Idle Waiting Time for a Patient – Why Does It Happen?

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Master of Engineering in Manufacturing Engineering
Graduate Project EXPO, May 2026

Abstract

This study examines the increasing wait times for physician appointments and office visits at a medical practice specializing in endocrinology. The practice operates Monday through Thursday, with hours on Mondays and Wednesdays from 12:00 PM to 5:00 PM, and on Tuesdays and Thursdays from 8:00 AM to 12:00 PM. The current appointment system is outdated and overwhelmed by the growing number of patients. This study suggests that not only does the scheduling system contribute to long wait times, but that factors such as patients with multiple comorbidities, older patients, and those with psychological or mental disorders also play a significant role. Patients experienced wait times for consultations ranging from 33 to 121 minutes, while the average consultation time was 21.17 minutes. Implementing a new appointment scheduling method has the potential to reduce physician burnout, minimize errors, and allow for more dedicated time for patient care.

Problem Statement

Sir James Spence defines consultation as the essential unit of medical practice, which is the occasion when, in the intimacy of the consulting room or sick room, a person who is ill, or believes himself to be ill, seeks the advice of a doctor whom he trusts. [2] A medical consultation serves as the primary tool for providing treatment, offering health advice, and facilitating information exchange between a patient and a physician. The waiting time is increasing not only for doctor consultations, but also for in-office waiting and appointments. An increase in wait times heightens patient frustration and decreases health outcomes, reducing patient quality of care. A successful study analyzes a specific physician's practice to understand the reasons for long wait times and develop solutions to reduce them.

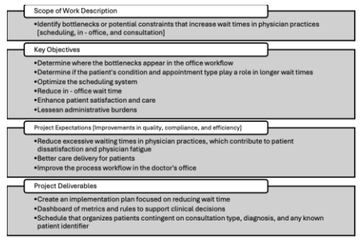
Literature Review

In the past, medical consultations relied on patient narrative and humor-based theory. However, in the 19th century, the structure of medical consultations shifted from a leisurely conversation to a fast-paced, diagnostic-driven approach. With the evolution of healthcare services, the consultation model has shifted towards more patient-centered care, emphasizing the need for physicians to understand and address patients' unique needs. However, before a consultation can begin, a patient must first schedule an appointment by calling the office and verifying availability. Not only does the patient have a long wait time when booking an appointment, but arriving at the office/clinic doesn't shorten it. A study titled *'The effect of in-office waiting time on physician visit frequency among working-age adults'* shows that, on average, patients wait 28.7 minutes for a consultation. [6] However, patient wait times vary by specialty and practice efficiency. Some clinics have more physicians available to meet patient demand, while others may be the only specialists nearby, which increases demand for them. Major factors contributing to increased wait times include physician shortages, burnout, administrative burdens, high demand for care, and inefficient scheduling. Ensuring a sufficient consultation length is essential to deliver quality care, which ultimately enhances patient safety and satisfaction. Key causes of increased wait times include late arrivals, no-shows, walk-in appointments, insufficient staffing, unpredictable consultation time length, and glitchy appointment software. Long wait times impact both the doctor's clinical performance and patient satisfaction.

Methodology

Results & Discussion

Define Phase



Customer Comment	Identifying the Issue	Customer Requirements
Long wait times for both scheduling and in – office visits	1. Physician shortage – not enough endocrinologists to supply the need of a growing patient population 2. Overbooking to meet the need	Compliance with date and time for both the patient and the physician
Administrative burdens	1. Obsolete scheduling system	Optimize efficiency of scheduling system

Measure Phase

Patient Flow and Turnaround Time Log – April 1

12:00 pm [1st block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent [min]	Departure
1	11:20 AM	56	12:16 PM	12:41 PM	25	12:46 PM
2	11:47 AM	55	12:42 PM	12:58 PM	16	1:03 PM
3	11:59 AM	61	1:00 PM	1:18 PM	18	1:23 PM
4	12:05 PM	92	1:37 PM	1:54 PM	17	2:02 PM
5	12:06 PM	91	1:37 PM	1:54 PM	17	2:02 PM
6	1:12 PM	42	1:54 PM	2:14 PM	20	2:19 PM
7	1:13 PM	61	2:14 PM	2:44 PM	30	2:49 PM
8	1:15 PM	59	2:14 PM	2:50 PM	36	2:55 PM

