, and cost of care can all significantly decrease.⁷

LTACHs also treat underlying conditions. Their interdisciplinary care teams are trained to treat patients with chronic illnesses and multiple comorbidities and specialize in conditions such as pneumonia and sepsis which are significant causes of severe lung complications like ARDS.



Sean R. Muldoon, MD, MPH, FCCP

Dr. Sean Muldoon currently serves as Senior Vice President and Chief Medical Officer for Kindred Long-Term Acute Care Hospitals. As a member of the Division Executive Committee, he is involved with government programs, clinical care oversight, medical staff affairs and strategic relationships. He is an advisor and representative for Post-Acute Care patients and providers at CMS, the AHA, the National Quality Forum and other advisory bodies.

How Kindred Can Help Your Respiratory Patients

Kindred Hospitals specialize in the treatment of medically complex patients who require intensive care and pulmonary rehabilitation in an acute hospital setting. With daily physician oversight, ICU- and CCU-level staffing, 24/7 respiratory care and specially trained caregivers, Kindred Hospitals help improve functional outcomes and reduce costly readmissions.

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Table 3. Participant Quotes on Perceived Impact on Innovative Ways of Providing Care

1.	"I think we have the opportunity to think about alternative models of providing care to patients. For example, we have had nursing-led pathways to manage less severe disorders, more functional disorders." – Salary-based physician
2.	"I believe the salary-based [model] has allowed for multiple areas of innovation....This is because we can do things that involve other members of the team [who are] delivering care, [members] like nurse practitioners, clinical nurse specialists, educators, pharmacists, dieticians, physiotherapists, kinesiologists. We can involve them in the care team and take the time to work with them but not have to worry about making a living by throughput of [FFS]." – Salary-based physician
3.	"The AMHSP [salary-based model] fosters more collegiality among care providers because there's less of that territoriality because the patients themselves aren't associated with a monetary value....Colleagues who are AMHSP [salary-based] are much more likely to involve me in the care of their patient than colleagues who are [FFS] because they want to look after [that patient] themselves. So, I think there's more [of what] you could call sharing of the work, or teamwork—kind of team collaboration in the care of the patient with the AMHSP [salary-based model]." – FFS physician
4.	"In order for the physician to be able to bill for [telehealth consultations], it has to be done out of certain locations; those portals, I guess, are basically in the Alberta Health Services sites. So, we were not granted ongoing access to one of those portal sites, so we weren't able to continue with the telehealth form of consultation where there was a video camera and [the patient] could see the physician and the physician could see the patient. But what I've been doing is just talking to the patient by telephone, usually in the presence of one of their diabetes educators." – FFS physician
5.	"So, one example is, we have a referral system—actually I'm on call for that this week. The referral is where the family physician can email in the Netcare system [electronic health record], email in a question about a patient, and if we can provide a satisfactory answer, that will mean that the patient does not need to be referred. So by virtue of doing that, we can reduce wait times because we are not adding that patient to the referral queue. So I would say, [in] AMHSP [salary-based] systems, we try to look for ways in which we provide care in ways other than face-to-face office consultation." – Salary-based physician
6.	"I have a colleague in one of my divisions who is doing something quite innovative with group consultations. We have people who go out to the reserves to bring medicine to the reserve, [rather] than try to get them to come in because they're not good attenders. And those people are [FFS], interestingly enough, the people doing this right now, but these particular individuals are not economically motivated. They are doing this because they like the clinic and they feel it needs to be done. So, interestingly enough, they are [FFS] docs." – Salary-based physician (formerly FFS)

AMHSP, Academic Medicine Health Services Program; FFS, fee for service.

as another innovation affected by their payment models. These physicians suggested that the current system is not well aligned for FFS to deliver phone calls or telehealth and that salary-based physicians were more likely to utilize these mechanisms to provide care. Despite this adverse impact on FFS income, both FFS and salary-based physicians expressed their willingness to make phone calls and participate in telehealth. For the most part, the FFS physicians explained that the fee code for this is quite small and capped, but it helped to create more outpatient time for all their patients (Table 3, quotes 4-6).

Perceived Direct Impact on Patient Care (access to care and time spent with patients)

Many participants in our study perceived that to a certain extent, payment models (FFS or salary based) had an effect on patient care, particularly around patients' access to care, waiting times to see a specialist, and time they actually spent with the specialist.

