



THE REALITY OF SCHEDULING SPECIALIZED MEDICAL APPOINTMENTS IN PUBLIC HOSPITALS IN MANABÍ, ECUADOR

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ABSTRACT

Objective: to establish a relationship between the form of access and the waiting time for care of users who needed specialized medical consultation in areas that required a referral from a general practitioner in the public hospitals of the cities of Manta and Portoviejo during the period. from January to March 2023.

Methodology: Cross-sectional study, where users of public hospitals were asked about how they obtained their medical appointment and how long they waited to be seen from the scheduling of their medical appointment to the moment they were seen. A structured questionnaire with social, demographic and economic questions was used to determine the factors that influenced waiting time. The t test and ANOVA with Welch correction with a significance level of 0.05 were used to establish relationships between the average waiting time and the social and demographic variables.

Results and discussion: On average, patients wait 49 days for their specialized medical consultation, and in some cases, the wait extended up to 180 days. Those who accessed through the formal process had to wait up to 19 days longer compared to those who accessed with the help of a family member or friend who worked at the hospital.

Originality/value: The results suggest the existence of informal access to obtain specialized medical appointments in the three public hospitals of Manabí, which could be one of the causes of the delay in appointments scheduled through the referral and counter-referral system.

Keywords: Health Services Accessibility, Secondary Care, Referral, Consultation, Hospitals, State.

A REALIDADE DO AGENDAMENTO MEDICO ESPECIALIZADO NOS HOSPITAIS PUBLICOS DE MANABÍ, ECUADOR

RESUMO

Objetivo: estabelecer relação entre a forma de acesso e o tempo de espera para atendimento de usuários que necessitaram de consulta médica especializada em áreas que necessitaram de encaminhamento de clínico geral nos hospitais públicos das cidades de Manta e Portoviejo no período. Janeiro a março de 2023.

Metodologia: Estudo transversal, onde foram questionados usuários de hospitais públicos sobre como conseguiram a consulta médica e quanto tempo esperaram pelo atendimento desde o agendamento da consulta até o momento do atendimento. Um questionário estruturado com questões sociais, demográficas e econômicas foi utilizado para determinar os fatores que influenciaram o tempo de espera. O teste t e ANOVA com correção de

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Welch com nível de significância de 0,05 foram utilizados para estabelecer relações entre o tempo médio de espera e as variáveis sociodemográficas.

Resultados e discussão: Em média, os pacientes aguardam 49 dias pela consulta médica especializada e, em alguns casos, a espera chega a 180 dias. Quem acessou pelo processo formal teve que esperar até 19 dias a mais em comparação com quem acessou com ajuda de familiar ou amigo que trabalhava no hospital.

Originalidade/valor: Os resultados sugerem a existência de acesso informal para obtenção de consultas médicas especializadas nos três hospitais públicos de Manabí, o que poderia ser uma das causas do atraso nas consultas agendadas através do sistema de referência e contrarreferência.

Palavras-chave: Acessibilidade aos Serviços de Saúde, Atenção Secundária à Saúde, Encaminhamento, Consulta, Hospitais Estaduais.

LA REALIDAD DEL AGENDAMIENTO DE CITAS MÉDICAS ESPECIALIZADAS EN HOSPITALES PÚBLICOS DE MANABÍ, ECUADOR

RESUMEN

Objetivo: establecer una relación entre la forma de acceso y el tiempo de espera para la atención de los usuarios que necesitaban consulta médica especializada en áreas que requerían una referencia de un médico general en los hospitales públicos de las ciudades de Manta y Portoviejo durante el período de enero a marzo de 2023.

Metodología: Estudios transversal, donde se preguntó a los usuarios de los hospitales públicos acerca de cómo obtuvieron su cita médica y cuánto tiempo esperaron para ser atendidos desde el agendamiento de su cita médica hasta el momento que fueron atendidos. Se usó un cuestionario estructurado con preguntas sociales, demográficas y económicas para conocer los factores que influenciaban el tiempo de espera. Se usó la prueba t y ANOVA con corrección de Welch con un nivel de significancia de 0,05 para establecer relaciones entre el tiempo promedio de espera y las variables sociales y demográficas.

Resultados y discusión: Sn promedio, los pacientes esperan 49 días para su consulta médica especializada, y en algunos casos, la espera se extendió hasta 180 días. Aquellos que accedieron a través del proceso formal tuvieron que esperar hasta 19 días más en comparación con aquellos que accedieron con la ayuda de un familiar o amigo que trabajaba en el hospital.

Originalidad/valor: Los resultados sugieren la existencia de un acceso informal para obtener citas médicas especializadas en los tres hospitales públicos de Manabí, lo que podría ser una de las causas de la demora en las citas agendadas a través del sistema de referencia y contrarreferencia.

Palabras clave: Accesibilidad a los Servicios de Salud; Atención Secundaria de Salud, Derivación, Consulta, Hospitales Provinciales.

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1 INTRODUCTION

Specialized health care represents one of the largest costs for health systems worldwide (WHO, 2005). For this reason, in recent years, efforts have been made to focus medical care mainly on the First Level of Care, with the aim of reducing health expenses and avoiding the saturation of specialized health services (Couttolenc & Dmytrazzenko, 2013). Health systems in Latin America face significant challenges, such as improving public financing of health,



complying with constitutional mandates that guarantee the right to health, and working toward Universal Health Coverage (Pan American Health Organization - PAHO, 2017). This has led to a restructuring of health systems in the region (ISAGS, 2012), (World Health Organization, 2010). Mainly, to reduce barriers to care and reduce inequities fostered by unequal access (Miller et al., 2024).

