

The clinical and economic epidemiology of breast cancer in Brazil from 2016 to 2022: A Real-World Evidence Study of 295,000 outpatients in Public System.

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EPH218

Introduction

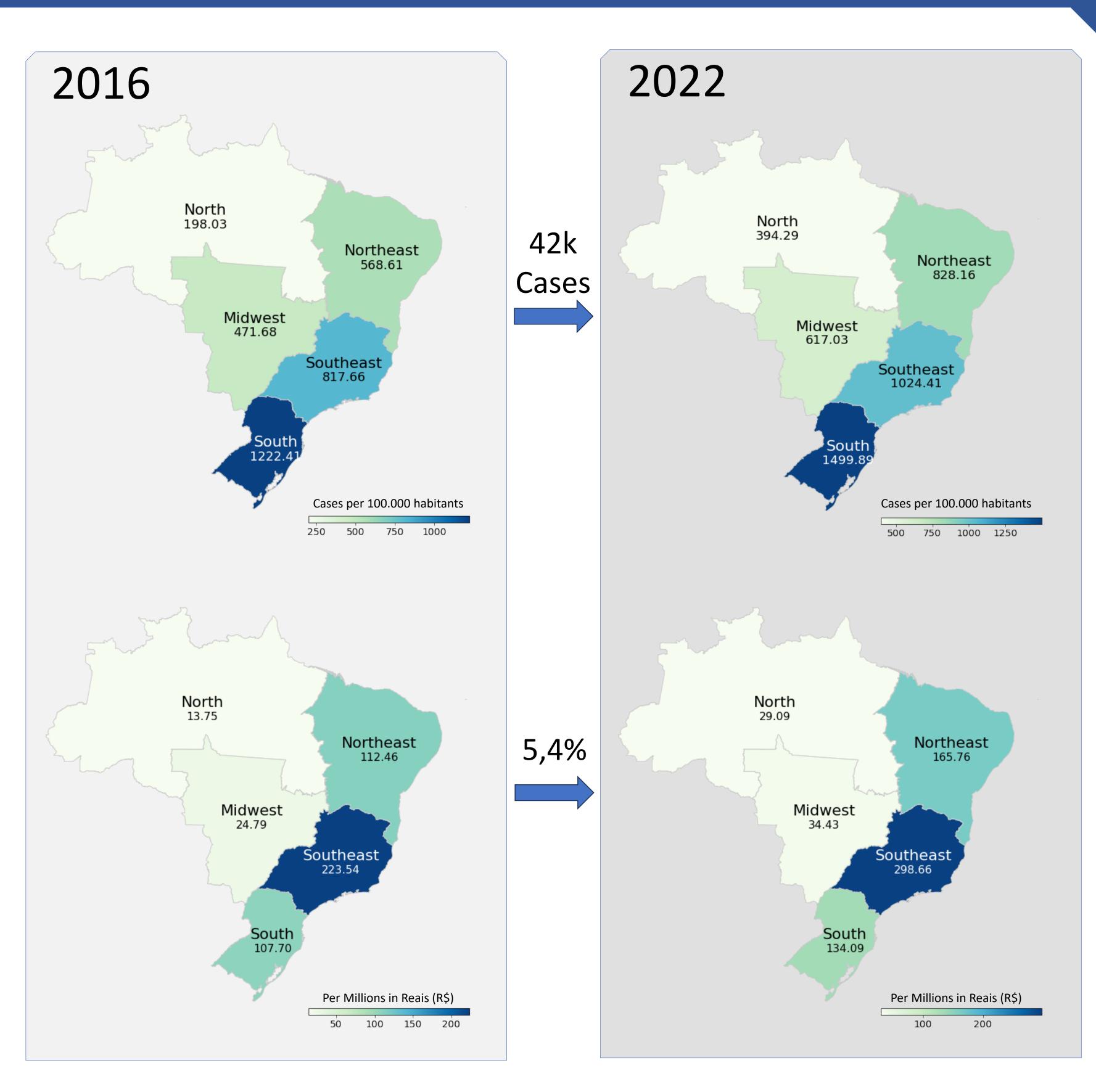
Malignant breast cancer is the most incident cancer in Brazilian women. This study aims to investigate the epidemiological aspects and costs of breast cancer in Brazilian national public health (SUS), exploring the disease staging, demographics of the affected population and treatment characteristics.