Access to care (wait times to see a specialist). Almost all participants expressed the opinion that FFS likely improves access to specialist care. Many physicians had the perception that FFS physicians see more patients, thereby reducing wait

times to see specialists. Some respondents further suggested that if all specialists were paid a salary, a lot of clinical work might not be done on time, because compared with FFS physicians, many salary-based physicians have clinical and academic responsibilities, which may limit their clinic working time (average of between 30% and 70% dedicated to clinical work) (Table 4, quotes 1-3 reflect these views). However, a few salary-based physicians asserted that because they were able to do much more follow-up by telephone, they were able to meet the demands of their clinical workload despite other nonclinical responsibilities (Table 4, quote 4).

Time spent with patients and complex patient care. There was some general consensus among participants (salary based and FFS) that salary-based physicians may tend to spend more time per patient, which may enhance care for patients with complex health needs (ie, multiple comorbidities). However, a few FFS participants felt that a longer visit duration does not necessarily translate into better patient care and may lead to longer wait times to see specialists. They also expressed the need for balance in the system (FFS and salary based) to address wait times for less complicated patients (Table 4, quotes 5-7).

Table 4. Participant Quotes on Perceived Direct Impact on Patient Care

1.	"I know the argument is when you are in the ARP [salary-based] model, there's no pressure to do anything but [provide the] best patient care. But it's been my experience that patient care gets delayed in that model, and what people just really need a lot of the time is a scope, and I wonder why they are waiting so long to get to what needs to be done. So, I think things get done faster in the [FFS] world." – FFS physician
2.	"If we were all AMHSP [salary-based] physicians, I think there would be a lot of clinical work that does not get done because there's no incentive to do it. If we were all [FFS] physicians, which we were a long time ago, some of the important work that we do, that takes more time and it doesn't pay, would not get done. It would be harder to do." – Salary-based physician (formerly FFS)
3.	"What you will see is those ARP [salary-based] physicians will maybe see 4 or 5 patients in a morning, whereas the [FFS] physician often sees up to twice that—6, 8, 9 patients in a morning. I would believe the access to a physician is actually limited by [the ARP] model because if there are 50 patients just waiting to do a [preoperative] assessment, the [FFS physicians] are going to process and put those people through sooner than an ARP [salary-based] model, because they are seeing more patients per unit time. So, you have a balance of 2 curves: One is efficiency and access to care and the other may be quality of care delivered." – FFS physician
4.	"It did affect the clinical practice in that we were able to do a lot more follow-up work by telephone. So that was one of the major switches....I try to balance, and I probably do see more patients or at least I telephone, so I still carry a really heavy clinical load." – Salary-based physician (formerly FFS)
5.	"Because we are not remunerated on a per-patient basis but rather on blocks of time, we can spend more time with patients and, I think, provide overall quality of care, at least in my opinion. And the drawback of that is perhaps we don't see as many patients, as many people will frequently criticize, but the quality of care I would argue is probably higher." – Salary-based physician
6.	"I think [the salary-based model] allows me to be more efficient in my practice and I think it allows me to see complex patients because I see a lot of patients with diabetes....And it also allows [for] the complexity of their care, so it's not just managing their blood sugars, managing and screening for complications, cardiovascular risk factors, etc, [but] also time to appreciate the psychosocial concerns that they have." – Salary-based physician (formerly FFS)
7.	"So, when you are ARP [salary-based], you do spend more time with the patients, in general. You probably have a better perception of the patients. The patient is happy, and they think they're getting better care. But I'll bet that the wait times are longer and people at home are waiting longer to see the specialist if there are more salary physicians in that [clinical group]." – FFS physician

AMHSP, Academic Medicine Health Services Program; ARP, alternate relationship plan; FFS, fee for service.

Perceived Impact on Recruitment and Physician Skills

One salary-based and 2 FFS physicians believed that the salary-based model helped recruit highly skilled specialist physicians in Alberta because it provided a preferred way of working for some physicians (Table 5, quote 1). Regarding the perceived impact on physician clinical skills, 2 FFS and 2 salary-based physicians expressed concerns regarding how the amount of time spent doing clinical work may affect the maintenance of clinicians' skills. They stipulated that spending less time doing clinical work or procedures might have an impact on clinical skills and expertise. They emphasized that maintaining expertise may require spending a threshold number of hours over a period of time and that it is important to ensure that salary-based physicians meet these requirements (Table 5, quotes 2 and 3).

