



Modular Program Report

The following report(s) provides findings from an FDA-initiated query using its Mini-Sentinel pilot. While Mini-Sentinel queries may be undertaken to assess potential medical product safety risks, they may also be initiated for various other reasons. Some examples include determining a rate or count of an identified health outcome of interest, examining medical product use, exploring the feasibility of future, more detailed analyses within Mini-Sentinel, and seeking to better understand the capabilities of the Mini-Sentinel pilot.

Data obtained through Mini-Sentinel are intended to complement other types of evidence such as preclinical studies, clinical trials, postmarket studies, and adverse event reports, all of which are used by FDA to inform regulatory decisions regarding medical product safety. The information contained in this report is provided as part of FDA's commitment to place knowledge acquired from the Mini-Sentinel pilot in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in Mini-Sentinel queries will continue to be communicated through existing channels.

FDA wants to emphasize that the fact that FDA has initiated a query involving a medical product and is reporting findings related to that query does not mean that FDA is suggesting health care practitioners should change their prescribing practices for the medical product or that patients taking the medical product should stop using it. Patients who have questions about the use of an identified medical product should contact their health care practitioners.

Modular Program Type: MP 3 - Drug Use – Incident Outcomes

(See online specification for details:

http://mini-sentinel.org/data_activities/modular_programs/details.aspx?ID=111)

Date Posted:

Medical product exposures of interest:

This Modular Program execution included 7 unique exposures, all in the Angiotensin II Receptor Blocker (ARB) drug category. The exposures were defined using National Drug Codes (NDCs identified by FirstDataBank), limited to the oral formulations, identified in the Mini-Sentinel outpatient dispensing file. The 7 drugs included were:

- Candesartan
- Eprosartan
- Irbesartan
- Losartan
- Olmesartan
- Telmisartan
- Valsartan

NDCs for the above drug products in combination with hydrochlorothiazide were also included. Other combination therapies were not included.

Exposure time at risk:

This request examined 3 different drug washout periods, in which new users were defined by 91, 183, and 365 days of no exposure to any of the 7 drugs of interest prior to their first dispensing. The new user and days of exposure specifications for each exposure category are as follows:

- The first dispensing after at least (91/183/365) days of no exposure to any of the drugs of interest (i.e., new or incident users) was identified between January 1, 2007 and December 31, 2010. A treatment episode was created using the number of days supplied on each consecutive dispensing; gaps of 10 days or less between dispensings were bridged, and 1 day of exposure was added to the end of the last dispensing
- Exposed time at risk began on the day after the first incident dispensing and continued for the entire treatment episode (or end of enrollment or occurrence of an outcome)

New user inclusion\exclusion criteria and cohort definitions:

New users for each drug of interest were further restricted by eligibility and diagnosis exclusion criteria.

- Eligibility requirements – Individuals who met the following criteria were included:
 - Continuously enrolled with both medical and drug coverage for at least (91/183/365) days before the index date (date of first incident dispensing)
 - Free of any dispensing of any of the 7 drugs of interest in the (91/183/365) days before the index date
- Exclusions - Individuals with a diagnosis of celiac disease (ICD-9-CM 579.0) during the 365 days before the initial dispensing were excluded.

Outcome of interest definition:

The outcome of interest was identified during exposure time at risk. The outcome was defined as diagnosis of celiac disease (ICD-9-CM 579.0) observed in any care setting during exposure time at risk.

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Table 1. Number of New Users, Dispensings, and Total Days Supplied, by Drug Product and Drug Washout Period

		DRUG WASHOUT PERIOD		
		91 Days	183 Days	365 Days
Drug Product				
CANDESARTAN	Unique Users	16,396	10,627	9,209
	Dispensings	60,486	38,462	34,829
	Days Supplied	3,075,854	1,500,950	1,32,4081
EPROSARTAN	Unique Users	648	275	210
	Dispensings	2,403	919	769
	Days Supplied	139,040	35,196	28,520
IRBESARTAN	Unique Users	71,021	45,383	40,071
	Dispensings	274,193	175,372	160,901
	Days Supplied	14,731,904	7,194,920	6,429,866
LOSARTAN	Unique Users	371,218	262,691	235,630
	Dispensings	1,535,861	1,003,019	927,139
	Days Supplied	112,091,991	65,405,096	59,790,227
OLMESARTAN	Unique Users	102,179	87,647	81,560
	Dispensings	352,737	301,624	284,565
	Days Supplied	14,107,722	10,793,380	10,077,698
TELMISARTAN	Unique Users	31,713	26,844	24,596
	Dispensings	106,296	89,038	82,566
	Days Supplied	4,145,998	3,072,599	2,822,316
VALSARTAN	Unique Users	218,497	167,828	153,159
	Dispensings	948,537	738,595	690,474
	Days Supplied	41,834,116	27,322,069	25,148,422