Methods

We collected data of outpatient events from the public secondary data system DATASUS (SIASUS-AQ), from 2016 to 2022. The population collected is diagnosed with breast cancer selected by ICD-10 C50. We then evaluated Costs distribution, Usage, Menopausal Status (positive: age ≥ 55, negative: age ≤ 54), Year of First Treatment, Treatment Type for outpatients with early (stages 0/1/2) and advanced (stages 3/4) disease.

Results			
		Stage groups	
	Initial	Advanced	General
Variables	(0, 1, 2)	(3, 4)	(0, 1, 2, 3, 4)
	148,271	146,962	295,233
	(50.22%)	(49.78%)	,
Race	70.045./40.050/\	60 500 (40 040()	407 400
White	73,915 (49.85%)	63,508 (43.21%)	137,423
Black	6,587 (4.44%)	8,342 (5.68%)	14,929
Brown	42,744 (28.83%)	50,179 (34.14%)	92,923
Yellow	3,363 (2.27%)	3,423 (2.33%)	6,786
Indigenous	14 (0.01%)	25 (0.02%)	39
No Information	21,648 (14.6%)	21,485 (14.62%)	43,133
Geografic Regions			
North	5,558 (3.75%)	7,507 (5.11%)	13,065
Northeast	32,997 (22.25%)	35,509 (24.16%)	68,506
Southeast	68,512 (46.21%)	64,911 (44.17%)	133,423
South	33,292 (22.45%)	28,227 (19.21%)	61,519
Midwest	7,912 (5.34%)	10,808 (7.35%)	18,720
Menopausal status			
Post menopause	87,760 (59.19%)	75,839 (51.6%)	163,599
Pre menopause	60,511 (40.81%)	71,123 (48.4%)	131,634
Year of first treatment			
2016	21,931 (14.79%)	19,829 (13.49%)	41,760
2017	22,272 (15.02%)	19,792 (13.47%)	42,064
2018	22,001 (14.84%)	20,507 (13.95%)	42,508
2019	22,664 (15.29%)	21,491 (14.62%)	44,155
2020	20,421 (13.77%)	20,328 (13.83%)	40,749
2021	19,057 (12.85%)	21,844 (14.86%)	40,901
2022	19,925 (13.44%)	23,171 (15.77%)	43,096
# of Treatments reimbursed	,		•
Chemeotherapy	80,331 (54.18%)	38,378 (26.11%)	118,709
Hormonetherapy	67,940 (45.82%)	108,584 (73.89%)	176,524

Variable				O	bserved	
	-	reatment	t Class		_ 1	
Hormone			R\$ 103.00			
Chemo	Chemotherapy			R\$ 1,185.00		
Median	Follow-	up time				
General			2.18 years			
Advanced Initial			1.51 years			
			2.23 years			
Mean Cost of Treatment Journey Total reinbursement cost			R\$ 9,953.00			
<u>lotal re</u>	inburser	nent cost			R\$ 4,05	<u>Bı</u>
ent Dia	gnosis Ra	ates				
-•- Incidence					204,386	210,65
Prevalenc	е	181,784	192,193	197,627	20 1,500	
162,875	172,681					
0						
0						
0						
0						
0 41,760	42,064	42,508	44,155	40,749	40,901	43,096
2016	2017	2018	2019	2020	2021	2022
	Costs Co	mpiled			655,156,518	
		mpiled		609,699,691		662,029,0
GeneralInitial Stage	e	ompiled 548,561,493	577,642,691			
GeneralInitial Stage		•	577,642,691		655,156,518	662,029,0
GeneralInitial StageAdvanced Stage	e	•				
 General Initial Stage Advanced Stage 	e	•	387,291,819	609,699,691	655,156,518	662,029,0
GeneralInitial StageAdvanced Stage	e 514,925,852	548,561,493		609,699,691	655,156,518	662,029,0
 General Initial Stage Advanced Stage 	e 514,925,852 333,016,668	548,561,493		609,699,691	655,156,518	662,029,0
 General Initial Stage Advanced Stage 	e 514,925,852	548,561,493	387,291,819	609,699,691	655,156,518 452,763,864	662,029,0 467,566,8



Conclusion

The data presents trends regarding outpatients treated in SUS. Regarding stage distribution, and treatment costs, we described high prevalence and expenditure in advanced disease than initial disease, which highlights the need for strategies that accelerate early diagnosis. Considering Brazil as a country of continental proportions, this cross-sectional study presents valuable information, describing economic and demographic characteristics from this population. Future works will address more treatment features, access to treatment and economic impact.