DISCUSSION

Our study describes the perceived impact of physician payment models (FFS and salary based) from the perspective of medical specialist physicians in Alberta. Multiple physicians in our study felt that the variation in practice patterns for individual physicians was more likely due to factors beyond the payment model itself. Despite this, there was consensus that FFS may help improve access by reducing medical specialist wait times

and that the salary-based payment model may enhance innovations, such as team-based care and virtual care, and provide flexibility to spend more time with patients with complex health needs, which may translate to better patient care. There was a range of opinions regarding seeing complex patients, as some FFS physicians explicitly expressed intent and willingness to take on complex patients and spend the needed amount of time, even though the fee modifier for additional time with patients is, subjectively, small. Moreover, physicians in our study also described how certain factors either associated or unassociated with the payment models, including physician environment and altruism or intrinsic motivation, function to influence practice patterns; these factors, they postulated, might have a larger impact compared with payment models alone.

A quantitative study by Dumont and colleagues found that compared with FFS, specialist physicians in alternative payment models had significantly lower volume of services, reduced hours of work spent seeing patients, and longer duration of consultations.²¹ This notion was suggested by participants in our study. However, it is likely that identified impacts on waitlists, time with patients, work hours, and clinical skills (or competency) can also be influenced by differences in the size of the clinical component of salary-based physicians' job

Table 5. Participant Quotes on Perceived Impact on Recruitment and Physician Skills

1.	"It's [a] very positive thing that is very popular nationally, that people are envious of. That benefits Albertans by getting really top-notch people and keeping top-notch people in Alberta... because I do think that the AMHSP [salary-based model] is a more satisfactory way of working for a lot of people." – Salary-based physician
2.	"When you have somebody who's an expert subspecialist who is not applying the trade, I would question the quality of the care they can no longer give. An example, in gastroenterology, [is] if you have a researcher who sees 10 patients a month, 5 of those patients need colonoscopies and he has his fellow trainees do those colonoscopies, so he in fact is doing none. He is not an expert at colonoscopies anymore. [I would say] he has to do a certain number to maintain a confidence. It's just like an airline pilot who flies once a year: He's not going to do the same job as somebody who flies 5 times a week." – FFS physician
3.	"I've heard salary-based physicians say that they take better care of their patients, and I don't agree with that at all. You know, one thing about being a specialist or being a specialist in anything is...the hours you put in, and they say...to be an expert in your field you need 10,000 hours of whatever, [like operating room] time,...and all the research has shown [that] you have to do the numbers to be qualified, and the ARP [salary-based] model is hard to get those numbers in." – FFS physician

AMHSP, Academic Medicine Health Services Program; ARP, alternate relationship plan; FFS, fee for service.

description. Indeed, physicians employed in the salary-based payment model explored in our study spend less time working clinically, compared with FFS physicians, given their other administrative and academic responsibilities, although this does not necessarily mean that they are less efficient in caring for patients per full-time equivalent that they have available for clinical work.²⁷

There is well-documented literature on the potential effect of a range of factors—including mastery of skills through continuing medical education, audit and feedback, and shared decision-making—that can affect clinical practice patterns.^{33,34} These considerations suggest that a number of factors, such as payment models, working arrangements, and other professional commitments (including teaching and research), interact with each other to affect care patterns, including wait times and time spent with patients, as well as outcomes. There is a need for further research that uses objective measures, including administrative data and quasi-experimental approaches, to explore these metrics objectively (eg, wait times or access within the context of appropriate referrals) and address potential confounders.

A recent study by Quinn and colleagues found evidence that patients who were seen by salary-based specialist physicians in Alberta tended to have more complex, multisystem medical issues, which is consistent with the opinions of salaried physicians in our study.²³ Despite this, Quinn et al found no significant difference in the effects of FFS or salary-based models on outcomes such as visit frequency and quality, which is consistent with the participants' perspectives in this study. However, in the study by Quinn et al, there was significant variation in these outcomes across physicians (irrespective of payment model) with the assumption that these differences relate to unmeasured or unobserved physician characteristics as opposed to the difference in payment models.²³ Additionally, findings from another recently published study on payment model preferences of specialist physicians in Alberta provide evidence to suggest that physicians' characteristics (eg, gender, career stage, professional interests) influence the type of payment model that they prefer and, in some cases, select.²⁶ Physician characteristics (in addition to other confounding factors) also influence physician practice, which might explain why physicians in our study perceive the impact of payment models to be limited and possibly insufficient to significantly enhance or change medical specialist physician practice to support health system objectives.

