

# THE COST OF A SCHIZOPHRENIA RELAPSE IN THE BRAZILIAN PRIVATE HEALTH CARE SYSTEM

## OBJECTIVES:

Estimate the cost of a psychiatric relapse in the Brazilian private healthcare system.

## METHODS:

Using a claims database, 842 patients were classified according to one of the following diagnoses: organic delusional disorder (schizophrenia-like), schizophrenia, schizotypal disorder, persistent delusional disorder or schizoaffective disorder. During 26 months, from August/2009 to September/2011, all patients that first used the private healthcare system were analyzed and followed. All costs associated with the treatment of schizophrenia were considered across seven major categories: hospitalization, medications, procedures, materials, exams, alimentation and hygiene care.

## RESULTS:

Out of the 842 patients that used the private healthcare system in a period of 26 months, 388 returned to the hospital ("return patients", 46%) and accounted for 85% (R\$ 8,800,518.79) of the costs during the period of the analysis. The majority of the "return patients", 57% (n=221), were re-hospitalized between 2 and 4 times, and 9% (n=35) returned 20 times or more during the period studied. "Return patients" presented an average total cost of R\$ 22,681.75/patient in 26 months, a cost per patient more than six times higher when compared with those that did not return (R\$ 3,511.72/patient/26 months). Most costs were accountable to hospitalization (75%), followed by medication (14%). The most frequently used medications by the 842 patients, in units, in decreasing order were: levomepromazine, haloperidol and clonazepam.

## CONCLUSIONS:

Although patients with hospitalizations represented 46% of the sample, they accounted for 85% of the costs occurred in the two year period. As a result, avoiding hospitalization in psychiatric relapse could be an effective cost-saving investment. Furthermore, the claims database does not consider all outpatient costs incurred by the sample, so these results might be underestimated.

## INTRODUCTION

Schizophrenia is a chronic mental disorder that affects around 1% of the world population<sup>1</sup>. The illness is among the eight causes of incapacity in individual between 20 and 45 years<sup>2</sup>. Its main signs are a combination of positive, such as hallucinations and delusions, and negative symptoms, such as lack of emotion and poor social functioning.

In developed countries, schizophrenia accounts for approximately 1.6% to 2.6% of the total health care budget, being that 75% of this amount is to cover hospitalizations (WHO). Non-adherence to treatment is a major cause for relapse and re-hospitalization<sup>3</sup>. Similar to other chronic diseases, one of the main goals is to relieve the schizophrenia patient's symptoms and to avoid relapses. One of the disease's challenges is to guarantee the patient's adherence to the medication, as stated in the clinical trial CATIE (Clinical Trial of Intervention Effectiveness Study)<sup>4</sup>. The same reality applies to Brazil; in a local study 50% of the patients discontinued the treatment after one year.<sup>5</sup>

Therefore the objective of this study is to estimate the cost of a psychiatric relapse in the Brazilian private healthcare system.

## METHODOLOGY

The patients were classified among one of the following diagnoses (ICD): organic delusional disorder (schizophrenia-like), schizophrenia, schizotypal disorder, persistent delusional disorder or schizoaffective disorder. The cohort was defined by patients that used the private health care system for the first time during the period between August/2009 and September/2011 (26 months). The costs related to Schizophrenia were divided in seven major categories (hospitalization, medication, procedures, materials, exams, alimentation and hygiene & care) and further analyzed.

## RESULTS

From August/2009 to September/2011 the patients that used for the first time the private health care provider for the first time were analyzed and followed. The 842 patients presented a total cost of R\$ 10 million in 26 months. Hospital Costs had the greatest representation, 75%. The second highest cost was medications, accounting for 14% of the total costs. (Table 1)

**Table 1.** Total costs [R\$] per type of cost in the population of 842 patients analyzed.

Type of Costs	Total [R\$]	%
Hospital Costs	7,842,516.09	75.5%
Medications	1,472,041.94	14.2%
Procedures	734,381.56	7.1%
Material	296,043.91	2.9%
Exams	31,579.61	0.3%
Food	17,796.20	0.2%
Higiyene/Toiletries	478.61	0.0%
<b>Total</b>	<b>10,394,837.92</b>	<b>100.0%</b>

After the patients' first register in the system, they were divided in two groups: "return patients" and "no return patients". 46% of the patients returned in 26 months, with 45 (5%) returning more than 16 times.

**Table 2.** Percentage of patients with return and without return.

Returns	N° patients	(%)
Without return	454	53,9%
With 1-5 returns	267	31,7%
With 6-10 returns	47	5,6%
With 11-15 returns	29	3,4%
With more than 16 returns	45	5,3%
<b>TOTAL</b>	<b>842</b>	<b>100,0%</b>

"Return patients" (46%) were responsible for R\$ 9 millions of cost, representing 85% of the 842 patients' total cost. (Table 3)

**Table 3.** Costs' breakdown: Total cost & "Return patients" cost.

Type	Total Costs[R\$]	*Total costs per "return patient" [R\$]	% Costs per "return patient"
Hospital Costs	7,842,516	6,707,646	85.5%
Medications	1,472,042	1,249,693	84.9%
Procedures	734,382	628,121	85.5%
Material	296,044	176,671	59.7%
Exams	31,580	21,590	68.4%
Food	17,796	16,593	93.2%
Higiyene/Toiletries	479	204	42.7%
<b>Total</b>	<b>10,394,837</b>	<b>8,800,518</b>	<b>84.7%</b>

The costs associated with return patients resulted in an average of R\$ 22,618.75 / patient in 26 months, while the ones with no return presented an average of R\$ 3,511.72. The whole group spend R\$ 12,345.41 / patient in 26 months. (Table 4)

**Table 4.** Average cost / patient in 26 months.

Description	Total patients	Costs[R\$]	Average costs per patient [R\$]
No return patients	454	1,594,319.13	3,511.72
Return patients	388	8,800,518.79	22,681.75
<b>Total</b>	<b>842</b>	<b>10,394,837.92</b>	<b>12,345.41</b>

## CONCLUSION

The cohort of 842 Schizophrenic patients presented a cost of R\$ 10 million in 26 months. The main costs drivers were hospitalization (75%), medications (14%) and procedures (7%). The population was divided in 2 groups, patients with hospitalization returns (46%) and patients without hospitalization returns (54%). The "return patients", 388 patients, represented 85% (R\$9 million) of the total costs (R\$10 million). The average cost per patient also demonstrated a large burden related with hospitalization returns, "return patients" (R\$ 22,681.75) had a 6 fold higher cost than had "no return patients" (R\$ 3,511.72).

Due to the great burden schizophrenic patients' costs is associated with hospitalizations, it is important to understand the reasons associated with these costs and to adopt preventive actions. Some new long-acting injectable medications to treat schizophrenia can be beneficial for patients with adherence problems, and thus avoid relapse. Besides the benefits to the patients, it may also be a cost-saving alternative depending on the lengths of hospital stay and associated costs.

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