


After COVID-19: Improving the Patient's Outpatient Appointment Experience

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Abstract

As the COVID-19 pandemic diminishes, it is expected that patients will seek more outpatient appointments resulting in adverse patient and clinic experiences if there is a corresponding increase in missed appointments. This study's purpose was to determine if there was an association between advanced access scheduling, also known as open access or same day scheduling, and missed appointment rates for patients scheduled with preferred primary care physicians vis-a-vis nonpreferred primary care physicians. Patients prescheduled with primary care providers and over the age of 18 years were included in the study, which totaled 4815 visits. Study results demonstrated a statistically significant mean proportion difference between the national no-show rate and the study's no-show rate as well as a significant association between physician type and visit status. The results suggested the potential for improving the patient experience with advanced access scheduling if patients are scheduled with their preferred primary care physician. This study may promote positive patient experiences by providing patients and clinicians with an understanding of the significance surrounding advanced access scheduling thus decreasing missed appointments.

Keywords

patient care, primary care, patient access, patient scheduling, missed appointments

Introduction

A patient who fails to show up for a prescheduled primary care appointment is, unfortunately, not a new worry for healthcare administrators who manage the wide variety of healthcare clinics ranging from physicians' offices to large multispecialty clinics. Missed appointments have been a constant research focus for healthcare administrators over many decades with minimal impact to reducing the missed appointment rates. The range of these rates remains constant between 5 to 55.¹⁻⁵ Previous missed appointment research has provided healthcare administrators with some tools and resources dedicated to decreasing missed appointment rates. For example, there is research exploring predictive methods, classification models, exploratory explanations, impacts surrounding missed appointments, and the development of countless administrative strategies used to reduce missed appointment rates. This research suggests to healthcare administrators that the complex, multifaceted origins surrounding missed appointments are vast and definitive solutions are slim.^{1,6-8} However, regardless of all the efforts and energy dedicated to the missed appointment dilemma, it continues to be a major concern. This concern should only

increase as the COVID-19 pandemic diminishes because patients who have deferred treatment will probably seek more outpatient appointments.⁹ Visits to primary care providers dropped by 21% during COVID-19.¹⁰ Therefore, there should be a return of demand for primary care. There may be adverse patient and clinic experiences if missed appointments increase¹¹ especially since research suggests that the increase may be more pronounced in patients with comorbidities.¹² Therefore, healthcare administrators and clinicians need to fully examine and strategically scrutinize this dilemma to achieve specific, sustainable, and noticeable results in decreasing missed appointment rates.

Patients who fail to attend prescheduled primary care appointments with a preferred primary care physician or a

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nonpreferred primary care physician set off a series of damaging events that can affect a host of elements. A preferred primary care physician is defined as one who practices general family medicine and whom the patient sees regularly and has developed a trusting medical relationship. In contrast, a nonpreferred primary care physician is defined as one who practices general family medicine but the patient has not previously seen and has not developed a trusting medical relationship.

Missing prescheduled primary care appointments can have serious consequences related to a patient's health and wellness.¹³⁻¹⁵ In addition, missed prescheduled primary care appointments can contribute to overall financial impediments to patients, physicians, and healthcare spending.^{5,16-21} Furthermore, missed prescheduled primary care appointments increases the potential of weakening the physician-patient relationship.^{22,23}

Missed prescheduled primary care appointments also have serious negative health and wellness impacts. Patients who miss their appointments create disorder and self-inflicted interference with their care and the potential delivery of timely treatment. Patients who miss appointments put themselves at risk for worsening current chronic medical conditions because chronic illnesses require regular visits to the physician for monitoring, medication, and care plan management.¹³⁻¹⁵ Failing to attend a prescheduled primary care appointment jeopardizes patients' wellness opportunity for the prevention and possible identification of new, preventable medical conditions.¹³⁻¹⁵

Patients missing prescheduled appointments also affect other patients who are seeking appointments with a primary care physician.² Patients who are no-shows to prescheduled appointments prevent other patients from receiving timely medical care. When a missed appointment happens, there is not sufficient time to rebook the appointment, therefore negatively affecting other patients calling into the office for appointments.