Given this, it would appear that rather than simply rolling out new payment models, a more comprehensive approach to aligning physician and health system objectives may be required. For instance, a better payment model might be one that combines the benefits of both remuneration models and protects against the weaknesses or vulnerabilities of both. However, this requires further research on the potential of less dichotomous models that recognize the potential efficiency of FFS-like models in high-volume clinical areas while at the same time recognizing the limitations of FFS models (and value of alternative payment models) for more variable care for complex situations and nonclinical academic activities.

Limitations

Our study sample was limited to large urban areas with academic medical centers (Edmonton and Calgary). As such, we did not capture the group of specialists who practice outside major urban areas, for whom FFS is the predominant payment model. Our study was also limited to the perspectives of specialist physicians and did not include the perspective of patients or policy makers, whose perspectives may differ.

CONCLUSIONS

Given the continued global interest in physician payment model reforms to support health system objectives, our findings have important implications for policy, practice, and research. Our

study findings suggest that specialist physician payment models by themselves may have a small influence on physician behavior and practice patterns. In addition, physicians who participated in our study perceive that payment model has less of an impact on variation in practice than do other unobserved individual physician factors. Additional quantitative research is required to further explore this perception. However, our findings suggest that to better align physician practice with health system objectives, and to limit unintended consequences, carefully designed contractual models that include multifaceted interventions beyond just payment models should be considered. This may involve the conditioning or specification of payment models to incentivize predetermined targets or specific physician behavior or practice patterns. Our findings regarding the perceived impact of FFS remuneration on access and wait times and of salary-based remuneration models on team-based care suggest unavoidable trade-offs to achieve desired health system goals.

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Source of Funding: This study was funded by the Network of Alberta Health Economists Health Economics Scholar Award, University of Calgary Clinical Research Fund, and a Canadian Institutes of Health Research Foundation Grant.

Author Disclosures: Dr Senior is a member of the Academic Medicine Health Services Program (AMHSP). Dr Williams is a board member of the Alberta Medical Association and is paid as a fee-for-service physician. Dr Zarnke is an AMHSP “salaried” physician, as the University of Calgary’s Cumming School of Medicine relies on the AMHSP to pay academic salaries. The remaining authors report no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this article.

Authorship Information: Concept and design (YKO, AQ, PS, JW, KZ, BM); acquisition of data (YKO, BM); analysis and interpretation of data (YKO, AQ, ML, CC, DC, SD, AE, PS, GS, JW, KZ, BM); drafting of the manuscript (YKO, ML, CC, AE, PS, GS, JW, KZ, BM); critical revision of the manuscript for important intellectual content (YKO, AQ, ML, CC, DC, SD, AE, PS, GS, JW, KZ); provision of study materials or patients (KZ); obtaining funding (YKO, BM); administrative, technical, or logistic support (DC, SD); and supervision (BM).

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eAppendix A. Interview Guide Draft: Perspectives of Specialist Physicians

1. Tell me about your clinical practice?
2. Tell me about the referral process that you / your office follows when you receive a new referral
3. What are your thoughts on the referral process?
4. Tell me about your decision process when you receive and accept a consult for a new patient.
 - a. When you are reviewing a consult request, what factors do you consider in your decision as to whether or not to see a new patient? Can you provide a typical example?
 - b. How do you interact with referring primary care physicians?
5. Tell me about follow-up outpatient visits with your patients/ How do you interact with outpatients for follow-up visits?
6. Tell me about what you perceive to be the differences between practice patterns of specialist physicians on the Academic Medicine and Health Services Program and those reimbursed through fee-for-service.
7. What impact does your current payment model have on:
 - I. Your practice
 - II. Patient care
 - III. Care coordination and Cost of care
8. If you were paid by the other payment model, how might you practice differently? (use same probes as above)
9. Does your payment model work well to support patient care? If so, how? Why?

eAppendix B. Summary of Themes and Categories (codebook)

Theme	Code
Strength of the effects of payment models	Limited impact of payment models on practice patterns
	Other factors influence practice patterns
Perceived impact on innovative ways of providing care	Team-based care
	Phone calls and telehealth
Perceived direct impact on patient care	Access to care (wait times)
	Time spent with patients and complex patient care
Perceived impact on recruitment and physician skills	Attract highly qualified physicians
	Clinical skills and expertise