

Table 3. Patient characteristics with SMOTE balancing

Characteristic	Overall, N = 19,3941	Absences, N = 9,6971	Attendances, N = 9,6971	p-value2	q-value3
Age				<0.001	<0.001
Mean (SD)	49.34 (17.08)	47.37 (16.91)	51.31 (17.01)		
Median (IQR)	48.00 (36.00, 61.00)	45.00 (34.00, 58.00)	52.00 (38.00, 63.00)		
Sex				<0.001	<0.001
Female	13,046.00 (67.37%)	6,998.00 (72.38%)	6,048.00 (62.37%)		
Male	6,320.00 (32.63%)	2,671.00 (27.62%)	3,649.00 (37.63%)		
Unknown	28	28	0		
Type of insurance coverage					
0: ARL	537.00 (2.77%)	140.00 (1.44%)	397.00 (4.09%)		
1: Contributory	1,535.00 (7.91%)	421.00 (4.34%)	1,114.00 (11.49%)		
2: Subsidized	224.00 (1.15%)	200.00 (2.06%)	24.00 (0.25%)		
3: Prepaid	16,355.00 (84.33%)	8,576.00 (88.44%)	7,779.00 (80.22%)		
4: Private	584.00 (3.01%)	308.00 (3.18%)	276.00 (2.85%)		
5: International Private	22.00 (0.11%)	14.00 (0.14%)	8.00 (0.08%)		
6: Other	10.00 (0.05%)	7.00 (0.07%)	3.00 (0.03%)		
7: Other Institutional	122.00 (0.63%)	30.00 (0.31%)	92.00 (0.95%)		
8: Prepaid International	5.00 (0.03%)	1.00 (0.01%)	4.00 (0.04%)		
Number of diseases				<0.001	<0.001
Mean (SD)	1.31 (1.07)	1.07 (1.01)	1.54 (1.09)		
Median (IQR)	1.00 (1.00, 2.00)	1.00 (0.00, 1.00)	1.00 (1.00, 2.00)		
Recent hospitalizations				<0.001	<0.001
Mean (SD)	0.03 (0.19)	0.03 (0.20)	0.04 (0.19)		
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)		
Number of medications				<0.001	<0.001
Mean (SD)	0.45 (1.13)	0.24 (0.79)	0.66 (1.36)		
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 1.00)		
Hour of appointment					
6:00 to 8:00	10.00 (0.10%)	4.00 (0.08%)	6.00 (0.12%)		
8:00 to 10:00	2,195.00 (22.72%)	1,131.00 (23.71%)	1,064.00 (21.75%)		
10:00 to 12:00	2,549.00 (26.38%)	1,187.00 (24.88%)	1,362.00 (27.84%)		
12:00 to 14:00	837.00 (8.66%)	421.00 (8.83%)	416.00 (8.50%)		
14:00 to 16:00	2,391.00 (24.75%)	1,236.00 (25.91%)	1,155.00 (23.61%)		
16:00 to 18:00	1,680.00 (17.39%)	791.00 (16.58%)	889.00 (18.17%)		
Day of the appointment				<0.001	<0.001
Sunday	3,571.00 (18.52%)	1,943.00 (20.28%)	1,628.00 (16.79%)		
Monday	3,375.00 (17.51%)	2,087.00 (21.78%)	1,288.00 (13.28%)		
Tuesday	3,045.00 (15.79%)	1,825.00 (19.05%)	1,220.00 (12.58%)		
Wednesday	3,017.00 (15.65%)	1,696.00 (17.70%)	1,321.00 (13.62%)		
Thursday	2,302.00 (11.94%)	1,094.00 (11.42%)	1,208.00 (12.46%)		
Friday	1,877.00 (9.74%)	528.00 (5.51%)	1,349.00 (13.91%)		
Saturday	2,092.00 (10.85%)	409.00 (4.27%)	1,683.00 (17.36%)		
Month of the appointment				<0.001	<0.001
January	1,263.00 (6.53%)	560.00 (5.80%)	703.00 (7.25%)		
February	1,216.00 (6.29%)	627.00 (6.50%)	589.00 (6.07%)		
March	1,507.00 (7.79%)	760.00 (7.88%)	747.00 (7.70%)		
April	1,580.00 (8.17%)	914.00 (9.47%)	666.00 (6.87%)		
May	1,808.00 (9.35%)	879.00 (9.11%)	929.00 (9.58%)		