Figure 1a. Number of Dispensings per User, by Washout Period and Drug Product

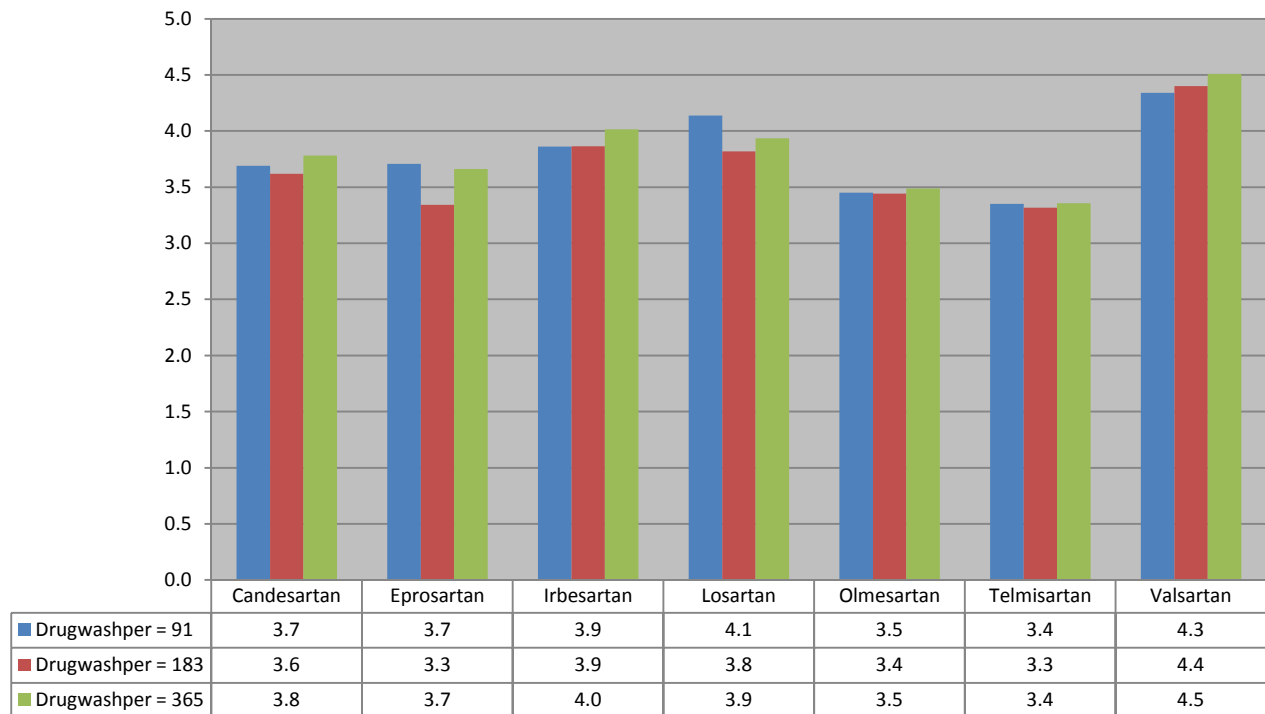


Figure 1b. Number of Days Supplied per User, by Drug and Washout Period

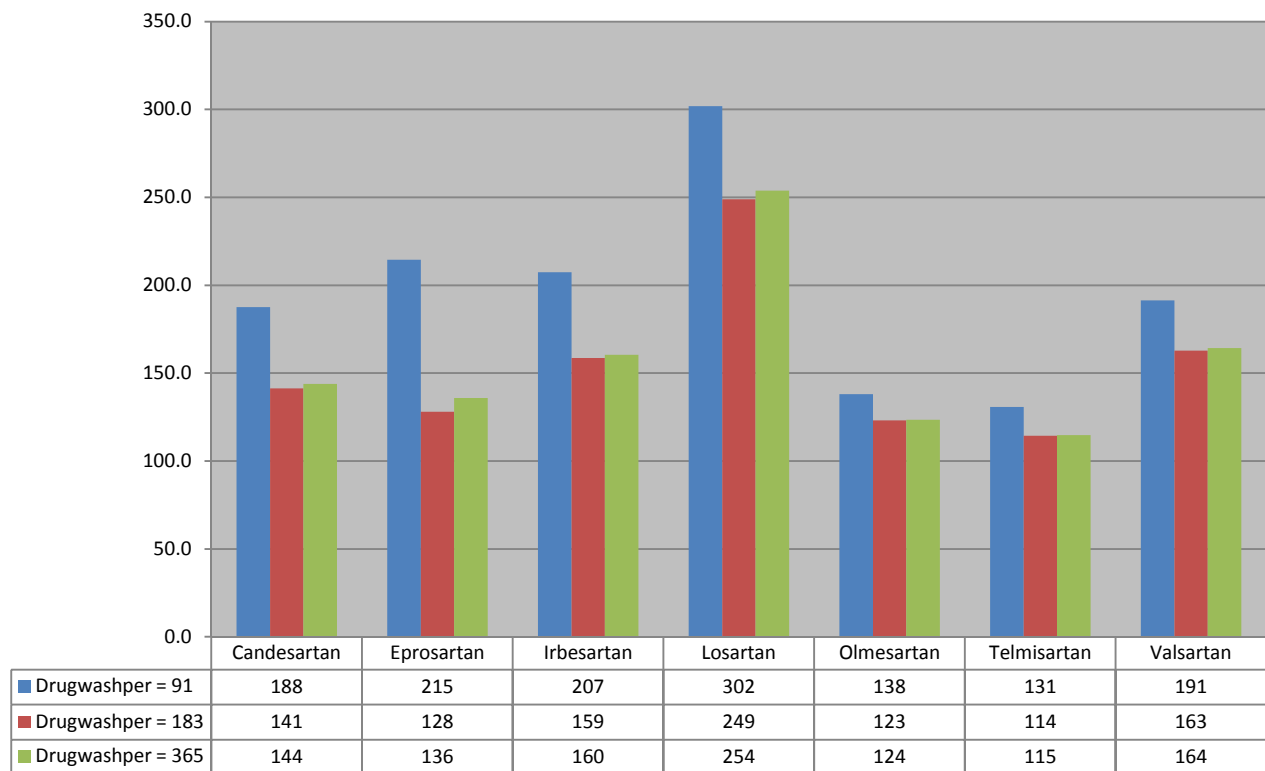


Figure 1c. Number of Days Supplied per Dispensing, by Drug and Washout Period

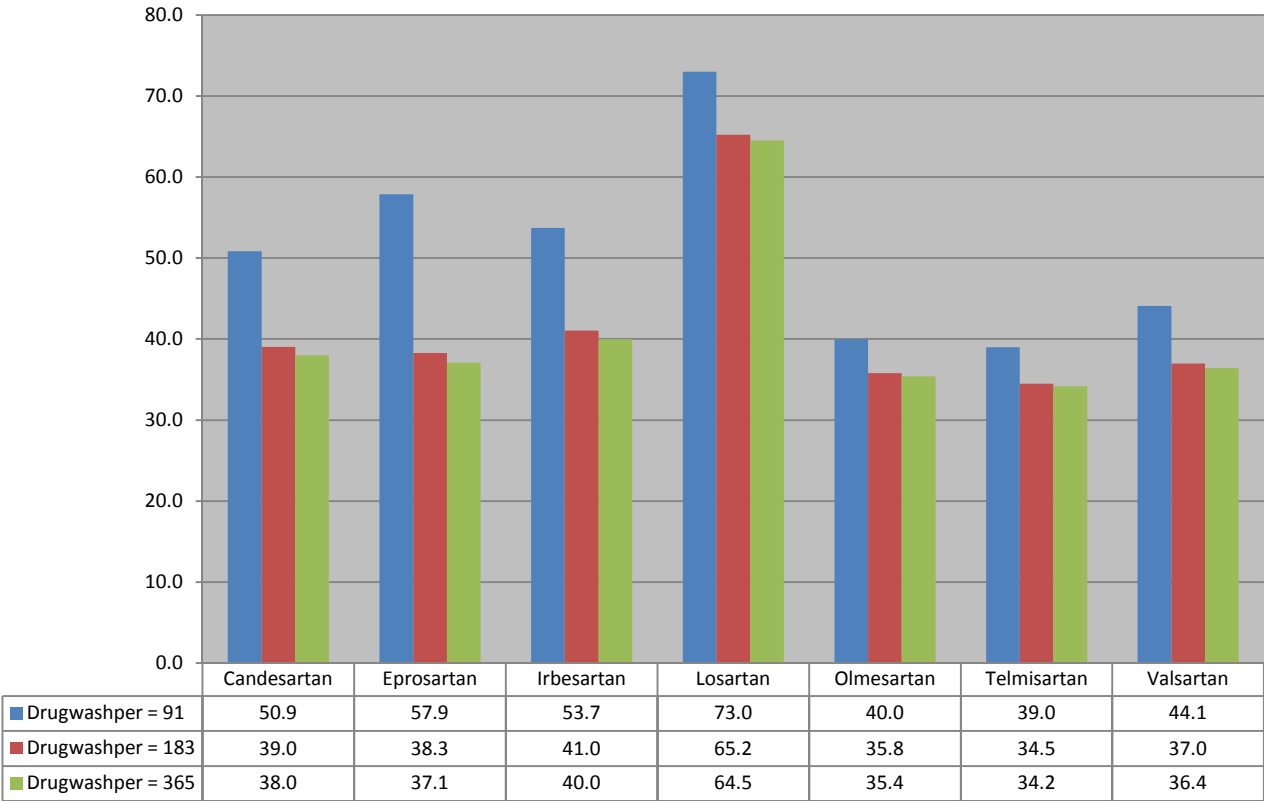


Table 2. Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Age Group, and Drug Washout Period

			DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
StudyClass	AgeGroup				
CANDESARTAN	18 to 44	Unique Users	1,676	1,295	1,184
		Dispensings	4,959	3,803	3,630
		Days Supplied	196,309	125,437	117,979
	45 to 64	Unique Users	8816	5718	4988
		Dispensings	34,863	22608	20671
		Days Supplied	1,732,124	859,035	766,299
	65 to 99	Unique Users	5,904	3,614	3,037
		Dispensings	20,664	12,051	10,528
		Days Supplied	1,147,421	516,478	439,803
EPROSARTAN	18 to 44	Unique Users	67	41	27
		Dispensings	197	112	82
		Days Supplied	8,834	3,820	2,445
	45 to 64	Unique Users	369	157	125
		Dispensings	1,368	564	493
		Days Supplied	77,982	21,843	18,867
	65 to 99	Unique Users	212	77	58
		Dispensings	838	243	194
		Days Supplied	52,224	9,533	7,208
IRBESARTAN	18 to 44	Unique Users	7,205	5,765	5,219
		Dispensings	21,995	17,498	16,387
		Days Supplied	914,053	610,675	561,603
	45 to 64	Unique Users	36,737	23,610	21,077
		Dispensings	145,268	94,761	87,997
		Days Supplied	7,620,181	3,797,655	3,451,881
	65 to 99	Unique Users	27,079	16,008	13,775
		Dispensings	106,930	63,113	56,517
		Days Supplied	6,197,670	2,786,590	2,416,382
LOSARTAN	18 to 44	Unique Users	27,550	23,107	21,481
		Dispensings	86,671	71,588	67,980
		Days Supplied	4,932,401	3,739,499	3,536,845
	45 to 64	Unique Users	172,144	124,847	113,160
		Dispensings	705,560	483,965	451,970
		Days Supplied	49,025,961	29,925,475	27,642,173
	65 to 99	Unique Users	171,524	114,737	100,989
		Dispensings	743,630	447,466	407,189
		Days Supplied	58,133,629	31,740,122	28,611,209
OLMESARTAN	18 to 44	Unique Users	15,809	14,399	13,627
		Dispensings	43,229	39,529	37,779
		Days Supplied	1,434,549	1,235,293	1,173,533
	45 to 64	Unique Users	55,847	47,673	44,536
		Dispensings	200,228	171,159	162,578
		Days Supplied	7,914,074	6,015,473	5,662,746
	65 to 99	Unique Users	30,523	25,575	23,397
		Dispensings	109,280	90,936	84,208
		Days Supplied	4,759,099	3,542,614	3,241,419

Table 2 (cont). Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Age Group, and Drug Washout Period

			DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
StudyClass	AgeGroup				
TELMISARTAN	18 to 44	Unique Users	5,352	4,888	4,563
		Dispensings	14,982	13,683	12,978
		Days Supplied	472,415	412,730	389,841
	45 to 64	Unique Users	18,675	15,924	14,674
		Dispensings	65,953	56,083	52,316
		Days Supplied	2,490,484	1,895,298	1,754,529
	65 to 99	Unique Users	7,686	6,032	5,359
		Dispensings	25,361	19,272	17,272
		Days Supplied	1,183,099	764,571	677,946
VALSARTAN	18 to 44	Unique Users	29,796	25,617	23,723
		Dispensings	103,534	90,346	85,584
		Days Supplied	3,685,110	2,915,624	2,739,491
	45 to 64	Unique Users	119,804	91,267	83,805
		Dispensings	546,102	429,412	405,245
		Days Supplied	23,734,294	15,583,221	14,512,304
	65 to 99	Unique Users	68,897	50,944	45,631
		Dispensings	298,901	218,837	199,645
		Days Supplied	14,414,712	8,823,224	7,896,627

