

REAL LIFE TREATMENT COST OF RHEUMATOID ARTHRITIS, PSORIASIS, CROHN'S DISEASE AND ULCERATIVE COLITIS IN THE BRAZILIAN PRIVATE HEALTH CARE SYSTEM

OBJECTIVE:

To estimate the treatment costs of rheumatoid arthritis, psoriasis, Crohn's disease and ulcerative colitis in the Brazilian private healthcare system.

METHODS:

Treatment costs were gathered from a claims database with over 4 million beneficiaries for rheumatoid arthritis (AR), psoriasis (Pso), Crohn's disease (CD) and ulcerative colitis (UC). Patients were identified according to CID10 codes and observed between June 2009 and August 2011. Treatment costs included hospitalization, drug, procedures, exams, equipment and other costs. RESULTS: In total 269 patients received treatment for AR, Pso, CD and UC in the Brazilian healthcare system, with an expenditure of about R\$ 13 million. Over 78% of expenditure was due to drug spending, followed by hospitalization (8%), and materials (6%). Over R\$ 8.2 million (63%) were spent with 116 CD and UC patients, resulting in an average cost of R\$ 70.939,84 per patient. For 144 AR patients, expenditure totaled R\$ 4.4 million (34% of the total spending) with an average cost per patient of R\$ 30.834,06. Nine patients were identified with psoriasis, with a total spending of R\$ 334.756 (2,57%), an average of R\$ 37.195,11 per patient. On average, AR patients were hospitalized for 17 days with a total cost of R\$ 181.422, followed by CD and UC patients hospitalized for 15 days on average with a total cost of R\$ 965.507. Psoriasis patients were hospitalized on average for 4 days, with R\$ 15.953 spend on average.

CONCLUSIONS:

Drug spending is the main driver behind healthcare spending in AR, Pso, Cd and UC in the Brazilian private healthcare system. Despite the lowest hospital stay, on average psoriasis patients spend more than RA patients in the hospital. Psoriasis represents the lowest share of total costs due to a low number of patients observed with this disease, indicating these patients might not have access to treatment.

INTRODUCTION

The Brazilian Private Healthcare System (SS) is supplementary to the public healthcare system in Brazil, covering over 47 million people, about 25% of the Brazilian population.¹ Minimum coverage by health plans is defined by a national regulatory body (ANS) within the ministry of health.

Up to January 2012, coverage of the SS was limited to inpatient care, with a focus on oncology procedures. As a result, coverage of treatment for diseases such as rheumatoid arthritis (RA), psoriasis (Pso), crohn's disease (CD) and ulcerative colitis (UC) was limited drugs administered in inpatient settings.

There are a wide variety of treatment options for these illnesses that include oral immunosuppressants, non-steroidal anti-inflammatory drugs and biologics. All are well established in the treatment guidelines as defined by the European League of Associations for Rheumatology (EULAR) or the American College of Rheumatology (ACR).^{2,3}

The aim of this study was to determine the treatment costs of RA, Pso, CD and UC in the SS in Brazil.

METHODS

Treatment costs were gathered from a claims database with over 4 million beneficiaries for RA, Pso, CD and UC. Patients were identified according to ICD10 codes and observed between June 2009 and August 2011.

Table 1. ICD codes considered in the study grouped according to CD, UC, Pso, RA

CID	Description CID
K50	Crohn's disease
K50.0	Crohn's disease of small intestine
K50.9	Crohn's disease, unspecified
K50.1	Crohn's disease of large intestine
K50.8	Other Crohn's disease
K51.3	Ulcerative (chronic) rectosigmoiditis
K51	Ulcerative colitis
K51.8	Other ulcerative colitis
K51.9	Ulcerative colitis, unspecified
K51.0	Ulcerative (chronic) pancolitis
L40	Psoriasis
L40.9	Psoriasis, unspecified
L40.5	Arthropathic psoriasis
L40.0	Psoriasis vulgaris
M06.9	Rheumatoid arthritis, unspecified
M45	Ankylosing spondylitis
M00.9	Pyogenic arthritis, unspecified
M05	Seropositive rheumatoid arthritis
M05.0	Felty's syndrome
M05.3	Rheumatoid arthritis with involvement of other organs and systems
M05.8	Other seropositive rheumatoid arthritis
M05.9	Seropositive rheumatoid arthritis, unspecified
M06	Other rheumatoid arthritis
M06.0	Seronegative rheumatoid arthritis
M06.8	Other specified rheumatoid arthritis
M07	Psoriatic and enteropathic arthropathies
M07.3	Other psoriatic arthropathies
M08.4	Pauciarticular juvenile arthritis
M13.8	Other specified arthritis
M13.9	Arthritis, unspecified

Treatment costs included hospitalization, drug, procedures, exams, equipment and other costs. The time to hospitalization, length of stay and time between hospitalization was also measured according to ICD codes.