June	2,047.00 (10.58%)	949.00 (9.84%)	1,098.00 (11.32%)		
July	2,257.00 (11.67%)	931.00 (9.65%)	1,326.00 (13.67%)		
August	3,129.00 (16.17%)	1,347.00 (13.96%)	1,782.00 (18.38%)		
September	2,972.00 (15.36%)	1,115.00 (11.56%)	1,857.00 (19.15%)		
October	570.00 (2.95%)	570.00 (5.91%)	0.00 (0.00%)		
November	606.00 (3.13%)	606.00 (6.28%)	0.00 (0.00%)		
December	390.00 (2.02%)	390.00 (4.04%)	0.00 (0.00%)		
Interval creation to assignment				<0.001	<0.001
Mean (SD)	25.54 (28.39)	25.61 (25.35)	25.47 (31.14)		
Median (IQR)	20.00 (8.00, 35.00)	20.00 (8.00, 34.00)	19.00 (7.00, 35.00)		
Number of previous attendances				<0.001	<0.001
Mean (SD)	2.56 (2.23)	2.46 (2.34)	2.67 (2.11)		
Median (IQR)	2.00 (1.00, 3.00)	2.00 (1.00, 3.00)	2.00 (1.00, 4.00)		
Number of previous absences				<0.001	<0.001
Mean (SD)	2.14 (3.42)	2.72 (3.64)	1.56 (3.08)		
Median (IQR)	1.00 (0.00, 3.00)	2.00 (1.00, 3.00)	1.00 (0.00, 2.00)		

Table 2. Patient characteristics with RandomSplit balancing

Characteristic	Overall, N = 12,868 ¹	Absences, N = 6,434 ¹	Attendances, N = 6,434 ¹	p-value ²	q-value ³
Age				<0.001	<0.001
Mean (SD)	49.61 (17.11)	47.70 (17.03)	51.51 (16.99)		
Median (IQR)	49.00 (36.00, 61.00)	46.00 (35.00, 59.00)	52.00 (39.00, 63.00)		
Sex				0.070	0.088
Female	8,000.00 (62.33%)	3,940.00 (61.55%)	4,060.00 (63.10%)		
Male	4,835.00 (37.67%)	2,461.00 (38.45%)	2,374.00 (36.90%)		
Unknown	33	33	0		
Type of insurance coverage				<0.001	<0.001
0: ARL	355.00 (2.76%)	101.00 (1.57%)	254.00 (3.95%)		
1: Contributory	1,022.00 (7.94%)	298.00 (4.63%)	724.00 (11.25%)		
2: Subsidized	32.00 (0.25%)	11.00 (0.17%)	21.00 (0.33%)		
3: Prepaid	10,855.00 (84.36%)	5,659.00 (87.95%)	5,196.00 (80.76%)		
4: Private	496.00 (3.85%)	321.00 (4.99%)	175.00 (2.72%)		
5: International Private	8.00 (0.06%)	4.00 (0.06%)	4.00 (0.06%)		
6: Other	4.00 (0.03%)	4.00 (0.06%)	0.00 (0.00%)		
7: Other Institutional	94.00 (0.73%)	35.00 (0.54%)	59.00 (0.92%)		
8: Prepaid International	2.00 (0.02%)	1.00 (0.02%)	1.00 (0.02%)		
Number of diseases				<0.001	<0.001
Mean (SD)	1.39 (1.12)	1.23 (1.11)	1.56 (1.11)		
Median (IQR)	1.00 (1.00, 2.00)	1.00 (1.00, 2.00)	1.00 (1.00, 2.00)		
Recent hospitalizations				0.3	0.3
Mean (SD)	0.04 (0.22)	0.04 (0.24)	0.04 (0.19)		
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)		
Number of medications				<0.001	<0.001
Mean (SD)	0.50 (1.19)	0.32 (0.93)	0.68 (1.38)		
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 1.00)		
Hour of appointment				<0.001	<0.001
6:00 to 8:00	8.00 (0.12%)	3.00 (0.10%)	5.00 (0.15%)		
8:00 to 10:00	1,466.00 (22.86%)	720.00 (22.86%)	746.00 (22.86%)		
10:00 to 12:00	1,636.00 (25.51%)	749.00 (23.79%)	887.00 (27.18%)		
12:00 to 14:00	463.00 (7.22%)	181.00 (5.75%)	282.00 (8.64%)		