Figure 2a. Percentage of New Users by Age: Drug Washout Period = 91 Days

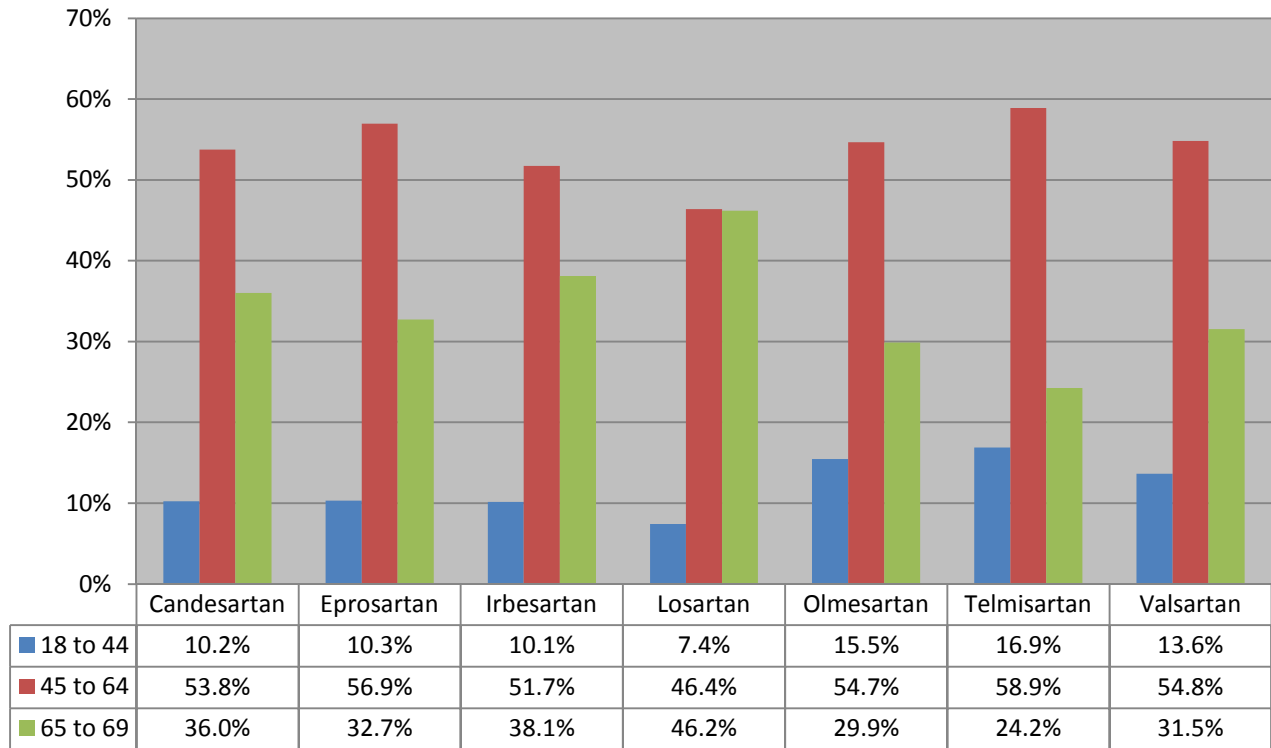


Figure 2b. Percentage of New Users by Age: Drug Washout Period = 183 Days

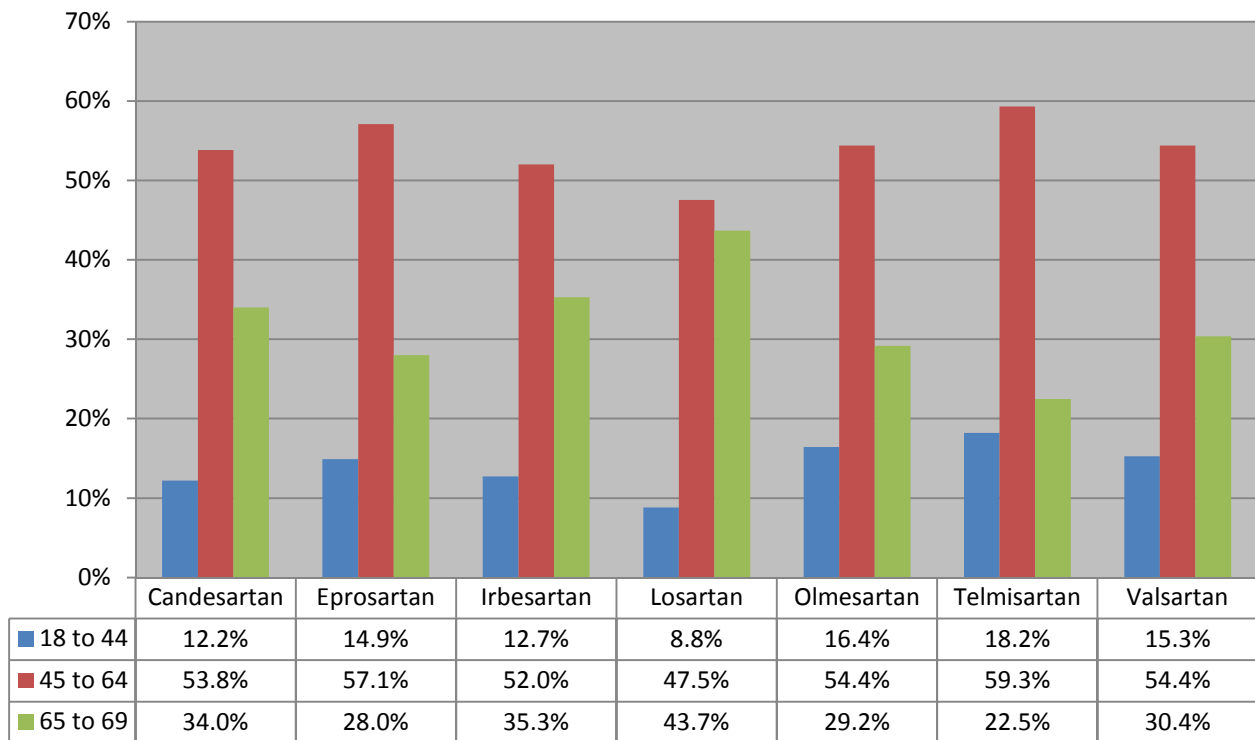


Figure 2c. Percentage of New Users by Age: Drug Washout Period = 365 Days

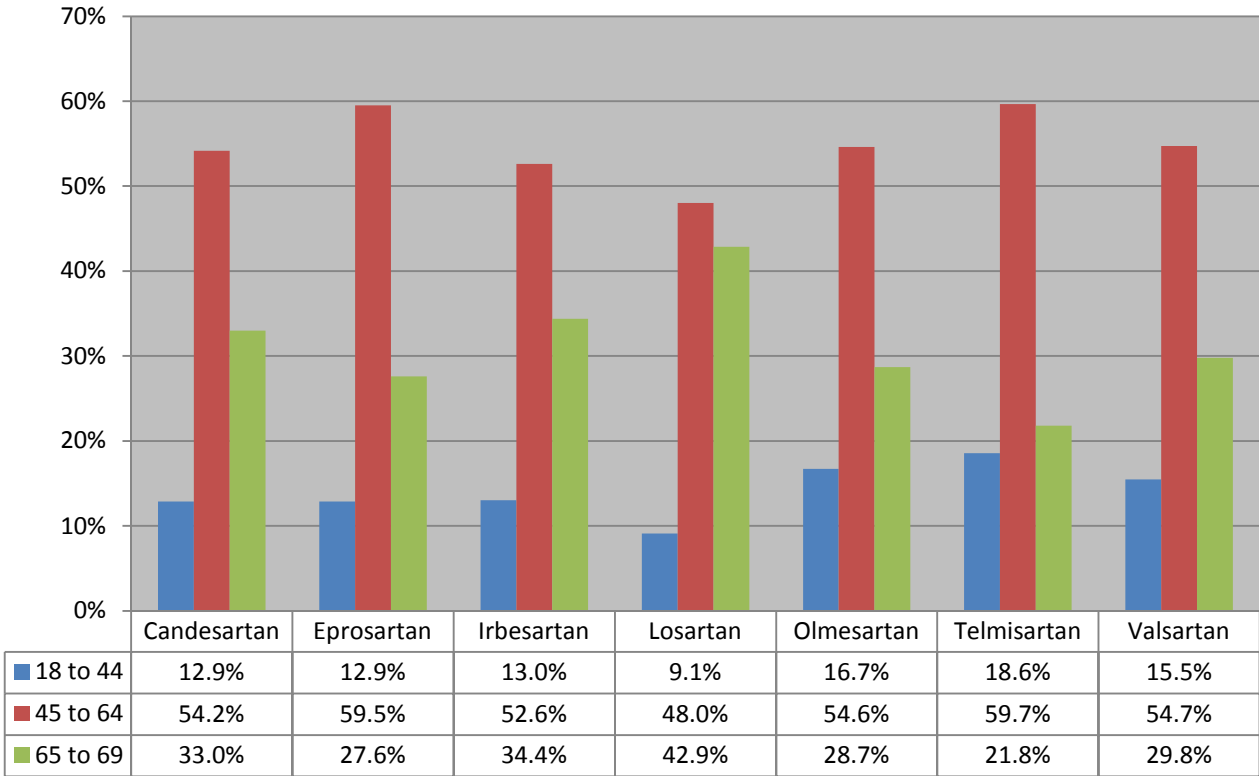


Table 3. Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Sex, and Drug Washout Period

		DRUG WASHOUT PERIOD			
		91 Days	183 Days	365 Days	
StudyClass	SEX				
CANDESARTAN	F	Unique Users	8,408	5,469	4,711
		Dispensings	30,160	18,961	17,012
		Days Supplied	1,552,804	746,333	653,604
	M	Unique Users	7969	5142	4484
		Dispensings	30,206	19389	17710
		Days Supplied	1,517,875	750,162	666,172
	U	Unique Users	19	16	14
		Dispensings	120	112	107
		Days Supplied	5,175	4,455	4,305
EPROSARTAN	F	Unique Users	335	145	111
		Dispensings	1,128	441	357
		Days Supplied	66,744	17,101	13,270
	M	Unique Users	312	129	98
		Dispensings	1,274	477	411
		Days Supplied	72,206	18,005	15,160
	U	Unique Users	1	1	1
		Dispensings	1	1	1
		Days Supplied	90	90	90
IRBESARTAN	F	Unique Users	36,650	23,462	20,679
		Dispensings	142,921	91,145	83,686
		Days Supplied	7,663,296	3,746,357	3,350,767
	M	Unique Users	34,320	21,880	19,356
		Dispensings	131,048	84,025	77,024
		Days Supplied	7,060,407	3,442,282	3,073,178
	U	Unique Users	51	41	36
		Dispensings	224	202	191
		Days Supplied	8,201	6281	5921
LOSARTAN	A	Unique Users	5	2	2
		Dispensings	19	9	9
		Days Supplied	1,830	830	830
	F	Unique Users	209,178	146,722	131,007
		Dispensings	873,212	561,363	517,158
		Days Supplied	64,418,887	37,082,942	33,766,430
	M	Unique Users	161,884	115,836	104,499
		Dispensings	661,892	440,983	409,324
		Days Supplied	47,641,917	28,298,077	26,000,800
U	Unique Users	151	131	122	
	Dispensings	738	664	648	
	Days Supplied	29,357	23,247	22,167	
OLMESARTAN	F	Unique Users	52,158	44,821	41,608
		Dispensings	180,793	154,446	145,391
		Days Supplied	7,236,592	5,558,846	5,178,196
	M	Unique Users	49,908	42,726	39,858
		Dispensings	171,498	146,785	138,848
		Days Supplied	6,854,345	5,221,559	4,888,867
	U	Unique Users	113	100	94
		Dispensings	446	393	326
		Days Supplied	16785	12975	10635