In Ecuador, this transformation of the model took place in 2013 with the implementation of the Comprehensive Family, Community and Intercultural Health Care Model (MAIS-FCI) (Ministry of Public Health, 2013). This model establishes that the gateway to the health system is the first level of care, intended to solve up to 80% of the population's health problems. To achieve a single entry, the Ministry of Public Health (MSP) updated the Manual for the Reference and Counter-Reference Subsystem and Community Referral (Ministry of Public Health of Ecuador, 2013). In theory, this approach should guarantee the right to health, prevent diseases and complications, and optimize the limited resources of the health system.

2 THEORETICAL FRAMEWORK

The health system in Ecuador is segmented and includes entities such as the MSP, the Ecuadorian Social Security Institute (IESS), the Social Security Institute of the National Police (ISSPOL), the Social Security Institute of the Armed Forces (ISSFA) and private services. The MSP is the governing institution of the National Health System and establishes the guidelines and forms of care, including the Reference and Counter-Reference Subsystem (Ministry of Public Health, 2013). For specialized care, users must schedule an appointment with their nearest general practitioner, who can refer them to second level care in hospitals. There are exceptions for basic specialties such as Pediatrics and Gynecology. Although institutions apply different scheduling procedures, the essence is the same: online scheduling, by phone call or in person, and these forms are mandatory throughout the country.

The process is aimed at avoiding congestion in second and third level hospitals, that is, if the first level manages to address the proportion of health problems that it is intended to address, and only refers the necessary cases, the public system would flow properly. This fluidity is interrupted when users, due to lack of information, desperation or other reasons, seek care directly at the second and third level. The latter could be possible by having "connections" within the hospitals that can manipulate the scheduling system of specialist doctors by granting appointments that were not filtered by the general or family doctor. By doing so, there would be a collapse in specialized care, generating delays in waiting times for users who follow the



process normally. This behavior on the part of users has been studied in some research. For example, in 2012 it was shown with data from the National Health Interview Survey of the United States that people who did not get a medical appointment, which were around 10% of the sample studied, 25% of these went to services non-conventional health services to cover your health needs in whole or in part. Furthermore, the proportion of people who sought alternative medical care not based on qualified providers was higher in those who faced problems scheduling their appointments in the conventional health system (75%) (Ayers & Kronenfeld, 2012). It has also been studied how socioeconomic level affects access to health services. In a systematic review that studied disparities in access to pediatric orthopedic care services, it was revealed that people with better conditions had fewer delays in their hospital care (Arant et al., 2022). This shows how users look for alternatives to care for their health problems that, in some cases, do not belong to the formal health system. This could include asking family or friends for help in getting a date using their social status to do so or even paying for them in some way.

The research was carried out in the province of Manabí, the third most populated in Ecuador, with more than 1.5 million inhabitants, is located on the coast and has 24 cantons, being Portoviejo (the capital) and Manta (a port city and economic pole) the largest and most populated. The regional hospitals, both of the MSP and the IESS, located in these cities, are a reference for the entire province.

The objective of this research was to relate the form of access with the waiting time for care of users who required specialized medical consultation care in the areas of specialties that require a referral from a general practitioner in public hospitals in cities. of Manta and Portoviejo in the period January to March 2023.

3 METHOD

A cross-sectional descriptive study was carried out with users of the specialized services of public hospitals in the cities of Manta and Portoviejo between the months of January and March 2023. The cities were chosen for convenience and access of the research team. The hospitals were: from the MSP: Hospital General Rodríguez Zambrano (Manta) and from the IESS, Hospital General Portoviejo and Manta.

The population for this study was the users who attended the specialty consultation between the months of January to March 2023. The sample calculation was carried out with the help of the EpiInfo program in version 7. An infinite population was used, with estimated



frequency of 50%, margin of error of 5% and a confidence level of 95%. The sample resulted in 384 people for each hospital or 1,152 in all three. Within the hospitals, the type of sampling was random probabilistic in the following way: every third patient who entered the hospital was approached to administer the survey, as long as they agreed to participate and that their medical appointment was not for dentistry, psychology, general medicine. or family, pediatrics, gynecology and obstetrics, since these specialties do not require a referral from a general practitioner.

To collect the information, a structured questionnaire previously validated by 3 experts was used with a pilot test carried out on 30 users of the Rodríguez Zambrano Regional Hospital of the MSP in the city of Manta for one day. The questionnaire consisted of 10 questions and took approximately 3 minutes to complete. It was applied in the waiting rooms of the chosen hospitals and applied by nursing students at UNESUM.

Users were approached to fill out the questionnaire before receiving medical care in the waiting rooms of the outpatient services, except for those who attended appointments that did not require a referral from a general practitioner. The questionnaire was administered to users who agreed to participate and signed the informed consent, where the confidentiality of their data was explained to them. Questionnaire questions included:

1. Edad;
2. Sex;
3. Area of residence (response options: [Urban], [Rural]);
4. Educational level (response options: [Primary], [Secondary], [Technical education], [Higher education]);
5. Monthly family income in dollars;
6. How did you get the medical appointment? [By a general practitioner or specialist], [By a friend or family member], [By someone else within the hospital];
7. Who told you which specialist you needed? [You decided], [A doctor or specialist during the consultation], [A friend or family member];
8. Since you felt the need for care until now, how long has it been? (measured in days);
9. Have you paid anything for the scheduled appointment? (response options: [Yes], [No]);
10. How much did you pay for the scheduled appointment? (answer options: [Dollar amount]). These last two questions were not answered by the majority of users and were therefore excluded from the analysis.