RESULTS

In total 269 patients received treatment for AR, Pso, CD and UC in the Brazilian private healthcare system, with an expenditure of about R\$ 13 million. Over 78% of expenditure was due to drug spending, followed by hospitalization (8%), and materials (6%).

Table 1. Total treatment cost according to expenditure

Cost	Total [R\$]	%
Medicines	10.198.952,91	78,43%
Hospitalization costs	1.162.883,61	8,94%
Materials	780.928,40	6,01%
Exams	425.562,59	3,27%
Medical procedures	245.316,44	1,89%
Food	189.878,67	1,46%
Other	359,88	0,00%
Total	13.003.882,50	100,00%

Figure 1. Distribution of total treatment costs according to category.

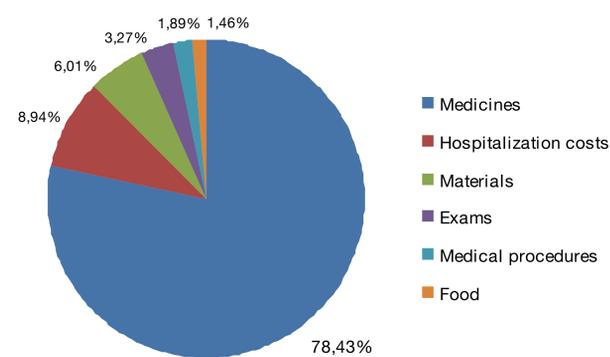


Table 2. Total costs per disease group.

	Total [R\$]	%	N. of patients	Average treatment cost [R\$]
Crohn's Disease (Gastro)	8.229.021,57	63,28%	144	57.145,98
Rheumatoid Arthritis	4.440.104,93	34,14%	116	38.276,77
Psoriasis (Dermatology)	334.756,00	2,57%	9	37.195,11
Total	13.003.882,50	100,00%	269	48.341,57

On average, AR patients were hospitalized for 17 days with a total cost of R\$ 181.422, followed by CD and UC patients hospitalized for 15 days on average with a total cost of R\$ 965.507. Psoriasis patients were hospitalized on average for 4 days, with R\$ 15.953 spent.

On average, a hospital stay for a RA patient cost R\$ 89, followed by a psoriasis related hospital stay at R\$ 409 per day and Crohn's disease related stay at R\$ 441 per day.

Table 4. Average hospital stay and associated costs

	N. of patients	Total hospital stay (days)	Average length of stay (days)	Total hospitalization cost [R\$]	Average hospitalization cost [R\$]
Rheumatoid Arthritis	116	2.021	17,42	181.422	89,77
Crohn's Disease - (Gastro)	144	2.185	15,17	965.507	441,88
Psoriasis (Dermatology)	9	39	4,33	15.953	409,05
Total	269	4.245	15,78	1.162.883,61	273,94

Within the expenditure with medicines for each disease, biologic treatments represented about 99% of medicine costs for RA, 96% of costs within Pso and 88% of costs within DC and UC.

CONCLUSIONS

Drug spending is the main driver behind healthcare spending in AR, Pso, Cd and UC in the Brazilian private healthcare system, with biologic drugs accounting between 88 and 99% of these costs. New biologic drugs with lower treatment costs, therefore, will have the potential to lower the costs of treatment for these diseases. Despite the lowest hospital stay, on average psoriasis patients spend more than RA patients in the hospital. Psoriasis represents the lowest share of total costs due to a low number of patients observed with this disease, indicating these patients might not have access to treatment.

1. ANS. www.ans.gov.br.Dez 2011. 2. Josef S Smolen, Robert Landewé, Ferdinand C Breedveld, et al. EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs Ann Rheum Dis published online May 5, 2010. 3. Jasvinder A. Singh et al. 2012 Update of the 2008 American College of Rheumatology Recommendations for the Use of Disease-Modifying Antirheumatic Drugs and Biologic Agents in the Treatment of Rheumatoid Arthritis. Vol. 64, No. 5, May 2012, pp 625-639.