Table 3 (cont). Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Sex, and Drug Washout Period

		DRUG WASHOUT PERIOD			
		91 Days	183 Days	365 Days	
StudyClass	SEX				
TELMISARTAN	F	Unique Users	15,935	13438	12301
		Dispensings	52,767	43,969	40,764
		Days Supplied	2,070,082	1,520,238	1,396,433
	M	Unique Users	15,753	13,383	12,273
		Dispensings	53,422	44,969	41,706
		Days Supplied	2,072,196	1,549,031	1,422,613
	U	Unique Users	25	23	22
		Dispensings	107	100	96
		Days Supplied	3,720	3,330	3,270
VALSARTAN	F	Unique Users	114,197	87,719	79,802
		Dispensings	496,026	384,896	358,746
		Days Supplied	21,866,319	14,246,470	13,073,817
	M	Unique Users	104,049	79,897	73,162
		Dispensings	451,176	352,558	330,656
		Days Supplied	19,913,381	13,033,213	12,035,579
	U	Unique Users	251	212	195
		Dispensings	1,335	1,141	1,072
		Days Supplied	54,416	42,386	39,026

Figure 3a. Percentage of New Users by Sex: Drug Washout Period = 91 Days

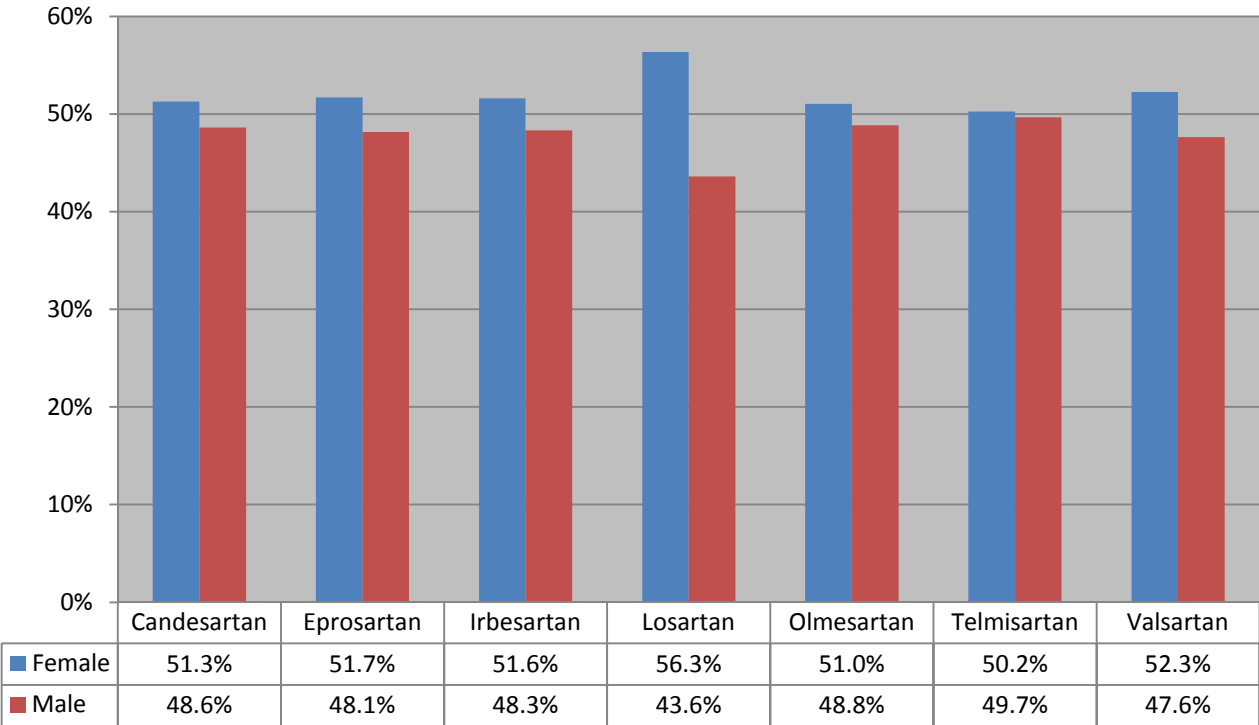


Figure 3b. Percentage of New Users by Sex: Drug Washout Period = 183 Days

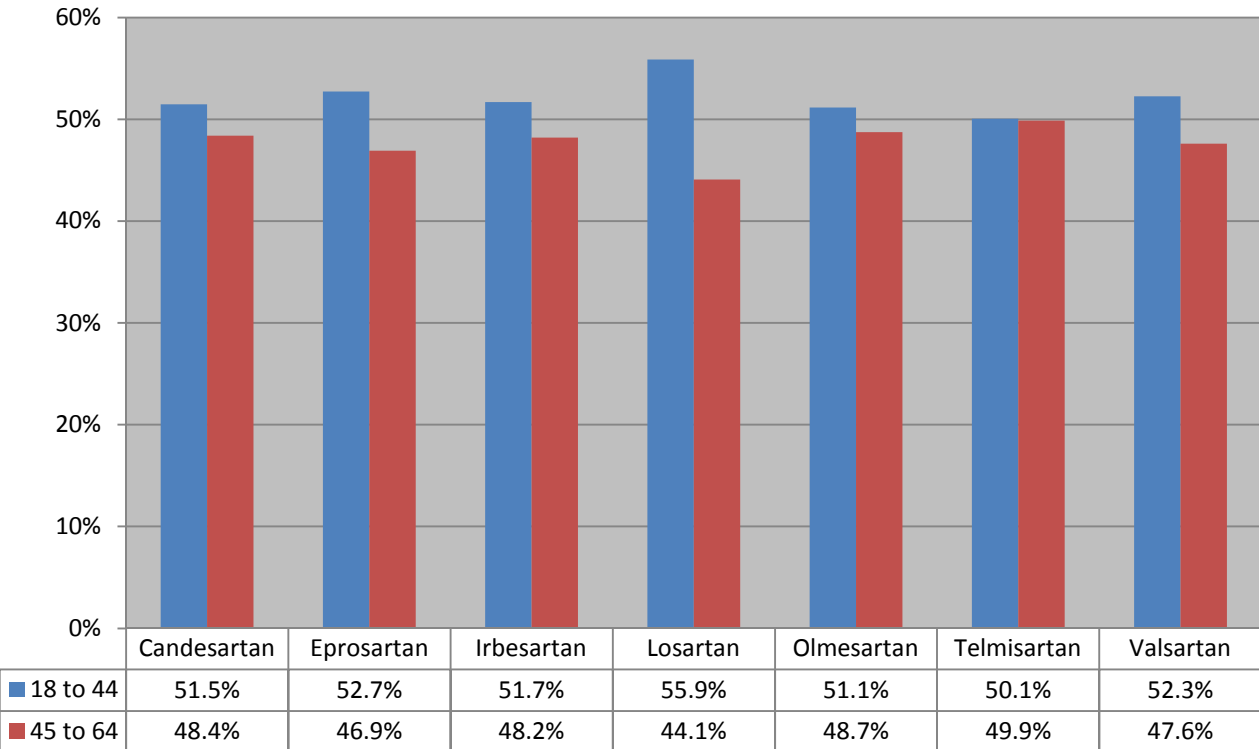


Figure 3c. Percentage of New Users by Sex: Drug Washout Period = 365 Days

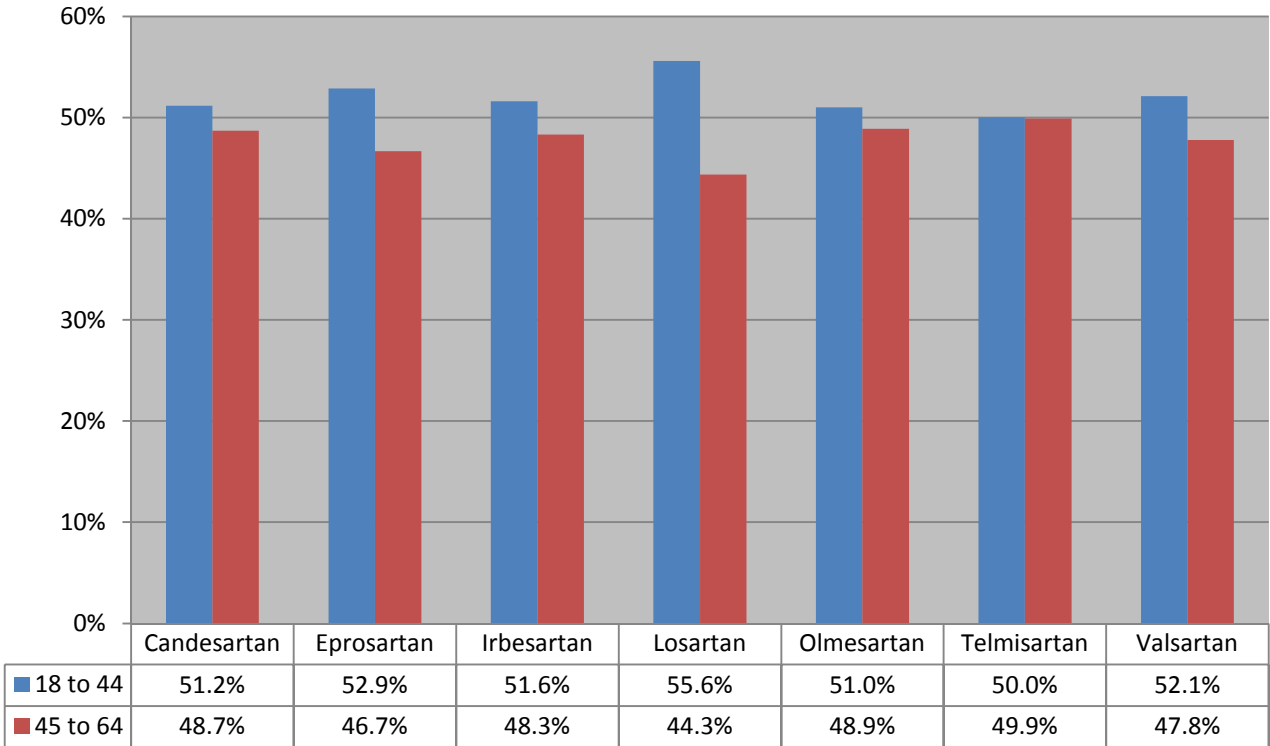


Table 4. Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Index Year, and Drug Washout Period

			DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
StudyClass	IndexYear				
CANDESARTAN	2007	Unique Users	10,557	5,113	3,953
		Dispensings	40,259	19,213	16,261
		Days Supplied	2,349,941	814,451	663,732
	2008	Unique Users	2,737	2,602	2,504
		Dispensings	10,731	10,293	10,000
		Days Supplied	390,395	373,340	360,922
	2009	Unique Users	2,134	2,004	1,884
		Dispensings	7,024	6,639	6,328
		Days Supplied	246,889	230,624	219,209
	2010	Unique Users	968	908	868
		Dispensings	2,472	2,317	2,240
		Days Supplied	88,629	82,535	80,218
EPROSARTAN	2007	Unique Users	551	184	124
		Dispensings	2,097	622	488
		Days Supplied	128,513	24,886	18,675
	2008	Unique Users	52	50	49
		Dispensings	194	191	189
		Days Supplied	6,995	6,905	6,845
	2009	Unique Users	33	32	30
		Dispensings	88	86	74
		Days Supplied	2,820	2,730	2,430
	2010	Unique Users	12	9	7
		Dispensings	24	20	18
		Days Supplied	712	675	570
IRBESARTAN	2007	Unique Users	42,432	18,343	14,253
		Dispensings	167,320	74,110	63,206
		Days Supplied	10,652,870	3,368,962	2,738,595
	2008	Unique Users	12,266	11,691	11,230
		Dispensings	52,709	50,321	48,837
		Days Supplied	2,053,207	1,941,598	1,888,134
	2009	Unique Users	10,568	9,953	9,480