The data were tabulated and analyzed in the SPSS statistical program in version 23. The dependent variable was the approximate time in which patients get their appointment with the specialist doctor, from the moment they felt the need to the day of the appointment, measured



in days. The homogeneity and normality of the data was tested using the Levene and Kolmogorov-Smirnov tests, respectively. Due to the non-homogeneity and normality of the data, the Mann Whitney U test was used for dichotomous variables and ANOVA for polytomous variables with Welch's correction (used in cases of lack of homogeneity of variances and lack of normality in the data).), for the latter, the Games-Howell Post Hoc test (which serves the same purpose as the Welch correction) was added to identify where the differences were significant at 0.05.

The independent variables that were tested to determine the factors in the difference in the times of getting an appointment were: sex, age, type of affiliation, area of residence, form of access, decision to go to the specialist, educational level and quintile. from income.

The protocol of this research was approved by the Ethics Committee for Research on Human Beings – ITSUP, which has current authorization from the MSP through official letter: MSP-CGDES-2022-0133-O.

4 RESULTS AND DISCUSSION

A total of 1,572 people were surveyed at the three hospitals, representing 36% more than the calculated sample. Table 1 describes the characteristics of the population that was part of the research.



Table 1

Descriptive characteristics of the people who accessed specialty consultations in public hospitals in Manabí (n 1572)

	All hospitals	Hospital Manta	IESS Hospital	Portoviejo	MSP Hospital	Manta
	N (%)	N (%)	N (%)		N (%)	
Total	1572 (100)	623 (100)	584 (100)		340 (100)	
Sex						
Male	681 (43,3)	294 (47,2)	230 (39,4)		155 (45,6)	
Female	891 (56,7)	328 (52,6)	354 (60,6)		184 (54,1)	
Average age (SD)	42,1 (18)	42,5 (20,1)	43,7 (17,1)		37,3 (15,3)	
Residence area						
Urban	1128 (71,8)	471 (75,6)	382 (65,4)		266 (78,2)	
Rural	444 (28,2)	152 (24,4)	202 (34,6)		74 (21,8)	
Scholarship						
None	45 (2,9)	27 (4,3)	8 (1,4)		10 (2,9)	
Primary	386 (24,6)	165 (26,5)	117 (20)		96 (28,2)	
Secondary	663 (42,2)	272 (43,7)	229 (39,2)		151 (44,4)	
Third level	420 (26,7)	147 (23,6)	190 (32,5)		80 (23,5)	
Fourth level	58 (3,7)	12 (1,9)	40 (6,8)		3 (0,9)	
income quintile						
1	243 (15,5)	185 (29,7)	128 (21,9)		123 (36,2)	
2	252 (16)	47 (7,5)	83 (14,2)		36 (10,6)	
3	278 (17,7)	113 (18,1)	113 (19,3)		79 (23,2)	
4	162 (10,3)	128 (20,5)	116 (19,9)		61 (17,9)	
5	224 (14,2)	125 (20,1)	133 (22,8)		29 (8,5)	
Average waiting time (DS)	49 (75,7)	43,5 (42,5)	44,5 (53,7)		34,3 (43)	
Decision to go to the specialist						
Own decision	402 (25,6)	102 (16,4)	192 (32,9)		87 (25,6)	
Family/friend in the hospital	121 (7,7)	47 (7,5)	35 (6)		39 (11,5)	
general practitioner	873 (55,5)	335 (53,8)	331 (56,7)		204 (60,0)	
another specialist	176 (11,2)	139 (22,3)	26 (4,5)		10 (2,9)	
Access method						
Scheduling	572 (36,4)	239 (38,4)	234 (40,1)		96 (28,2)	
Family/friend in the hospital	235 (14,9)	82 (13,2)	92 (15,8)		42 (12,4)	
General practitioner/specialist	727 (46,2)	279 (44,8)	252 (43,2)		193 (56,8)	
someone in the hospital	38 (2,4)	23 (3,7)	6 (1)		9 (2,6)	

Source: questionnaire applied to users of the public hospitals of Manabí in the waiting rooms

The average age of the participants was 42 years. The majority of them were female, lived in urban areas and had a middle or secondary level of education. Although the target sample for each hospital was 384 people, at the MSP Hospital in the city of Manta, 342 people were surveyed. It is assumed that this difference was due to the intermittency in care due to the reconstruction of the hospital during the research period. However, this discrepancy in the number of respondents does not invalidate the results obtained.

The majority of patients obtained their medical appointment through the standardized process (82.6%), that is, through the recommendation of a general practitioner who referred them to the specialist. Personal scheduling followed, and the average waiting time was almost 50 days.



As seen in Table 2, the average number of days of waiting for medical appointments of the population that accesses in a standardized way is higher compared to those who obtained their appointment with the help of a friend or family member who works at the hospital. who attended. Furthermore, it is observed that the waiting time was shorter for men compared to women. It is also seen that, in the IESS hospitals, the waiting time is longer than in the MSP hospital, and the wait is significantly longer in the IESS Hospital in Portoviejo.