14:00 to 16:00	1,580.00 (24.64%)	824.00 (26.17%)	756.00 (23.17%)		
16:00 to 18:00	1,259.00 (19.64%)	672.00 (21.34%)	587.00 (17.99%)		
Day of the appointment				<0.001	<0.001
Sunday	2,363.00 (18.55%)	1,224.00 (19.41%)	1,139.00 (17.70%)		
Monday	2,096.00 (16.45%)	1,246.00 (19.76%)	850.00 (13.21%)		
Tuesday	1,904.00 (14.95%)	1,129.00 (17.91%)	775.00 (12.05%)		
Wednesday	2,047.00 (16.07%)	1,148.00 (18.21%)	899.00 (13.97%)		
Thursday	1,622.00 (12.73%)	841.00 (13.34%)	781.00 (12.14%)		
Friday	1,206.00 (9.47%)	348.00 (5.52%)	858.00 (13.34%)		
Saturday	1,501.00 (11.78%)	369.00 (5.85%)	1,132.00 (17.59%)		
Month of the appointment				<0.001	<0.001
January	800.00 (6.23%)	360.00 (5.63%)	440.00 (6.84%)		
February	801.00 (6.24%)	401.00 (6.27%)	400.00 (6.22%)		
March	985.00 (7.68%)	488.00 (7.63%)	497.00 (7.72%)		
April	1,037.00 (8.08%)	591.00 (9.24%)	446.00 (6.93%)		
May	1,189.00 (9.27%)	574.00 (8.97%)	615.00 (9.56%)		
June	1,295.00 (10.09%)	590.00 (9.22%)	705.00 (10.96%)		
July	1,444.00 (11.25%)	553.00 (8.64%)	891.00 (13.85%)		
August	2,014.00 (15.70%)	838.00 (13.10%)	1,176.00 (18.28%)		
September	2,091.00 (16.30%)	827.00 (12.93%)	1,264.00 (19.65%)		
October	378.00 (2.95%)	378.00 (5.91%)	0.00 (0.00%)		
November	407.00 (3.17%)	407.00 (6.36%)	0.00 (0.00%)		
December	391.00 (3.05%)	391.00 (6.11%)	0.00 (0.00%)		
Interval creation to assignment				0.088	0.10
Mean (SD)	25.63 (25.88)	25.59 (25.35)	25.68 (26.40)		
Median (IQR)	20.00 (8.00, 35.00)	20.00 (8.00, 34.00)	19.00 (7.00, 35.00)		
Number of previous attendances				<0.001	<0.001
Mean (SD)	2.68 (2.33)	2.69 (2.50)	2.68 (2.16)		
Median (IQR)	2.00 (1.00, 4.00)	2.00 (1.00, 4.00)	2.00 (1.00, 4.00)		
Number of previous absences				<0.001	<0.001
Mean (SD)	2.27 (3.58)	2.99 (3.96)	1.54 (2.99)		
Median (IQR)	1.00 (0.00, 3.00)	2.00 (1.00, 4.00)	1.00 (0.00, 2.00)		

Table 1. Patient characteristics with ADASYN balancing

Characteristic	Overall, N = 19,515 ¹	Absences, N = 9,818 ¹	Attendances, N = 9,697 ¹	p-value ²	q-value ³
Age					
Mean (SD)	49.80 (17.07)	48.32 (17.00)	51.31 (17.01)	<0.001	<0.001
Median (IQR)	49.00 (37.00, 61.00)	47.00 (35.00, 60.00)	52.00 (38.00, 63.00)		
Sex					
Female	13,061.00 (67.03%)	7,013.00 (71.65%)	6,048.00 (62.37%)	<0.001	<0.001
Male	6,424.00 (32.97%)	2,775.00 (28.35%)	3,649.00 (37.63%)		
Unknown	30	30	0		
Type of insurance coverage					
0: ARL	538.00 (2.76%)	141.00 (1.44%)	397.00 (4.09%)	<0.001	<0.001
1: Contributory	1,587.00 (8.13%)	473.00 (4.82%)	1,114.00 (11.49%)		
2: Subsidized	240.00 (1.23%)	216.00 (2.20%)	24.00 (0.25%)		
3: Prepaid	16,407.00 (84.07%)	8,628.00 (87.88%)	7,779.00 (80.22%)		
4: Private	591.00 (3.03%)	315.00 (3.21%)	276.00 (2.85%)		
5: International Private	18.00 (0.09%)	10.00 (0.10%)	8.00 (0.08%)		
6: Other	7.00 (0.04%)	4.00 (0.04%)	3.00 (0.03%)		