		Dispensings	39,072	36,742	35,333
		Days Supplied	1,454,800	1,356,266	1,302,777
	2010	Unique Users	5,755	5,396	5,108
		Dispensings	15,092	14,199	13,525
		Days Supplied	571,027	528,094	500,360
LOSARTAN	2007	Unique Users	185,561	85,395	63,068
		Dispensings	888,607	377,966	315,832
		Days Supplied	71,407,489	25,925,321	20,936,434
	2008	Unique Users	55,491	54,623	53,890
		Dispensings	247,996	243,892	240,994
		Days Supplied	16,205,600	16,005,852	15,867,638
	2009	Unique Users	53,470	52,009	50,862
		Dispensings	201,695	196,194	191,929
		Days Supplied	12,840,333	12,557,689	12,367,323
	2010	Unique Users	76,696	70,664	67,810
		Dispensings	197,563	184,967	178,384
		Days Supplied	11,638,569	10,916,234	10,618,832

Table 4 (cont). Number of New Users, Dispensings, and Total Days Supplied, by Drug Product, Index Year, and Drug Washout Period

			DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
StudyClass	IndexYear				
OLMESARTAN	2007	Unique Users	36,398	24,774	21,289
		Dispensings	137,156	95,619	85,955
		Days Supplied	6,540,414	3,627,735	3,188,845
	2008	Unique Users	23,539	22,650	21,888
		Dispensings	91,203	87,631	85,257
		Days Supplied	3,208,374	3,061,091	2,974,155
	2009	Unique Users	24,387	23,203	22,135
		Dispensings	80,908	77,022	73,723
		Days Supplied	2,844,782	2,678,731	2,554,004
	2010	Unique Users	17,855	17,020	16,248
		Dispensings	43,470	41,352	39,630
		Days Supplied	1,514,152	1,425,823	1,360,694
TELMISARTAN	2007	Unique Users	13,615	9,648	8,192
		Dispensings	51,568	37,030	32,767
		Days Supplied	2,291,812	1,320,760	1,147,999
	2008	Unique Users	8,186	7,781	7,432
		Dispensings	28,291	26,911	25,757
		Days Supplied	955,202	907,011	866,345
	2009	Unique Users	5,665	5,413	5,187
		Dispensings	16,194	15,467	14,868
		Days Supplied	551,454	522,403	501,898
	2010	Unique Users	4,247	4,002	3,785
		Dispensings	10,243	9,630	9,174
		Days Supplied	347,530	322,425	306,074
VALSARTAN	2007	Unique Users	105,139	60,237	49,375
		Dispensings	491,086	302,211	267,209
		Days Supplied	25,101,967	11,652,788	9,988,171
	2008	Unique Users	43,568	42,078	40,913
		Dispensings	208,980	202,722	197,964
		Days Supplied	7,623,566	7,317,626	7,138,551
	2009	Unique Users	41,148	38,523	37,012
		Dispensings	165,096	154,895	149,316
		Days Supplied	6,106,363	5,575,044	5,353,303
	2010	Unique Users	28,642	26,990	25,859
		Dispensings	83,375	78,767	75,985
		Days Supplied	3,002,220	2,776,611	2,668,397

Figure 4a. New Users of Candesartan and Total Days Supply, by Drug Washout Period