Table 2

Mean differences in waiting days for specialized medical care of users of 3 public hospitals in Manabí using the Mann Whitney U tests and one-way ANOVA with Welch correction (n=15782)

Since you scheduled the appointment until today when you will be attended to, how long did it take?											
		Half	U	P-value	Average range						
		Half	F	P-value	95% confidence interval for the mean	Reference for Howell analysis	Games-post hoc	Mean difference	P-value	95% confidence interval	
		Lower	Upper		Lower	Upper				Lower	Upper
		limit	limit		limit	limit				limit	limit
Sex	Male	42,49	2850	0,039	759,63						
	Female	53,97	86		807,04						
Residence area	Urban	46,67	2245	0,001	763,56						
	Rural	54,9	38		844,78						
Hospitals	IESS Blanket	46,81		0,017	42,36	51,26	IESS Blanket	-6,086	0,355	-16,5	4,32
	IESS Portoviejo	55,93	4,093		48,48	63,39	MSP Blanket	-15,207*	0,013	-27,83	-2,59
	MSP Blanket	40,73			33,24	48,21					
	Scheduling	52,77			45,84	59,7	Scheduling	-19,384*	0,009	-35,16	-3,61
Access method	Family/friend	33,39	4,162	0,007	23,54	43,23	Family/friend in the hospital	-18,047*	0,008	-32,52	-3,57
	general practitioner	51,43			46,44	56,43					
	Specialist	42,11			26,24	57,97	someone in the hospital	-8,718	1	-43,61	26,17



income quintile	1	58,09			46,87	69,31								
	2	50,25			40,09	60,49								
	3	47,07	2,066	0.084	38,73	55,43	N/A							
	4	44,85			32,91	56,78								
	5	39,15			31,44	46,85								
Instruction	None	58,64			39,94	77,34	None	-	0,005	-	63,29	-	8,06	
	Primary	47,85			40,84	54,87	Primary	-	0,000	-	37,88	-	11,8	
	Secondary	50,99	13,767	0	44,86	57,13	Fourth level	-	0	-	40,14	-	15,9	
	Third level	49,46			41,91	57,01	Third level	-	0	-	40,05	-	12,9	
	Fourth level	22,97			16,75	29,18		26,494						
	Own decision	41,79			34,24	49,33	Own decision	-	0,008	-	24,46	0,58		
	Family/friend in the hospital	29,85	13,274	0	23,96	35,74	Family/friend in the hospital	-	0	-	34,29	13,77		
Decision to go to the specialist	general practitioner	53,88			48,71	59,06	another specialist	-	0,002	-	42,03	-	7,07	
	another specialist	54,4			42,43	66,38		24,552*						

* The difference in means is significant at the 0.05 level.

Source: questionnaire applied to users of the public hospitals of Manabí in the waiting rooms

The most relevant finding of this research is the evidence of a form of access parallel to the standardized process in the three hospitals. People who obtained their medical appointment thanks to the influence of a family member or friend who worked in the hospitals investigated experienced a considerably shorter waiting time compared to those who made the scheduling in a standardized way, with a difference of almost 20 days less. Equally significant, people who were recommended by a friend or family member to see a specialist obtained appointments more quickly, suggesting that the same friends or family members who helped schedule the appointments also recommended to patients the need to see a specialist. This finding is relevant because it could be promoting the overuse of specialized services in public hospitals, which in turn causes congestion in these services.



Sociodemographic variables such as area of residence, educational level, and income quintile did not have a statistically significant difference in the waiting time for their medical appointment.

In Table 3, the data was broken down specifically for the IESS Manta General Hospital. Statistically significant differences were observed in the average waiting time for the medical appointment in relation to the variables of the form of access and the influence on the decision of the need for a specialist. This resulted in a shorter wait time for the medical appointment with the specialist for people who scheduled their appointment through the intervention of a friend or family member, as well as for those who received a recommendation from a friend or family member regarding the specialist required. This finding was corroborated by the Games-Howell test, which showed that scheduling through a friend or family member had an average of 12 fewer days compared to normed scheduling. Additionally, a difference of more than 31 days in wait time was recorded when scheduling assistance came from someone at the hospital who was not a family member or friend of the patient.

Table 3

Comparison of waiting time between users of the IESS General Hospital of Manta using the Mann Whitney U test and ANOVA with Welch correction

		Since you scheduled the appointment until today when you will be attended to, how long did it take			
		Ha	U	P-value	Average range
		lf		e	
Sex	Male	43,49	480	0,95	311,95
	Female	43,61	84	3	311,1
Residence area	Urban	42,81	339	0,34	308,16
	Rural	45,78	89	6	323,88

		Ha	P-value	95% confidence interval for the mean		Reference Games-Howell post hoc analysis	for	Mean difference	P-value	95% confidence interval		
		lf	e	Lower limit	Upper limit					Lo	Upper	
						limit	limit					
Instruction	None	61,67	3,76	0,00	42,97	80,37	Fourth level	None	36,83	0,012	-67,59	-6,07
	Primary	43,96		8	36,45	51,48		Primary	-19,13	0,07	-39,38	1,12



	Secondary	41,04		36,34	45,74		Secondary	-16,207	0,14	-35,23	2,81
	Third level	45,86		39,31	52,4		Third level	-21,024*	0,033	-40,76	1,29
	Fourth level	24,83		12,31	37,35						
	Scheduling	41,83		36,61	47,06		Scheduling	-12,808*	0,017	-27,07	1,45
Access method	Help friend/family	29,02	7,283	0	22,29	35,76	Help friend/family in the hospital	-18,868*	0	-32,86	4,87
	By doctor/specialist	47,89		42,6	53,18		someone in the hospital	-31,019	0,053	-57,31	4,73
	someone in the hospital	60,04		37,44	82,65						
Decision to go to the specialist	Own decision	31,61		25,67	37,55		Own decision	-4,927	0,826	-19,96	10,11
	Family/friend	26,68	10,612	0	16,84	36,52	Family/friend in the hospital	-22,907*	0	-37,19	8,63
	general practitioner	49,59		44,96	54,22		another specialist	-16,708*	0,049	-33,34	0,07
	1	45,89		38,95	52,82						
	2	58,79		45,07	72,51						
Quintile	3	41,73	2,385	0,052	33,84	49,61	N/A				
	4	43,12		35,89	50,34						
	5	37,16		30,99	43,33						

*. The difference in means is significant at the 0.05 level.

