

## ONLINE SUPPLEMENT

**Table S1: ATC codes for asthma drugs**

<b>Drug class</b>	<b>ATC</b>
Corticosteroids (CS) for systemic use	H02AB (glucocorticoids, e.g. methylprednisolone)
Inhaled CS (ICS)	R03BA (glucocorticoides, e.g. beclomethasone)
LAMA (long-acting muscarinic antagonist)	R03BB (anticholinergics, e.g.: tiotropium bromide)
LABA (long acting Beta agonists)	R03AC (e.g. salmeterol, formoterol)
LABA+ICS	R03AK
SAMA (short acting muscarinic antagonist)	R03BB01 (e.g. ipratropium) , R03AL0 (fenoterol +ipratropium)
SABA (short acting Beta agonists)	R03AC (e.g. salbutamol)
Leukotriene receptor antagonists	R03DC
Theophylline	R03DA04

**Table S2: Standardized mortality rate (SMR) in patients with uncontrolled severe asthma treated with omalizumab**

Age	Belgian population in 2014*						Individuals treated with omalizumab						Expected number of death**	
	Men			Females			Men			Females			Men	Females
	Death N	Number of individuals	Death/1,000 individuals	Death N	Number of individuals	Death/1,000 individuals	Death N	Number of individuals	Death/1,000 individuals	Death N	Number of individuals	Death/1,000 individuals	Death N	Death N
15-29	588	1,022,900	0.57	211	1,007,417	0.21	0	83	0.00	0	133	0.00	0	0
30-39	686	729,127	0.94	353	722,862	0.49	1	84	11.90	3	131	22.90	8,680	16,554
40-49	1,633	795,390	2.05	1,052	774,827	1.36	2	158	12.66	1	207	4.83	10,068	3,743
50-59	4,418	778,741	5.67	2,559	778,139	3.29	2	193	10.36	2	211	9.48	8,070	7,376
60-69	8,376	607,550	13.79	4,822	637,359	7.57	7	141	49.65	1	156	6.41	30,162	4,086
70-79	12,122	370,351	32.73	8,607	451,119	19.08	5	77	64.94	3	82	36.59	24,049	16,504
> 80	23,371	214,310	109.05	35,307	390,314	90.46	2	7	285.71	2	15	133.33	61,231	52,042
<b>Total</b>	51,194	4,518,369	11.33	52,911	4,762,037	11.11	19	743	25.57	12	950	12.63	142,260	100,305

\* Demographic data of Belgian population in 2014 (<https://spma.wiv-isp.be/SitePages/FrenchReports.aspx>, \*\* Expected number of death when mortality rates of the omalizumab population are applied to the Belgian population. The overall and gender specific SMR was calculated. The overall SMR was 2.33 (242,565/104,105), the SMR for men was 2.78 (142,260/51,194) and 1.90 in females (100,305/52,911).

**Table S3: Mean annual cost per patient in the one year prior and one year after omalizumab initiation, as well stratified in patients who fulfilled and did not fulfill eligibility criteria.**

	Omalizumab cost	Cost of other asthma drugs*	Cost related to hospitalisations	Total cost
<i>Patients eligible to third line asthma treatment N= 380</i>				
Year prior to omalizumab treatment (YB)	0€	1,057€	5,824€	10,664€
Year following omalizumab treatment (YA)	13,388€	936€	4,540€	23,132€
YB – YA		-121€	-1,284€	12,468€
<i>Patients <b>not</b> eligible to third line asthma treatment N=1,301</i>				
Year prior to omalizumab treatment (YB)		498€	2,813€	6,105€
Year following omalizumab treatment (YA)	11,580€	484€	2,678€	17,674€
YB – YA		-14€	-135€	11,569€
<i>All patients N=1,641</i>				
Year prior to omalizumab treatment (YB)	0€	625€	3,494€	7,136€
Year following omalizumab treatment (YA)	11,989€	586€	3,099€	18,908€
YB – YA		-38€	-395€	11,772€

YB= Year Before, YA= Year After, \* excluding cost related to use of omalizumab