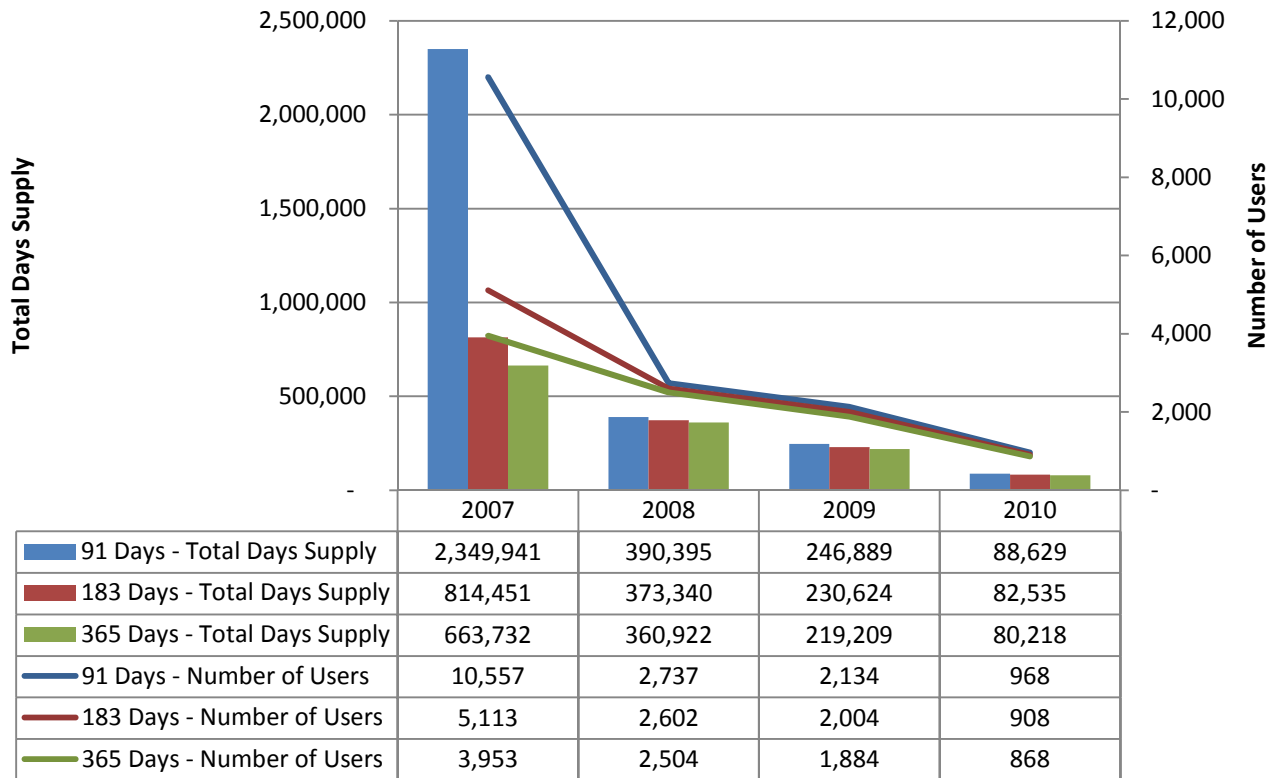


Figure 4b. New Users of Eprosartan and Total Days Supply, by Drug Washout Period

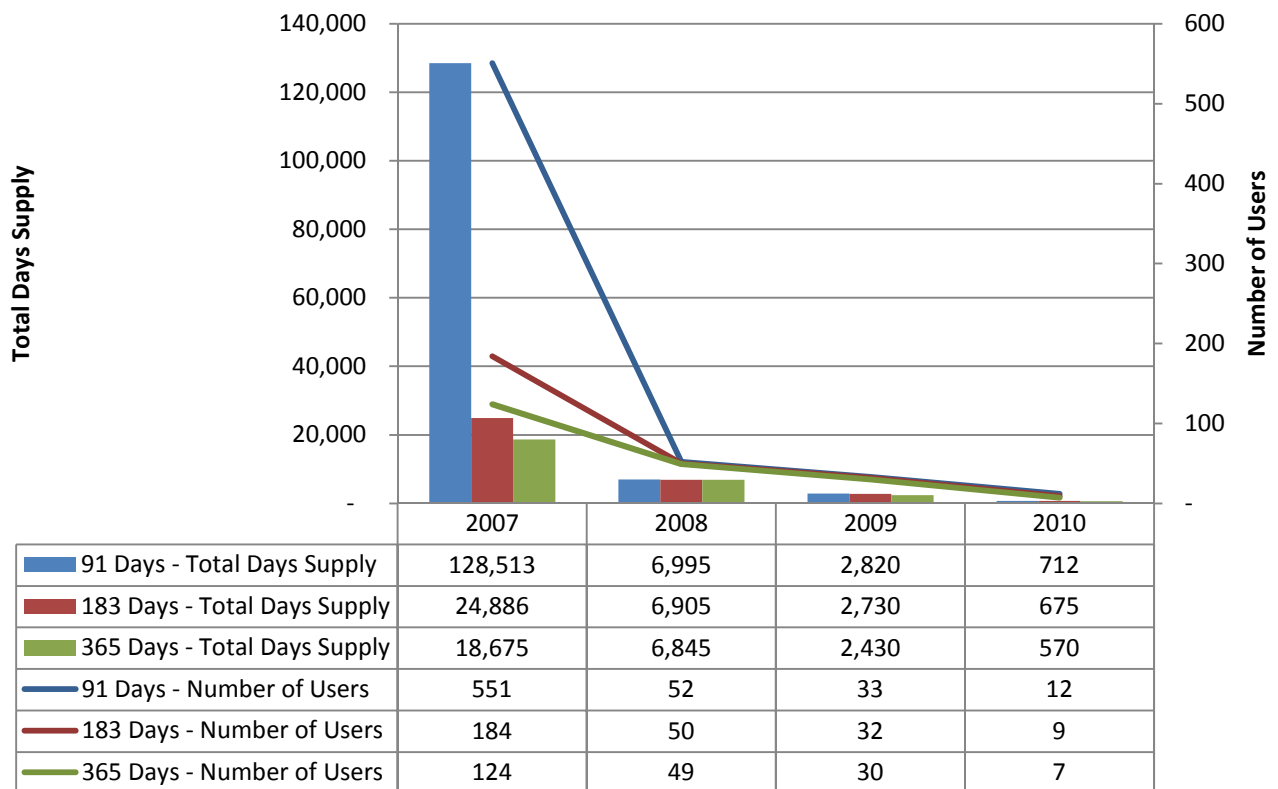


Figure 4c. New Users of Irbesartan and Total Days Supply, by Drug Washout Period

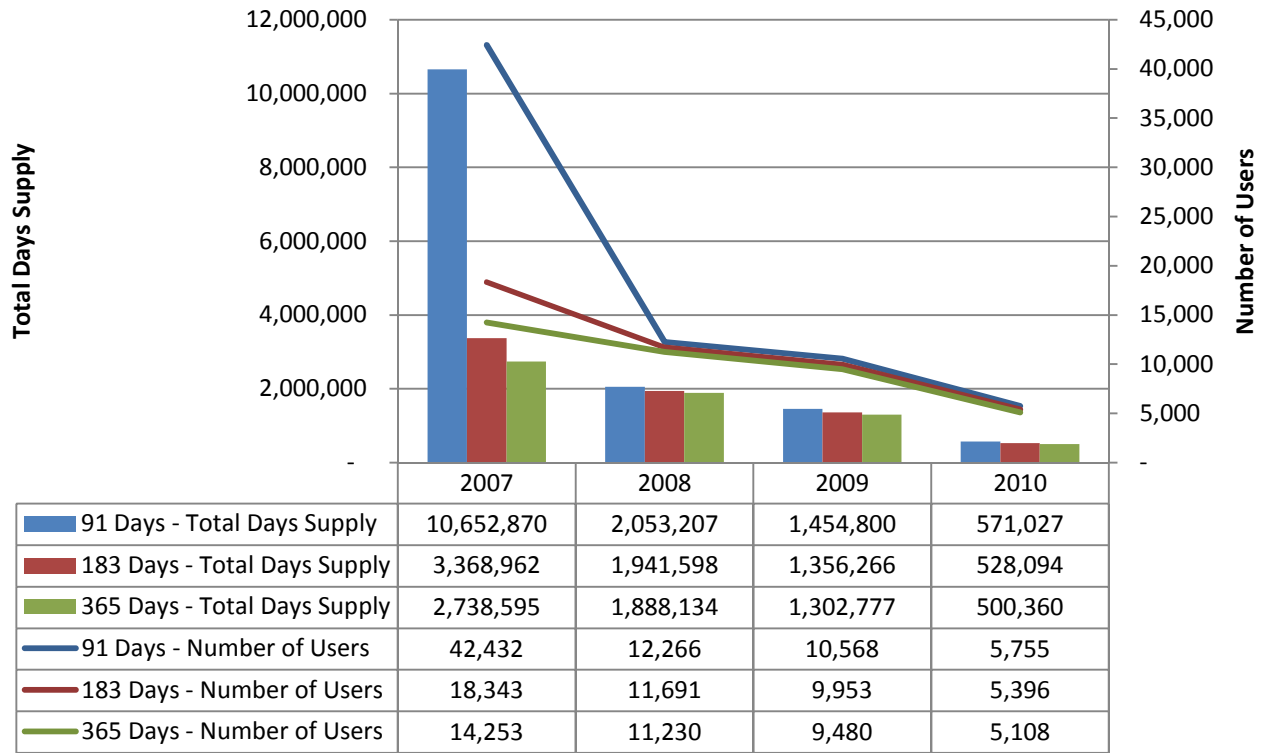


Figure 4d. New Users of Losartan and Total Days Supply, by Drug Washout Period