Source: questionnaire applied to users of the public hospitals of Manabí in the waiting rooms

In table 4, data breakdowns were made specifically for the IESS General Hospital of Portoviejo. Here it could be observed that users residing in urban areas experienced shorter waiting times. The differences in waiting times for other variables, such as educational level, form of access, decision making about the necessary specialist and income quintile, were found to be statistically significant according to the ANOVA test. However, not all of these differences remained significant in the Games-Howell post hoc test. For example, it was found that scheduling through a friend or family member could shorten waiting time by up to 25 days compared to those scheduling through a general practitioner or even with subsequent scheduling



by another specialist. Additionally, those in a higher income quintile experienced shorter wait times, with a difference of up to 17 days compared to the lowest income quintile.

Table 4

Comparison of waiting time between users of the IESS General Hospital of Portoviejo using the Mann Whitney U and ANOVA with Welch correction

		Since you scheduled the appointment until today when you will be attended to, how long did it take?										
		Hal f	U	P-value	Average range							
		Hal f	F	P-value	95% confidence interval for the mean		Reference for Games-Howell analysis	Mean difference	P-value	95% confidence interval		
					Lower limit	Upper limit				Lower limit	Upper limit	
Sex	Male	40,86	3647,6	0,06	274,69							
	Female	47,2			301,46							
Residence area	Urban	40,57	3061,9	0	271,66							
	Rural	52,12			331,92							
Instruction	None	43,88	6,05	0	13,4	74,35	None	-19,9	0,603	-65,99	26,19	
	Primary	49,68			39,94	59,43	Primary	25,709*	0,001	-43,35	-8,07	
	Secondary	49,39			41,62	57,16	Fourth level	25,418*	0	-42,09	-9,75	
	Third level	39,95			32,77	47,13						
	Fourth level	23,98			15,76	32,19	Third level	15,978*	0,033	-31,1	0,85	
Access method	Scheduling	47,72	96,28	0	41,63	53,81	Scheduling	23,059*	0	-36,88	-9,24	
	Help friend/family	24,66			16,03	33,3	Help friend/family	25,162*	0	-40,22	10,11	
	By doctor/specialist	49,83			42,2	57,45	Alguien en el hospital	19,163*	0	7,57	30,76	
Decision to go to the specialist	Alguien en el hospital	5,5	3,208	0,028	3,22	7,78						
	Own decision	37,89			30,98	44,8						
	Family/friend general practitioner	33,23			20,81	45,64	N/A					



	another specialist	63,15		35,85	90,45						
income quintile	1	48,59		39,59	57,65	1	-17,361*	0,018	-32,73	-2	
	2	50,59		39,04	62,14	2	-19,357*	0,034	-37,74	-0,97	
	3	43,81	4,361	0,002	34,71	52,95	3	-12,572	0,171	-28,04	2,9
	4	52,04			38,62	65,47					
	5	31,23			24,82	37,65	4	-20,810*	0,048	-41,53	-0,09

*. The difference in means is significant at the 0.05 level.

Source: questionnaire applied to users of the public hospitals of Manabí in the waiting rooms

Table 5 disaggregates the data from the users of the MSP Hospital, the Rodríguez Zambrano Regional Hospital in the City of Manta. For this hospital, there were no statistically significant differences for users of the outpatient area in most of the variables. The only variable that turned out to have a significant difference was income quintile. Users who identified themselves in quintile 1 waited more than 20 days for their attention when purchasing from quintile 5.

Table 5

Comparison of waiting time between users of the Manta MSP General Hospital using the Mann Whitney U test and ANOVA with Welch correction

		Desde que agendó la cita hasta hoy que será atendido que tiempo paso							
		Half U	P-value	Average ranges					
		Half F	P-value	95% confidence interval for the mean	Reference for Games-Howell post hoc analysis	Mean difference	P-value	95% confidence interval	
				Lower limit	Upper limit			Lower limit	Upper limit
Sex	Male	40,19	1246	0,043	158,39				
	Female	43,28	0		179,78				
Residence area	Urban	33,33	9451	0,598	169,03				
	Rural	37,81			175,78				
Instruction	None	62,3	0,753	0,57	-13,46	138,06	N/A		
	Primary	33,56			26,06	41,07			



Access method	Secondary	34,4			27,15	41,64							
	Third level	31,8			24,64	39,11							
	Fourth level	25			3,49	46,51							
	Scheduling	28,3			21,58	35,04							
	Help friend/family in the hospital	33,7			23,46	44,07							
	By doctor/specialist	6	1,798	0,16			N/A						
	someone in the hospital	38,0			31,06	45,02							
Decision to go to the specialist	Own decision	20,6			-1,24	42,58							
	Family/friend in the hospital	34,1			24,53	43,72							
	general practitioner	30,6			21,3	39,98							
	another specialist	4	0,466	0,70	28,2	40,29		N/A					
	1	51,4			10,69	92,11							
Income Quintile	1	43,4			35,93	50,99	1	-23,257*	0,00	-39,2	-7,32		
	2	39,2			18,81	59,64	2	-19,015	0,41	-50	11,97		
	3	32,5	6,151	0	21,95	43,24	5	3	-12,388	0,37	-	31,38	6,61
	4	21,7			15,17	28,34							
	5	20,2			11,49	28,93		4	-1,547	0,99	-	16,67	13,58

*. The difference in means is significant at the 0.05 level.

