Healthcare Costs by Level of Adherence for Infliximab Patients With Crohn's Disease

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Background

- Ulcerative colitis and Crohn's disease (CD) are the most common gastrointestinal disorders under the broad category of inflammatory bowel disease (IBD)
- On a worldwide basis, the incidence of CD is estimated at 0.1–16 per 100,000 inhabitants[1]

Objective

- To describe healthcare costs among CD patients receiving infliximab (IFX) by different adherence thresholds

Methods

- The Humana claims database was utilized to identify Commercial and Medicare fully insured patients aged 18–89 with CD newly initiating IFX treatment between 7/1/2007 and 7/31/2011
- Index date was the date of first IFX claim; 6 months pre- and 12 months post-index were required
- Patients were continuously enrolled for a minimum of 6 months prior to and 12 months following the index date
- Medication Possession Ratio (MPR) was calculated as total days on IFX therapy based on infusion dates and assumed duration of action/360 days; at least two infusions were required
- MPR thresholds of ≥80% and ≥60% were used to classify adherent patients
- Healthcare utilization (e.g., office visit) was classified as CD-related if it had a primary International Clinical Diagnosis (ICD)-9 code for CD
- All-cause and CD-related costs per patient per month by place of service were calculated, adjusted to 2011 dollars

Results

- A total of 173 patients were identified, 156 (90.2%) of which had at least 2 infusions
- Mean age was 47.9 years, 59.5% were female, and 53.8% had Commercial coverage (Table 1)

Table 1. Patient Characteristics

Characteristic	Crohn's Disease IFX n (%)
Cohort	173
Age	
18-35	42 (24.3%)
36-50	57 (32.9%)
51-64	37 (21.4%)
≥65	37 (21.4%)
Mean (SD)	47.9 (±17.0)
Gender	
Male	70 (40.5%)
Female	103 (59.5%)
Insurance coverage	
Commercial	93 (53.8%)
MAPD	80 (46.2%)
Low-income subsidy	17 (9.8%)
Dual-eligible	12 (6.9%)

- Across the MPR thresholds, adherent patients had significantly higher all-cause physician office visit costs, and lower other outpatient visit, emergency department and hospitalization costs than non-adherent patients (Table 2)

Table 2. Rates of Adherence by Adherence Threshold

Adherence ≥80% N=156		Adherence ≥60% N=156	
Adherent	Non-Adherent	Adherent	Non-Adherent
n=58 (37%)	n=98 (63%)	n=96 (62%)	n=60 (38%)

- CD-related costs showed similar trends for physician office visit, other outpatient visit and hospitalization costs
- IBD-drug related costs were significantly higher in the adherent group; all-cause pharmacy costs were similar between those adherent and non-adherent (Table 3)

Table 3. All Cause and CD-related Costs

	Adherence ≥80%		
Measure	Adherent n=58	Non-Adherent n=98	p-value
All-cause costs per patient per month (mean, sd)			
Physician office visit	$1383.0 (±1368.8)	$461.1 (±571.7)	<.0001***
Other outpatient visit	$972.6 (±1416.3)	$1273.2 (±1371.4)	0.0040***
ED visit	$24.7 (±108.6)	$52.5 (±126.2)	0.0006***
Hospitalization	$189.0 (±653.5)	$638.8 (±1164.1)	0.0002***
Pharmacy	$666.8 (±982.1)	$659.3 (±998.6)	0.7097***
Total healthcare costs	**$3236.0 (±1717.0)**	**$3084.8 (±1859.4)**	**0.2564*** **
CD-related costs per patient per month (mean, sd)			
Physician office visit	$1228.8 (±1274.5)	$351.9 (±532.5)	<.0001***
Physician office visit – J Coded	$1192.0 (±1287.7)	$322.8 (±534.5)	<.0001***
Physician office visit – Not J Coded	$599.8 (±1062.5)	$949.8 (±1334.6)	0.0061***
Other outpatient visit	$693.5 (±1171.6)	$1035.3 (±1354.8)	0.0053***
ED visit	$14.8 (±106.3)	$11.3 (±57.0)	0.2893***
Hospitalization	$136.2 (±599.7)	$244.3 (±669.2)	0.0032***
IBD-drug costs	$2251.1 (±1095.9)	$1578.9 (±1188.3)	<.0001***
Total healthcare costs[2]	**$2532.5 (±1439.8)**	**$1949.3 (±1395.1)**	**0.0002*** **

- Total CD-related costs were higher among adherent patients **(80% MPR**, $2532.5 (±1439.8) vs. $1949.3 (±1395.1), p<0.01), while total all-cause costs were similar between groups (**80% MPR**, $3236. (±1717.0) vs. $3084.8 (±1859.4), p=0.2564) (Figure 2 & 3)

Figure 2. CD-Related per Member per Month Costs Among Adherent and Non-Adherent Patients

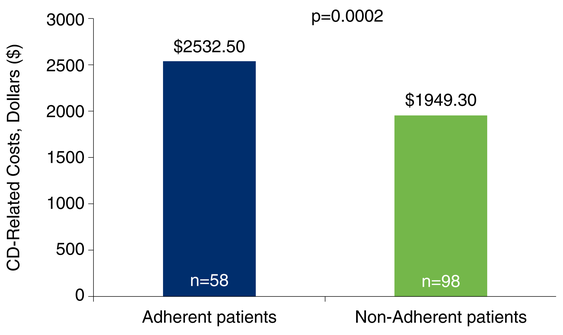
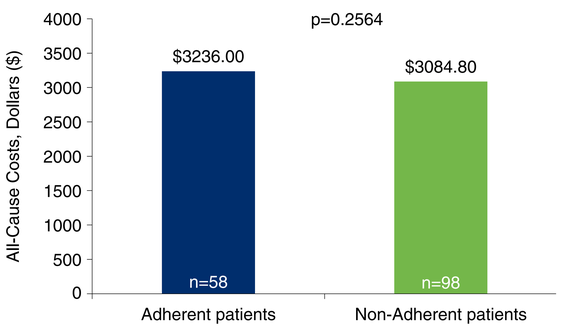


Figure 3. Total All-Cause per Member per Month Costs Among Adherent and Non-Adherent Patients



Conclusions

- Adherent patients have higher physician office visit and CD-drug related costs
- Hospitalization cost was significantly lower in adherent patients
- Therefore, resulting in similar total all-cause costs for both adherent and non-adherent patients
- Further research should quantify the clinical value of greater adherence against this backdrop of cost neutrality. Although adherent patients have higher physician office visit and IBD-drug related costs, hospitalization cost was significantly higher for non-adherent patients resulting in similar total all-cause costs for both the adherent and non-adherent groups.

Reference

1. Lakatos, P.L., Recent trends in the epidemiology of inflammatory bowel diseases: up or down? *World J Gastroenterol* 2006;12(38):6102-8.

Disclosure: J. Lofland, M. Ingham and L. Denny are employees of Janssen Scientific Affairs, LLC and stockholders of Johnson & Johnson. S.L. Michels, L. Ten Eyck and C. Uribe are employees of Comprehensive Health Insights, Inc. and helped with study analysis and interpretation with funding from Janssen.

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