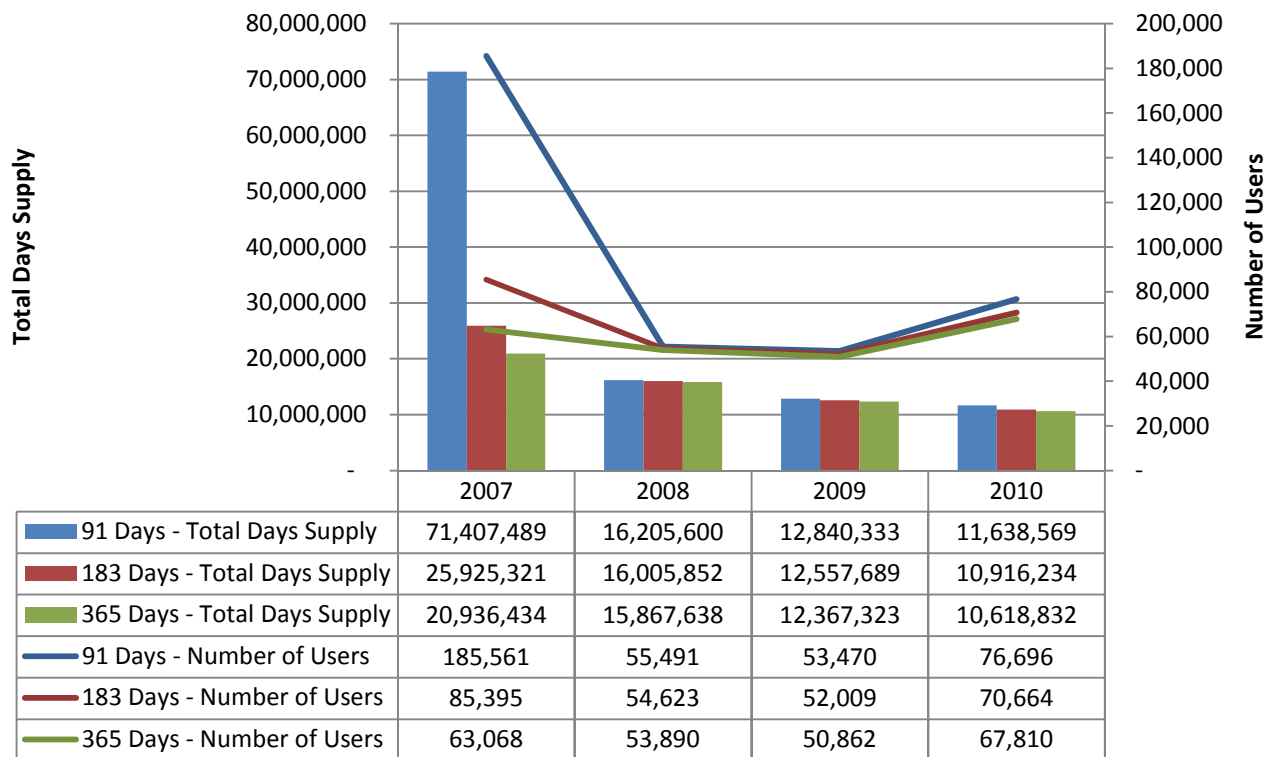


Figure 4e. New Users of Olmesartan and Total Days Supply, by Drug Washout Period

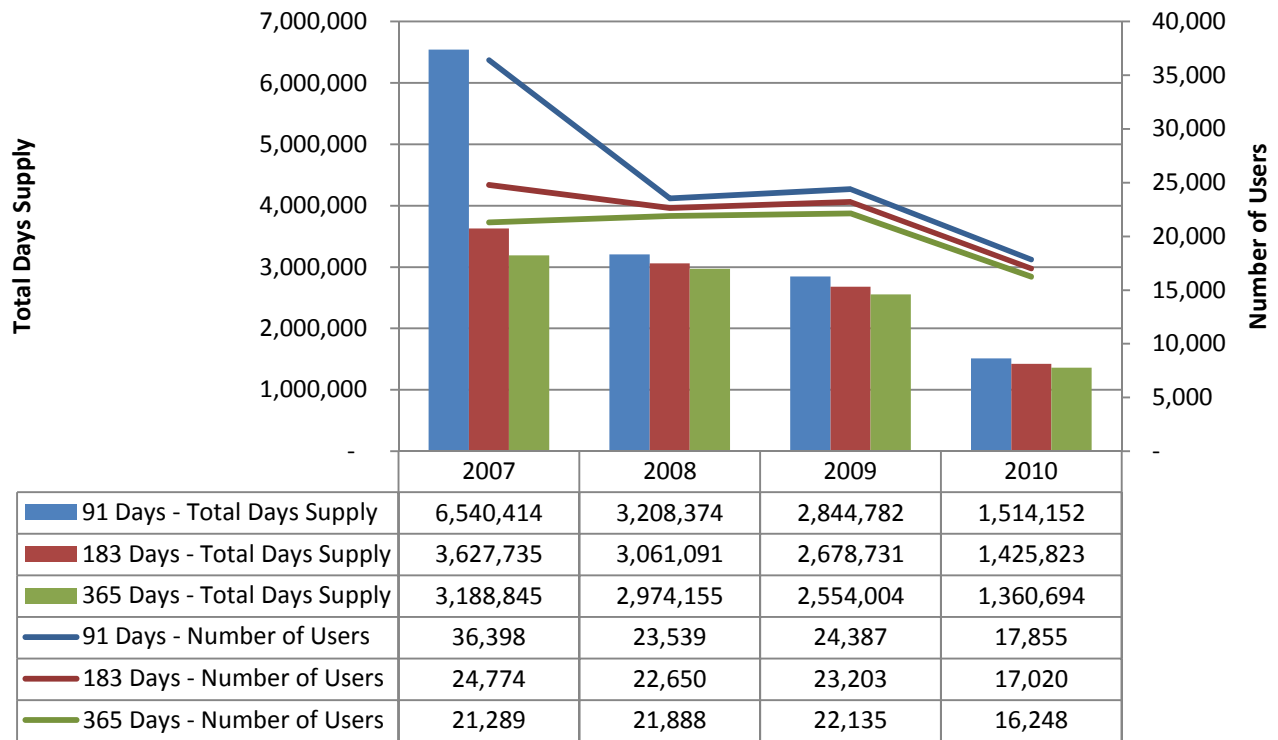


Figure 4f. New Users of Telmisartan and Total Days Supply, by Drug Washout Period

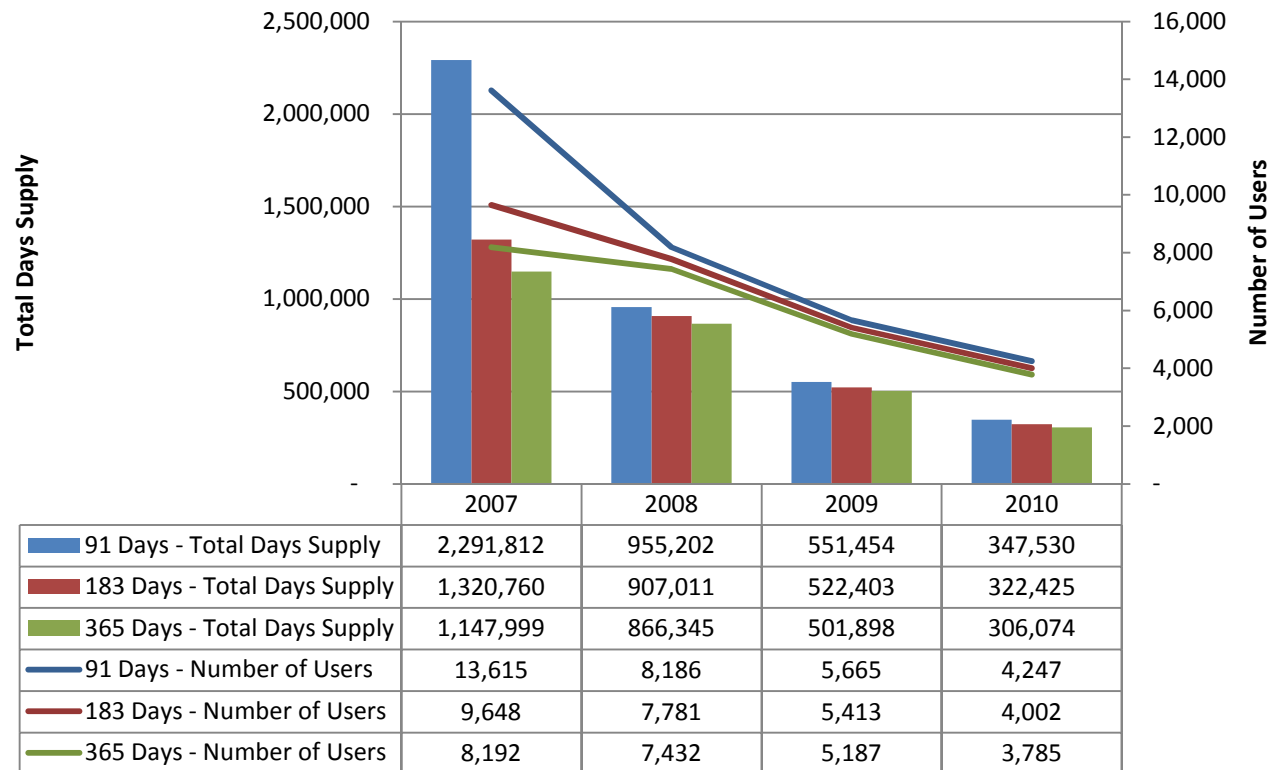
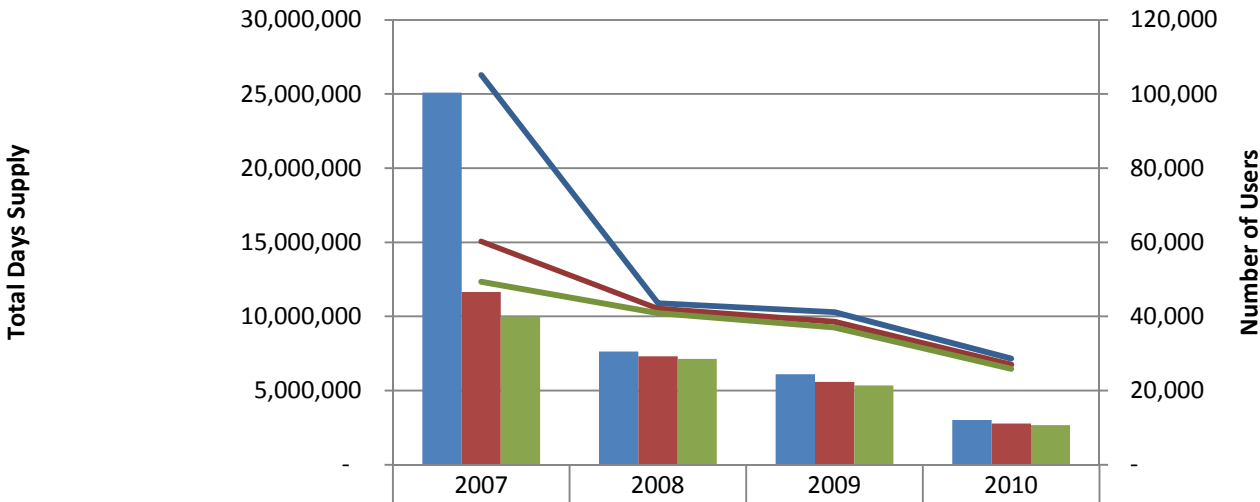