Source: questionnaire applied to users of the public hospitals of Manabí in the waiting rooms

The results of this study reveal an alarming reality in the province of Manabí, Ecuador, where waiting times for medical appointments in the hospitals with the highest influx of patients can easily exceed 180 days, equivalent to six months. This finding is particularly worrying when compared to the situation in other countries. For example, in a hospital in China, the waiting time from a general practitioner's evaluation of the patient to referral to a nephrology specialist is less than 6 days (Li et al., 2021). However, it should be noted that waiting times vary significantly around the world, as reported in a narrative review by (McIntyre & Chow, 2020). Examples from different countries, such as Australia, Canada and Germany, show notable variations in waiting times for specialist care.

These data provide a global context, but it is essential to analyze the regional situation, as in the case of Peru, where the public health system also operates with a reference system between levels of care. In a study related to outpatient care in hospitals for children with cerebral palsy, the median wait for physical therapy was determined to be two months (Vila Paucarcaja et al., 2016). In Chile, the waiting time between in-person care and telemedicine in the specialty



of dermatology was compared, and it was found that the wait for in-person care averaged almost 342 days (Aragón-Caqueo et al., 2020). These results highlight two significant aspects: firstly, that the average times in Ecuador are similar to those of neighboring countries and, secondly, that the type of intervention is a determining factor in the waiting time, depending on the number of specialists available and demand.

In the Ecuadorian context, it is alarming that approximately 20% of users are in the quartile that has waited the longest to obtain a medical appointment. These long waits have been widely highlighted in press and television reports (El Universo, 2022; Primicias, 2021; RTS, 2022), which have highlighted the problem and, in some cases, reported on the serious consequences that some people face due to these long waits (Primicias, 2021). Factors contributing to these long wait times may include a lack of medical staff, infrastructure problems, medication shortages, and special user conditions, among others. A study carried out by (Gómez & Rivera, 2019) in one of the most important tertiary hospitals in the country identified possible causes of delays in assigning shifts. These causes were divided into internal, external and patient-related problems, highlighting the lack of a computer system, the absence of specialists and lack of knowledge of the process among patients. They also emphasized non-standardized access as one of the main causes of delay, a finding that correlates with the results presented in this research.

It has been shown that waiting time in medical care is one of the main causes of dissatisfaction among users (Mira et al., 2002). A study commissioned by the WHO revealed that prompt response is the most relevant non-clinical aspect for people's satisfaction (Valentine et al., 2008). Dissatisfaction due to long waiting times can lead users to seek private care, as has been observed in England, where the number of people seeking private hospital care in 2023 increased by 17,000 (Torjesen, 2023a). In addition, the increase in costs in the health system adds to dissatisfaction with the service provided. In the United States, an opportunity cost of \$52 billion was estimated in 2010 due to poorly scheduled appointments or cancellations (Ray et al., 2015). In 2014, the most frequent expenses among Ecuadorians were on medications and medical consultations, which was impoverishing, since more than 2% of the population fell below the poverty line due to direct health expenses (Armijos-Briones et al., 2019). In other words, long waiting times for specialized care in public hospitals could be included in the list of health expenses that become impoverishing.

A significant finding of this research is how people determine what type of specialized service they need. Those who accepted the recommendation of a friend or family member who works at the hospital waited less than patients who were scheduled by a general practitioner or



specialist. This could result in irrational use of highly complex medical services, which could be classified as "overuse" (Brownlee et al., 2017). Although this definition is more commonly applied to clinical procedures, it fits the context of the specialized services in the public hospitals studied. Access to these services without the necessary professional judgment could contribute to delays in scheduling and increase the complexity of medical care.

Furthermore, non-standardized access to specialized services could lead to physicians performing unnecessary procedures for fear of future patient lawsuits, known as "defensive medicine" (Elli et al., 2013). This practice can increase healthcare costs, as has been observed in the United States and Ecuador, where there was an increase in lawsuits for medical malpractice (Federman et al., 2010) (Heredia-Vilema et al., 2022). For example, more than 32% of Ecuadorian rheumatologists have medical malpractice insurance as of 2020 (Maldonado et al., 2020).

The difference in wait times also depended on the income level of the users. Higher income quintiles experienced less waiting time compared to lower quintiles. The most relevant data was found in the MSP public hospital, where people without affiliation or, for the most part, without a work dependency relationship, waited up to 23 days less than the 1st income quintile. This finding highlights socioeconomic differences in access to health services and is similar to data on waiting times for users in rural areas. This raises the question of whether access to health is a privilege for a few rather than a right for all.