Missed prescheduled appointments have serious negative impacts on the physician-patient relationship. In primary care, being able to have scheduled appointments with a preferred primary care physician encourages the growth of the physician-patient relationship, which promotes positive patient behaviors and health outcomes.²² Physician-patient relationships involve trust, respect, and engagement, all of which are developed over time.^{23,24} Research has provided healthcare administrators with the understanding that positive, continuous physician-patient relationships can positively impact health outcomes of patients.²³⁻²⁵ Patients repeatedly scheduled with nonpreferred primary care physicians impact continuity of care because a long-term patient-physician relationship is unable to develop.²⁶

One approach to addressing missed prescheduled appointments is the advanced access scheduling model. Also known as open access or same day scheduling, this management technique offers patients appointments with a preferred primary care physician on the day the patient calls, or

within 24 h of the schedule request, regardless of medical urgency.²⁷⁻³³ Unfortunately, there is limited research to assist healthcare administrators in determining the utility of this scheduling technique.

In summary, the problem is the research gap between missed appointments in relation to advanced access scheduling for preferred vis-à-vis nonpreferred primary care physicians.

Purpose Statement

The purpose of this nonexperimental quantitative, correlation study was to determine if there was an association between advanced access scheduling and missed appointment rates, specifically focusing on no-shows with preferred vis-a-vis nonpreferred primary care physicians. The dependent variables of the study were missed appointment rates with preferred primary care physicians and missed appointment rates with nonpreferred primary care physicians. The independent variable was the advanced access scheduling model.

Materials and Methods

Potential for Positive Patient Care Experience

This study was designed to promote positive patient care experience because reducing missed appointments rates may contribute to better healthcare access, better healthcare outcomes, and controllable healthcare finances. Specifically, patients who miss prescheduled primary care appointments put themselves and others at risk for negatively impacting health and wellness, straining overall finances, and compromising the physician-patient relationship. Healthcare administrators need to be able to accurately identify progressive operational opportunities and contribute to decreasing inefficiencies for the overall positive promotion of healthy medical and financial outcomes. The knowledge gained from this study should strengthen healthcare administrators' decision making to enable better operational evaluation techniques and strategic deployment of action plans to improve missed appointment rates in physician offices and multispecialty clinics.

Significance of the Study

Given the multiple dimensions that occur as a result of missed prescheduled primary care appointments, the findings may be used to ensure patients, physicians, clinics and healthcare administrators appreciate the complexity of the missed appointment challenges and partner for solutions. The results of this study may improve healthcare administrators understanding of the dynamics surrounding the advanced access scheduling model. In addition, the results of this study may lead healthcare administrators to establish advanced access scheduling criteria, best practices, and action plans, thus creating a systematic and effective approach to reducing

missed appointment rates. In addition, healthcare administrators would gain operational knowledge targeted to achieve improved access, patient experiences, and patient health outcomes while decreasing missed appointment rates and operational inefficiencies. As a result, a notable reduction in missed appointment rates should have a positive impact on patients, physicians, clinics, and the national healthcare system.

Research Questions

The 3 research questions were:

1. Is there a statistically significant mean proportion difference between the national no-show rate and the missed appointment rate of the nonpreferred primary care physician sample?
2. Is there a statistically significant mean proportion difference between the national no-show rate and the

missed appointment rate of the preferred primary care physician sample?

3. Is there an association between primary care physician type, preferred and nonpreferred, and advanced access scheduling model visit status of arrived, canceled, and no-show?

Conceptual Framework

The conceptual framework for this study was the health belief model. The health belief model is used to explain and predict health behaviors of individuals.^{34,35} Missing a prescheduled primary care appointment is a health behavior that can evolve into identifiable patterns of undesirable patient health behaviors.⁸ Patients existing missed appointment behavior may alter if there is a benefit in going to the appointment, which may result in the patients attending their prescheduled primary care appointment.^{35,36}

Approach

This study was a nonexperimental quantitative, correlational research study designed to examine if there was an association between advanced access scheduling on missed appointment rates for preferred primary care physicians and nonpreferred primary care physicians. A nonexperimental quantitative, correlational research study is guided by a research question and hypotheses that are built on existing knowledge proposing an association between variables.³⁷ Therefore the research design was considered appropriate for this study.