1:00 pm [2nd block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent [min]	Departure
9	1:30 PM	80	2:50 PM	2:56 PM	6	1:01 PM
14	2:00 PM	116	3:56 PM	4:17 PM	21	4:22 PM
15	2:20 PM	96	3:56 PM	4:17 PM	21	4:24 PM

2:00 pm [3rd block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent [min]	Departure
10	2:34 PM	33	2:57 PM	3:18 PM	21	3:23 PM
11	2:34 PM	33	2:57 PM	3:18 PM	21	3:23 PM
12	1:55 PM	85	3:20 PM	3:37 PM	17	3:42 PM
16	3:01 PM	85	4:24 PM	4:36 PM	12	3:41 PM

3:00 pm [4th block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent [min]	Departure
13	1:55 PM	93	3:38 PM	3:50 PM	12	3:55 PM
17	2:36 PM	121	4:37 PM	4:48 PM	11	4:53 PM
18	3:15 PM	94	4:49 PM	5:22 PM	33	5:27 PM
19	4:05 PM	78	5:23 PM	6:08 PM	45	6:13 PM
20	4:05 PM	78	5:23 PM	6:08 PM	45	6:14 PM
21	4:30 PM	101	6:11 PM	6:32 PM	21	6:37 PM
22	4:50 PM	103	6:33 PM	6:40 PM	7	6:45 PM
23	5:00 PM	93	6:33 PM	6:48 PM	15	6:53 PM

Patient Flow and Turnaround Time Log – April 2

8:00 am [1st block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent	Departure
1	6:19 AM	65	7:24 AM	7:41 AM	17	7:46 AM
2	6:19 AM	65	7:24 AM	7:41 AM	17	7:46 AM
3	6:28 AM	77	7:45 AM	8:03 AM	18	8:08 AM
4	6:40 AM	85	8:05 AM	8:14 AM	9	8:18 AM
5	6:51 AM	85	8:15 AM	8:27 AM	12	8:32 AM
6	6:54 AM	94	8:28 AM	8:54 AM	26	8:59 AM
7	7:17 AM	98	8:55 AM	9:05 AM	10	9:10 AM
8	7:19 AM	107	9:06 AM	9:31 AM	25	9:36 AM
9	8:05 AM	87	9:32 AM	9:44 AM	12	9:49 AM
10	8:18 AM	93	9:51 AM	10:13 AM	22	10:18 AM

9:00 am [2nd block]

Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent	Departure
11	8:51 AM	86	10:17 AM	10:32 AM	15	10:37 AM
12	8:54 AM	101	10:35 AM	10:50 AM	15	10:55 AM
13	9:30 AM	82	10:52 AM	11:02 AM	11	11:07 AM

10:00 am [3rd block]

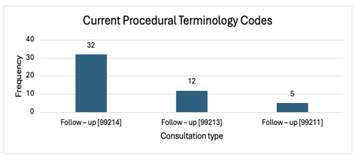
Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent	Departure
14	9:42 AM	82	11:04 AM	11:19 AM	15	11:24 AM
15	10:01 AM	79	11:20 AM	11:27 AM	7	11:31 AM
16	10:20 AM	68	11:28 AM	11:45 AM	17	11:50 AM
17	10:59 AM	48	11:47 AM	12:24 PM	37	12:28 PM
18	10:59 AM	48	11:47 AM	12:24 PM	27	12:28 PM
19	11:24 AM	69	12:28 PM	1:01 PM	33	1:06 PM
20	11:19 AM	69	12:28 PM	1:01 PM	33	1:06 PM
21	12:13 PM	49	1:02 PM	1:19 PM	17	1:25 PM

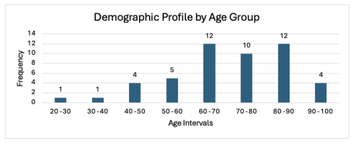
11:00 am [4th block]

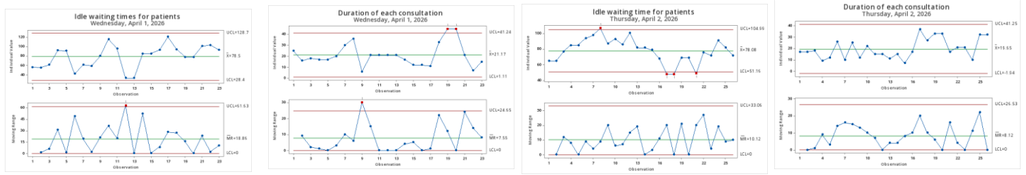
Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent	Departure
22	12:04 PM	76	1:20 PM	1:41 PM	21	1:46 PM
23	12:08 PM	72	1:20 PM	1:41 PM	21	1:46 PM