Long waiting times do not appear to be exclusive to low- or middle-income countries. In England, more than three million people had to wait more than 18 weeks for medical care in November 2022 (Torjesen, 2023b). However, the causes of these long wait times may be more local. According to our data, access through contacts in the hospitals where the desired service is provided is the fastest way to obtain medical appointments. This process bypass can occur through manipulation of the system or favoritism on the part of the doctors themselves. Although strategies to reduce wait times are being tested around the world, these technologies must be managed by people, which could allow problems such as unequal access to perpetuate (Aiyegbusi et al., 2023; Corrado et al., 2023). Or the digitalization of some hospital systems that have shown promise in improving the quality of care and the efficiency of hospital care (Huaytan et al., 2024). This efficiency can save valuable resources for the management of health care and the public in general.

Studies like this are of utmost importance to identify deficiencies and possible causes in the provision of hospital services. Some countries, such as Italy, have legislation that requires



hospitals to display users' waiting times to receive specialized care, which, although not fully complied with, highlights the importance of this type of monitoring (Magnoni et al. , 2021).

5 CONCLUSION

There is a non-standardized parallel way to access specialized medical appointments in 3 public hospitals in Manabí and this could be the cause of the delay in scheduled appointments. Furthermore, this non-medically mediated access is likely increasing health care costs.

In this study, respondents were not asked about the type of care they were expecting, because the objective was to know how they accessed specialty medical appointments that required a referral from the general practitioner. It is important to note that users did not want to answer questions about whether they paid in any way for the appointment, but it is customary in Ecuador for people to thank favors received by giving something in return such as: chickens, food, eggs, among other things that may represent some cost in care.

REFERENCIAS

- Aiyegbusi, O. L., Hughes, S. E., Peipert, J. D., Schougaard, L. M. V., Wilson, R., & Calvert, M. J. (2023). Reducing the pressures of outpatient care: the potential role of patient-reported outcomes. *Journal of the Royal Society of Medicine*, 116(2), 44. <https://doi.org/10.1177/01410768231152222>
- Aragón-Caqueo, D., Arceu Ojeda, M., Aragón-Caqueo, G., Zamora Aragón, K., Tom Montalva, D., & Gatica Monsalve, J. L. (2020). Comparación del tiempo de espera de atención dermatológica mediante el uso de teledermatología y derivación presencial. *Piel*, 35(4), 220–224. <https://doi.org/10.1016/J.PIEL.2019.07.001>
- Arant, K. R., Modest, J. M., Gil, J. A., & Cruz, A. I. (2022). What's New in Pediatric Orthopaedic Health Care Disparities? *Journal of Pediatric Orthopaedics*, 42(9), E954–E959. <https://doi.org/10.1097/BPO.0000000000002224>
- Armijos-Briones, M., Sousa, F. J. P. de, & Zavala-Briones, M. (2019). Aumento de la pobreza e inequidad en el financiamiento del sistema de salud de Ecuador. *Revista de Salud Pública*, 21(3), 1–8. <https://doi.org/10.15446/rsap.V21n3.77849>
- Ayers, S. L., & Kronenfeld, J. J. (2012). Delays in Seeking Conventional Medical Care and Complementary and Alternative Medicine Utilization. *Health Services Research*, 47(5), 2081. <https://doi.org/10.1111/J.1475-6773.2012.01406.X>
- Brownlee, S., Chalkidou, K., Doust, J., Elshaug, A. G., Glasziou, P., Heath, I., Nagpal, S., Saini, V., Srivastava, D., Chalmers, K., & Korenstein, D. (2017). Evidence for Overuse of Medical Services Around the World. *Lancet (London, England)*, 390(10090), 156. [https://doi.org/10.1016/S0140-6736\(16\)32585-5](https://doi.org/10.1016/S0140-6736(16)32585-5)