Participants

This study included a target population of patients who were prescheduled for primary care visits from a multispecialty and primary care office that is part of a large medical group. The target population for this study was patients, 18 years of age and older, who had been prescheduled with a primary care physician.

Visit data of patients who were seen by specialty physicians, pediatricians, nurse visits, chronic care management, outpatient lab, radiology, and immediate walk-in care visits at the multispecialty and primary care medical office were excluded. Prescheduled primary care appointments that were reserved 25 h or more prior to the scheduled appointment were also excluded. For reasons surrounding the health belief model, which is used to focus on individual beliefs about health, this study did not include patients under the age of 18 years. Patients under the age of 18 years, also termed pediatric patients, are dependent upon a guardian or parent to accompany the patient to the appointment as required by law. Additionally, patients who were not prescheduled with thorough registration information that comprised the omission of an identified primary care

Table 1. Descriptive Statistics Demographics—Gender, Age, Race, Ethnicity, Insurance Type, and Geographical Location via Zip Code.

Data element	Characteristic	Frequency	Valid percentage (%)
Gender	Male	1640	34.1
	Female	3175	65.9
Age	18-29	524	10.9
	30-39	613	12.7
	40-49	887	18.4
	50-59	941	19.5
	60-69	925	19.2
	70-79	653	13.6
	80-89	232	4.8
Race	90-99	40	0.8
	Caucasian	1160	24.9
	African American	2926	62.7
	Asian	11	0.2
	Other	203	4.3
	Declined	367	7.9
Ethnicity	Missing	148	
	Hispanic/Latino/ Spanish Origin	188	4.1
	Not Hispanic/Latino/ Spanish Origin	3947	84.8
	Declined	518	11.1
Insurance	Missing	162	
	Commercial	2345	48.7
	Medicare/Medicare HMO	1,640	34.1
	Medicaid	706	14.7
	Other/crime victim/ motor vehicle	11	0.2
Zip Code	Self-pay	113	2.3
	Cook County, Illinois	3910	81.2
	Other Illinois Counties	801	16.6
	Out of State Counties ¹⁴	104	2.2

Abbreviation: HMO, Health Maintenance Organization.

physician, current insurance, or self-pay section validated and completed demographic section were excluded.

Sampling and Sampling Procedures

It was not feasible for this study to examine 86,672 prescheduled primary care visits for 2018. Therefore, a probability sampling was conducted, specifically, cluster sampling. The total number of 2018 prescheduled primary care patient visits were grouped into each calendar month, January through December, and then combined into fiscal quarters, that is, January–March, April–June, July–September, and October–December. One month was randomly selected from each fiscal quarter in 2018 using a rotating pattern from the groupings. The total patient visits for these 4 months totaled 35,574. After exclusions and inclusions, the total patient visits for prescheduled primary care analysis totaled 4815.

Data Collection and Management

The secondary data set utilized in the research study was obtained from the electronic appointment scheduling system of the medical office described as a multispecialty and primary care office that is a part of a large medical group.

Results

As noted in Table 1, there were more female patients than male patients. Female patients represented 65.9% ($n = 3175$) of the population, whereas 34.1% ($n = 1640$) were males. The patients spanned in age from 18 to 99 years old. African-American patients were the majority of the sample. Regarding ethnicity, the majority identified as not Hispanic/Latino/Spanish origin patients. Almost half the patients had commercial insurance while a third had Medicare/Medicare Health Maintenance Organization insurance. And, finally, Cook County, where the large multispecialty and primary care office is located, serviced most of the patients.

The results are organized by the 3 research questions.

1. Is there a statistically significant mean proportion difference between the national no-show rate and the missed appointment rate of the nonpreferred primary care physician sample? The answer is yes. Specifically, applying the 1 sample z -test of proportions, it was found that the true proportion of the no-show rate in this study had a statistically significant difference in the mean proportion than the national no-show rate.
2. Is there a statistically significant mean proportion difference between the national no-show rate and the missed appointment rate of the preferred primary care physician sample? The answer is yes. Applying the 1 sample z -test of proportions, it was

found that the true proportion of the no-show rate in this study had a statistically significant difference in the mean proportion than the national no-show rate.