7: Other Institutional	122.00 (0.63%)	30.00 (0.31%)	92.00 (0.95%)		
8: Prepaid International	5.00 (0.03%)	1.00 (0.01%)	4.00 (0.04%)		
Number of diseases					
Mean (SD)	1.30 (1.07)	1.07 (1.00)	1.54 (1.09)	<0.001	<0.001
Median (IQR)	1.00 (1.00, 2.00)	1.00 (0.00, 1.00)	1.00 (1.00, 2.00)		
Recent hospitalizations					
Mean (SD)	0.03 (0.19)	0.03 (0.20)	0.04 (0.19)	<0.001	<0.001
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)		
Number of medications					
Mean (SD)	0.45 (1.13)	0.24 (0.80)	0.66 (1.36)	<0.001	<0.001
Median (IQR)	0.00 (0.00, 0.00)	0.00 (0.00, 0.00)	0.00 (0.00, 1.00)		
Hour of appointment					
				<0.001	<0.001
6:00 to 8:00	11.00 (0.11%)	5.00 (0.10%)	6.00 (0.12%)		
8:00 to 10:00	2,258.00 (23.30%)	1,194.00 (24.89%)	1,064.00 (21.75%)		
10:00 to 12:00	2,549.00 (26.31%)	1,187.00 (24.74%)	1,362.00 (27.84%)		
12:00 to 14:00	877.00 (9.05%)	461.00 (9.61%)	416.00 (8.50%)		
14:00 to 16:00	2,391.00 (24.68%)	1,236.00 (25.77%)	1,155.00 (23.61%)		
16:00 to 18:00	1,603.00 (16.54%)	714.00 (14.88%)	889.00 (18.17%)		
Day of the appointment					
				<0.001	<0.001
Sunday	3,561.00 (18.37%)	1,933.00 (19.94%)	1,628.00 (16.79%)		
Monday	3,336.00 (17.20%)	2,048.00 (21.13%)	1,288.00 (13.28%)		
Tuesday	3,050.00 (15.73%)	1,830.00 (18.88%)	1,220.00 (12.58%)		
Wednesday	3,060.00 (15.78%)	1,739.00 (17.94%)	1,321.00 (13.62%)		
Thursday	2,378.00 (12.26%)	1,170.00 (12.07%)	1,208.00 (12.46%)		
Friday	1,888.00 (9.74%)	539.00 (5.56%)	1,349.00 (13.91%)		
Saturday	2,117.00 (10.92%)	434.00 (4.48%)	1,683.00 (17.36%)		
Month of the appointment					
				<0.001	<0.001
January	1,297.00 (6.66%)	594.00 (6.08%)	703.00 (7.25%)		
February	1,275.00 (6.55%)	686.00 (7.02%)	589.00 (6.07%)		
March	1,527.00 (7.84%)	780.00 (7.98%)	747.00 (7.70%)		
April	1,647.00 (8.46%)	981.00 (10.04%)	666.00 (6.87%)		
May	1,844.00 (9.47%)	915.00 (9.37%)	929.00 (9.58%)		
June	2,079.00 (10.68%)	981.00 (10.04%)	1,098.00 (11.32%)		
July	2,297.00 (11.80%)	971.00 (9.94%)	1,326.00 (13.67%)		
August	3,143.00 (16.15%)	1,361.00 (13.93%)	1,782.00 (18.38%)		
September	2,985.00 (15.33%)	1,128.00 (11.55%)	1,857.00 (19.15%)		
October	533.00 (2.74%)	533.00 (5.46%)	0.00 (0.00%)		
November	499.00 (2.56%)	499.00 (5.11%)	0.00 (0.00%)		
December	341.00 (1.75%)	341.00 (3.49%)	0.00 (0.00%)		
Interval creation to assignment					
Mean (SD)	25.64 (28.69)	25.81 (26.05)	25.47 (31.14)	0.002	0.002
Median (IQR)	19.00 (7.00, 35.00)	20.00 (8.00, 34.00)	19.00 (7.00, 35.00)		
Number of previous attendances					
Mean (SD)	2.55 (2.22)	2.44 (2.33)	2.67 (2.11)	<0.001	<0.001
Median (IQR)	2.00 (1.00, 3.00)	2.00 (1.00, 3.00)	2.00 (1.00, 4.00)		
Number of previous absences					
Mean (SD)	2.09 (3.39)	2.61 (3.60)	1.56 (3.08)	<0.001	<0.001
Median (IQR)	1.00 (0.00, 3.00)	1.00 (1.00, 3.00)	1.00 (0.00, 2.00)		