- Corrado, G., De Ponti, R., Berlinghieri, N., Foglia-Manzillo, G., Bonfanti, P., Sormani, L., Tagliagambe, L. M., Mantovani, A., & Bertoletti, R. (2023). L'ecocardiografia in telemedicina: una possibile soluzione per il contenimento delle liste d'attesa in cardiologia. *Giornale Italiano di Cardiologia*, 24(3), 212–221. <https://doi.org/10.1714/3980.39624>
- Couttolenc, B., & Dmytrazcenko, T. (2013). *Serie de estudios ÚNICO 2: La estrategia de Atención Primaria de Brasil*.
- El Universo. (2022, mayo). *Quejas de pacientes del IESS en Quito por demoras para reagendar citas | Ecuador | Noticias | El Universo*.
- Elli, L., Tenca, A., Soncini, M., Spinzi, G., Buscarini, E., & Conte, D. (2013). Defensive medicine practices among gastroenterologists in Lombardy: between lawsuits and the economic crisis. *Digestive and liver disease: official journal of the Italian Society of Gastroenterology and the Italian Association for the Study of the Liver*, 45(6), 469–473. <https://doi.org/10.1016/J.DLD.2013.01.004>
- Federman, A. D., Keyhani, S., & Bishop, T. F. (2010). Physicians' Views on Defensive Medicine: A National Survey. *Archives of Internal Medicine*, 170(12), 1081–1083. <https://doi.org/10.1001/ARCHINTERNMED.2010.155>
- Gómez, P., & Rivera, J. (2019). Un problema social: tiempos de espera en la consulta externa del Hospital Carlos Andrade Marín. *Estudios de la Gestión. Revista Internacional de Administración*, 5, 121–146. <https://doi.org/10.32719/25506641.2019.5.5>
- Heredia-Vilema, E. J., Emilly, :, Saavedra-Aguilar, J., Fabricio Guaylla-Lema, E., Janneth, :, & Iglesias-Quintana, X. (2022). Aplicación de la justicia en la negligencia médica. *IUSTITIA SOCIALIS*, 7(2), 1270–1283. <https://doi.org/10.35381/racji.v7i2.2380>
- Huaytan, J. V. P., Rojas, G. G. R., Ruiz-Balvin, M. C., Roldan, F. A. G., Leiva, N. A. D., Gordillo-Flores, R. E., Melly, J. L. I., & Tapia-Silguera, R. D. (2024). Digital Transformation in Public Hospital Management: Improving the Patient Experience. *Revista de Gestão Social e Ambiental*, 18(4), e04571. <https://doi.org/10.24857/rgsa.v18n4-046>
- ISAGS. (2012). Sistemas de Salud en Suramérica. En *UNASUR, Instituto Suramericano de Gobierno en Salud*. <https://doi.org/10.1038/nri1601>
- Li, J., Zhu, G., Luo, L., & Shen, W. (2021). Big Data-Enabled Analysis of Factors Affecting Patient Waiting Time in the Nephrology Department of a Large Tertiary Hospital. *Journal of Healthcare Engineering*, 2021. <https://doi.org/10.1155/2021/5555029>
- Magnoni, P., Carnevali, D., Cavazzana, L., Principi, N., Grimoldi, L., Marsilio, M., & Castaldi, S. (2021). Waiting time for outpatient specialist care in Lombardy Region: evaluating accessibility and quality of information on websites of public health agencies and healthcare structures. *Annali di Igiene Medicina Preventiva e di Comunità*, 33(1), 31–43. <https://doi.org/10.7416/AI.2021.2406>
- Maldonado, G., Intriago, M., Guerrero, R., & Rios, C. (2020). Rheumatologists in Ecuador: Results of a Survey. *Scientifica*, 2020. <https://doi.org/10.1155/2020/3421753>



- McIntyre, D., & Chow, C. K. (2020). Waiting Time as an Indicator for Health Services Under Strain: A Narrative Review. *Inquiry: A Journal of Medical Care Organization, Provision and Financing*, 57. <https://doi.org/10.1177/0046958020910305>
- Miller, W., Araújo, R., Goes, S., Da, B., Moreira, S., Pinheiro Da Silva, L., Fossa, Â. M., Brito, D. L., Macedo, J., Santos, D., Victor, J., Barbosa, M., Fernanda Bandeira Da Silva, M., Ferreira Gurgel, H., Do, B., & João, N. (2024). The Importance of Primary Care in Reducing Health Inequalities: A Focus on Public Health. *Revista de Gestão Social e Ambiental*, 18(4), e04734. <https://doi.org/10.24857/rgsa.v18n4-073>
- Ministerio de Salud Pública. (2013). *Modelo de Atención Integral del Sistema Nacional de Salud*.
- Ministerio de Salud Pública del Ecuador. (2013). Norma Del Subsistema De Referencia, Derivación Contrareferencia, Referencia Inversa Y Transferencia Del Sistema Nacional De Salud. En *Ministerio de Salud Pública - MSP: Vol. SNGSP-DNN*.
- Mira, J. J., Rodriáquez-Marián, J., Peset, R., Ybarra, J., Pérez-Jover, V., Palazoán, I., & Llorca, E. (2002). Causas de satisfacción y de insatisfacción de los pacientes en hospitales y atención primaria. *Revista de Calidad Asistencial*, 17(5), 273–283. [https://doi.org/10.1016/S1134-282X\(02\)77517-9](https://doi.org/10.1016/S1134-282X(02)77517-9)
- OMS. (2005). *WHA58.33 Financiación sostenible de la salud, cobertura universal y seguro social de enfermedad*.
- Pan American Health Organization - PAHO. (2017). *Health financing in the Americas*. <https://www.paho.org/salud-en-las-americas-2017/?p=178>
- Primicias. (2021). *Hasta seis meses de espera por una cita médica en los hospitales públicos*.
- Ray, K. N., Chari, A. V., Engberg, J., Bertolet, M., & Mehrotra, A. (2015). Opportunity Costs of Ambulatory Medical Care in the United States. *The American journal of managed care*, 21(8), 567.
- RTS. (2022). *Pacientes de IESS se quejan por demoras en citas médicas - RTS siempre contigo*.
- Torjesen, I. (2023a). More patients are buying private hospital care amid record NHS waiting lists. *BMJ*, 380, 98. <https://doi.org/10.1136/BMJ.P98>
- Torjesen, I. (2023b). Number of patients waiting 18 weeks for treatment in England passes three million. *BMJ*, 380, p332. <https://doi.org/10.1136/BMJ.P332>
- Valentine, N., Darby, C., & Bonsel, G. J. (2008). Which aspects of non-clinical quality of care are most important? Results from WHO's general population surveys of "health systems responsiveness" in 41 countries. *Social science & medicine* (1982), 66(9), 1939–1950. <https://doi.org/10.1016/J.SOCSCIMED.2007.12.002>
- Vila Paucarcaja, J. R., Espinoza, I. O., Guillén, D., & Samalvides, F. (2016). Características de pacientes con parálisis cerebral atendidos en consulta externa de neuropediatría en un hospital peruano. *Revista Peruana de Medicina Experimental y Salud Pública*, 33(4), 719–724. <https://doi.org/10.17843/RPMESP.2016.334.2557>



World Health Organization. (2010). *La financiación de los sistemas de salud*.