3. Is there an association between primary care physician type, preferred and nonpreferred, and advanced access scheduling model visit status of arrived, canceled, and no-show? The answer is yes. However, the association is weak because the V value is closer to 0 than 1. This small Cramer's V value indicates that even though there is an association between the variables, the strength of the association is not very high.

Discussion

Previous research made assumptions that appointments made 24 h or less to the actual appointment have little to no missed appointment rates.^{5,29,30,32,33} This study's results showed that patients did miss prescheduled appointments made 24 h or less prior to the actual appointment. In fact, the missed appointment rate in this study for prescheduled appointments made 24 h or less was 5.5%.

Similarly, previous research calculated missed appointment rates between a wide range of 5% to 55%.¹⁻⁴ Boyer³⁸ and Medical Group Management Association (MGMA)³⁹ claim current benchmarks for national no-show rates in primary care are 19%. The missed appointment rate in this study was 5.5%, which aligned with the lower end of the missed appointment percentage range in missed appointment rate research and much lower than the MGMA's benchmarks.

Findings from past studies have shown that patients scheduled with nonpreferred physicians are more likely to miss initial appointments and subsequent appointments or not seek care at all.^{23,24,40} This aligned with the findings in this study, specifically, there is a statistically significant association between preferred vis-a-vis nonpreferred primary care physicians and the advanced access scheduling model's status of arrived, canceled, and no-show. The percentage of advanced access scheduled missed appointments with a preferred primary care physician was 46.6%, whereas the percentage of advanced access scheduled missed appointments with a nonpreferred primary care physician was higher (53.4%).

Recommendations

The following recommendations are based on the findings of the 3 research questions.

1. Healthcare administrators should align appointment policies and procedures, as well as patient no-show behaviors, to facilitate the appointment of patients with their preferred primary care physician.

2. Healthcare administrators should consider policies and procedures to minimize the appointment of patients with nonpreferred primary care physicians.
3. Healthcare administrators should consider incorporating or adapting the advanced access scheduling model to optimize the number of patients who make their appointments and minimize the number of patients who cancel or are no-shows.
4. Future research should be conducted to consider other variables. For example, extending the research to include a reason for the visit, primary diagnosis or level of service, as well as previously missed appointment patterns, may align identification of possible predicative health behaviors based on the patient's medical conditions and past behaviors. In addition, as suggested by Squires and Dorsen,⁴¹ research might be extended to include qualitative variables that align with the quantitative variables.

Implications

This study's findings have implications for the patient experience. Specifically, patients who fail to attend prescheduled appointments with a preferred, or nonpreferred, primary care physician stimulate a host of unfavorable health outcomes. Reducing missed appointment rates reverses these problematic outcomes and improves compliance with medical treatments.^{13-15,21} Therefore, determining the impact that advanced access scheduling has on missed appointment rates in primary care supports appointment attendance. This study suggests that advanced access scheduling models may positively influence patient appointment behaviors and health outcomes as well as contributing to reducing the nation's healthcare costs.

Conclusion

This study addressed the knowledge gap in missed appointment literature by contributing to existing research about advanced access scheduling and missed appointments with preferred vis-a-vis nonpreferred primary care physicians. The findings indicated that there were significantly different no-show rates in this study than that of the national no-show rates suggesting an advantage of using an advanced access scheduling model in primary care clinics. Results also indicated a statistically significant association between physician type, that is, preferred vis-à-vis nonpreferred primary care, and the visit status of arrived, canceled, and no-show which suggests that the physician-patient relationship contributes to attending prescheduled appointments. Based on this study, advanced access scheduling with preferred primary care physicians should lead to a reduction of missed appointment rates, which enhances positive health outcomes for patients, decreases financial impediments, and strengthens the physician-patient relationship. Healthcare administrators have a responsibility to embrace best practices

to develop, refine, and execute policies and procedures that improve patients' quality of care and healthcare experience. As the COVID-19 pandemic diminishes, creating positive healthcare experiences that encourage patients to attend appointments is essential for the health of patients and the nation and contributes to positive patient care.

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Statement of Human and Animal Rights

This article does not contain any studies with human or animal subjects.

Statement of Informed Consent

There are no human subjects in this article and informed consent is not applicable.

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