12:00 pm [5th block]

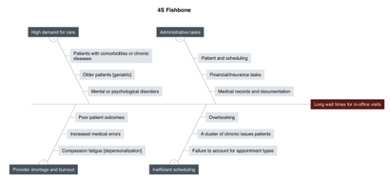
Patient	Arrival	Waiting [min]	Consultation Start	Consultation End	Consultation Time Spent	Departure
24	12:11 PM	91	1:42 PM	1:52 PM	10	1:57 PM
25	12:20 PM	82	1:52 PM	2:24 PM	32	2:29 PM
26	12:30 PM	72	1:52 PM	2:24 PM	32	2:29 PM

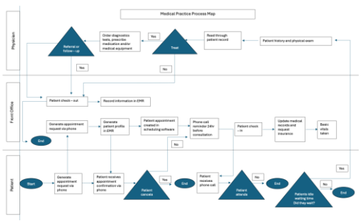






Analyze Phase





Improve Phase

IMPLEMENTATION PLAN - Focused on reducing wait time

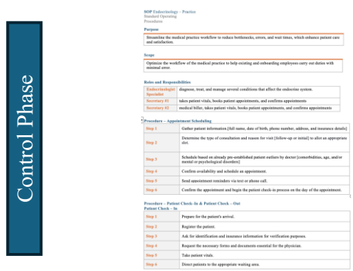
ACTION	PRIORITY	STATUS	START DATE	END DATE	NOTES
Phase 1. Feasibility Study					
Conduct a study to determine the reasons for long wait times	High	Complete	1-Apr	2-May	Long wait times stem from poor patient scheduling, provider shortage and burnout, high demand for care, and administrative tasks
Analyze patient data to identify different customer segments	High	In Progress	2-May		Longer consultation times occur due to patients with comorbidities or chronic diseases, older patients, and mental or psychological disorders. How would this help the clinic in the long run? What would be the amount of time and labor that would go toward this?
Estimate the cost for initial investment [time] and potential ROI	Medium	Not Started	00/00/00		
Phase 2. Design and Development					
Redefine how appointment scheduling happens in the practice	Medium	Needs Review	00/00/00		Scheduling based on already pre-established patient outliers by doctor [comorbidities, age, and/or mental or psychological disorders]
Finalize design - demand based scheduling or based on patient specific identifiers	High	Needs Review	00/00/00		Identify which suits the practice best
Phase 3. Pilot Testing					
Identify preferred scheduling method and employ in practice	High	On Hold	00/00/00		Study which methods best suits practice and start scheduling appointments in that way
Train personnel on new appointment scheduling method	High	On Hold	00/00/00		

Key
Short
Medium
Long

Based on specific patient outliers

	7:30 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	9:00 AM	9:30 AM	9:45 AM	10:00 AM	10:30 AM
Patient A										
Patient B										
Patient C										
Patient D										
Patient E										
Patient F										
Patient G										
Patient H										
Patient I										
Patient J										

Control Phase



Conclusion

This study has shed light on the time patients spend waiting for appointments and consultations in a physician's practice. It emphasizes the discrepancy between the physician's assumptions and the actual workflow, which is crucial for understanding the dynamics of patient wait times. Although the physician's assumptions proved correct, the practice's workflow inherently varies due to its design and management. Understanding the gap between physician assumptions and actual practice operations is essential for understanding the reasons behind increased wait times. Addressing these discrepancies is crucial for improving patient satisfaction and operational efficiency. The physician should understand that inefficient scheduling is the primary cause of increased wait times in the practice. This tends to happen due to overbooking, a cluster of chronic issue patients, and failure to account for appointment types. Currently, a one-size-fits-all approach is no longer effective. Physicians need to evaluate patients with comorbidities or chronic disease, older patients, and mental or psychological disorders to determine how the appointment booking process should happen. Ultimately, this research underscores the importance of aligning physician expectations with patient realities and calls for ongoing evaluation and adjustment of practice operations. By doing so, healthcare providers can work to reduce wait times and improve the quality of care delivered to patients.

Recommendations

Recommendations for improving the practices workflow include employing an implementation plan focused on reducing wait times, a practice management system, designing a potential clinical dashboard, and scheduling based on already pre-established patient outliers by doctor [comorbidities, age, and/or mental or psychological disorders].

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Acknowledgements

The author thanks Rafael Nieves for his invaluable assistance, insightful feedback, and continuous mentorship throughout this study.