Figure 4g. New Users of Valsartan and Total Days Supply, by Drug Washout Period



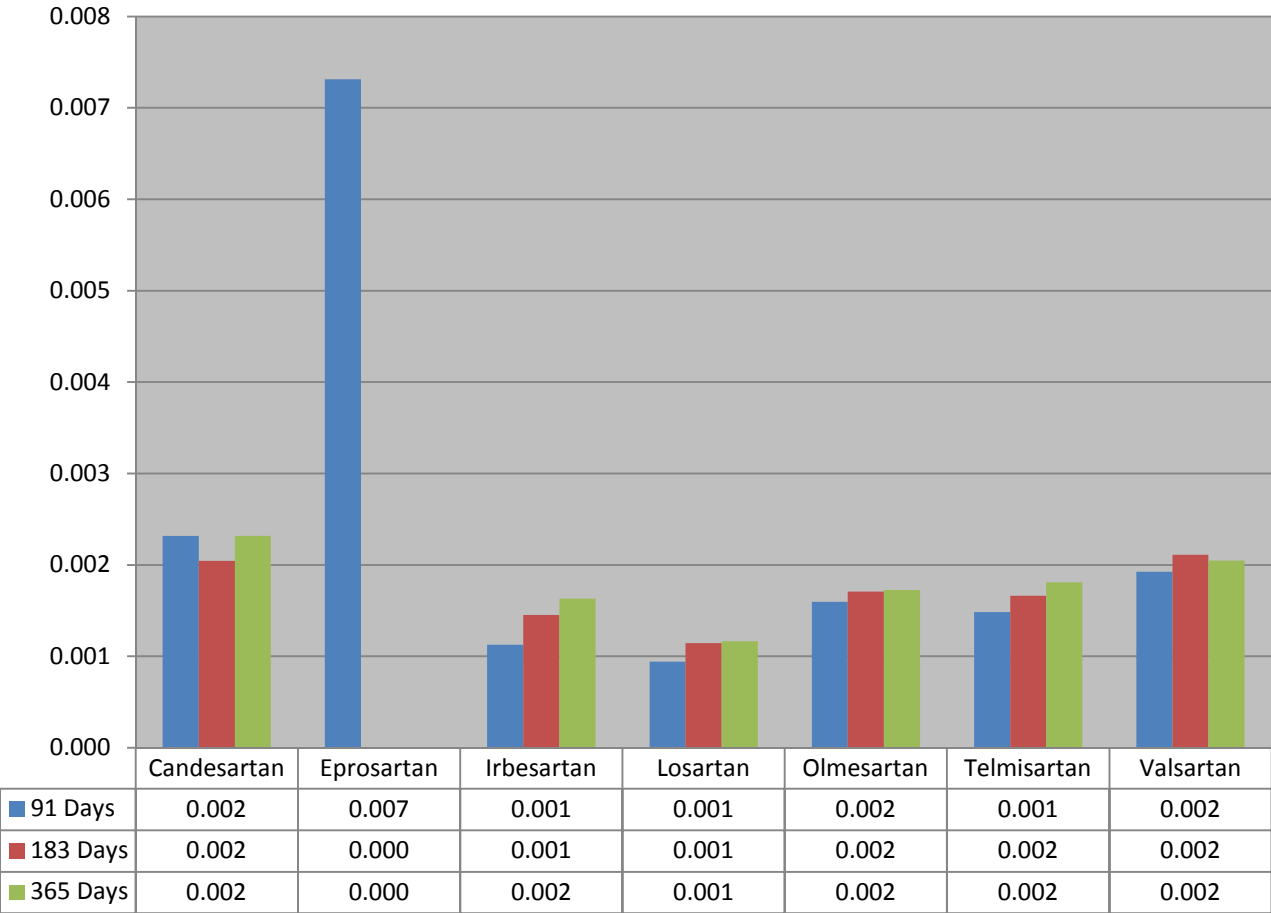
91 Days - Total Days Supply	25,101,967	7,623,566	6,106,363	3,002,220
183 Days - Total Days Supply	11,652,788	7,317,626	5,575,044	2,776,611
365 Days - Total Days Supply	9,988,171	7,138,551	5,353,303	2,668,397
91 Days - Number of Users	105,139	43,568	41,148	28,642
183 Days - Number of Users	60,237	42,078	38,523	26,990
365 Days - Number of Users	49,375	40,913	37,012	25,859

Table 5. Rate of Celiac Disease per 1000 Exposed Days at Risk, by Drug Product and Drug Washout Period

		DRUG WASHOUT PERIOD		
		91 Days	183 Days	365 Days
StudyClass				
CANDESARTAN	Unique Users	16,396	10,627	9,209
	Total Days at Risk	3,018,925	1,468,390	1,294,183
	Total Number of Events	7	3	3
	Rate per 1000 Days at Risk	0.002	0.002	0.002
EPROSARTAN	Unique Users	648	275	210
	Total Days at Risk	136,734	34,561	27,970
	Total Number of Events	1	0	0
	Rate per 1000 Days at Risk	0.007	0.000	0.000
IRBESARTAN	Unique Users	71,021	45,383	40,071
	Total Days at Risk	14,194,913	6,879,529	6,134,216
	Total Number of Events	16	10	10
	Rate per 1000 Days at Risk	0.001	0.001	0.002
LOSARTAN	Unique Users	371,218	262,691	235,630
	Total Days at Risk	104,293,901	59,368,869	54,009,167
	Total Number of Events	98	68	63
	Rate per 1000 Days at Risk	0.001	0.001	0.001
OLMESARTAN	Unique Users	102,179	87,647	81,560
	Total Days at Risk	13,772,309	10,542,220	9,845,612
	Total Number of Events	22	18	17
	Rate per 1000 Days at Risk	0.002	0.002	0.002
TELMISARTAN	Unique Users	31,713	26,844	24,596
	Total Days at Risk	4,044,024	3,006,337	2,763,743
	Total Number of Events	6	5	5
	Rate per 1000 Days at Risk	0.001	0.002	0.002
VALSARTAN	Unique Users	218,497	167,828	153,159
	Total Days at Risk	40,543,645	26,523,504	24,410,434
	Total Number of Events	78	56	50
	Rate per 1000 Days at Risk	0.002	0.002	0.002

*Rates are calculated as number of events/total days at risk x 1000)

Figure 5a. Rate of Celiac Disease per 1,000 Exposed Days, by Drug Product and Drug Washout Period



*Rates are calculated as number of events/total days at risk x 1000)

Table 6. Rate of Celiac Disease per 1000 Exposed Days at Risk, by Drug Product, Index Year, and Drug Washout Period

StudyClass	IndexYear		DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
CANDESARTAN	2007	Unique Users	10,557	5,113	3,953
		Total Days at Risk	2,317,271	804,186	655,374
		Total Number of Events	5	1	1
		Rate per 1000 Days at Risk	0.002	0.001	0.002
	2008	Unique Users	2,737	2,602	2,504
		Total Days at Risk	383,986	367,676	355,439
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
	2009	Unique Users	2,134	2,004	1,884
		Total Days at Risk	239,038	223,225	212,263
		Total Number of Events	2	2	2
		Rate per 1000 Days at Risk	0.008	0.009	0.009
	2010	Unique Users	968	908	868
		Total Days at Risk	78,630	73,303	71,107
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
EPROSARTAN	2007	Unique Users	551	184	124
		Total Days at Risk	126,634	24,685	18,493
		Total Number of Events	1	-	-
		Rate per 1000 Days at Risk	0.008	-	-
	2008	Unique Users	52	50	49
		Total Days at Risk	6,768	6,677	6,617
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
	2009	Unique Users	33	32	30
		Total Days at Risk	2,672	2,577	2,284
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
	2010	Unique Users	12	9	7
		Total Days at Risk	660	622	576
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
IRBESARTAN	2007	Unique Users	42,432	18,343	14,253
		Total Days at Risk	10,355,589	3,275,338	2,658,824
		Total Number of Events	8	3	3
		Rate per 1000 Days at Risk	0.001	0.001	0.001
	2008	Unique Users	12,266	11,691	11,230
		Total Days at Risk	1,962,451	1,856,852	1,803,629
		Total Number of Events	3	2	2
		Rate per 1000 Days at Risk	0.002	0.001	0.001
	2009	Unique Users	10,568	9,953	9,480
		Total Days at Risk	1,374,166	1,281,241	1,229,919
		Total Number of Events	3	3	3
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2010	Unique Users	5,755	5,396	5,108
		Total Days at Risk	502,707	466,098	441,844
		Total Number of Events	2	2	2
		Rate per 1000 Days at Risk	0.004	0.004	0.005

*Rates are calculated as number of events/total days at risk x 1000)

Table 6 (cont). Rate of Celiac Disease per 1000 Exposed Days at Risk, by Drug Product, Index Year, and Drug Washout Period

StudyClass	IndexYear		DRUG WASHOUT PERIOD		
			91 Days	183 Days	365 Days
LOSARTAN	2007	Unique Users	185,561	85,395	63,068
		Total Days at Risk	68,816,229	24,875,412	20,060,816
		Total Number of Events	52	23	20
		Rate per 1000 Days at Risk	0.001	0.001	0.001
	2008	Unique Users	55,491	54,623	53,890
		Total Days at Risk	15,289,401	15,096,741	14,963,755
		Total Number of Events	18	18	17
		Rate per 1000 Days at Risk	0.001	0.001	0.001
	2009	Unique Users	53,470	52,009	50,862
		Total Days at Risk	11,626,299	11,360,502	11,180,815
		Total Number of Events	18	18	17
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2010	Unique Users	76,696	70,664	67,810
		Total Days at Risk	8,561,972	8,036,214	7,803,781
		Total Number of Events	10	9	9
		Rate per 1000 Days at Risk	0.001	0.001	0.001
OLMESARTAN	2007	Unique Users	36,398	24,774	21,289
		Total Days at Risk	6,444,654	3,595,129	3,164,947
		Total Number of Events	10	6	5
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2008	Unique Users	23,539	22,650	21,888
		Total Days at Risk	3,172,421	3,029,840	2,943,839
		Total Number of Events	4	4	4
		Rate per 1000 Days at Risk	0.001	0.001	0.001
	2009	Unique Users	24,387	23,203	22,135
		Total Days at Risk	2,772,150	2,612,784	2,491,571
		Total Number of Events	4	4	4
		Rate per 1000 Days at Risk	0.001	0.002	0.002
	2010	Unique Users	17,855	17,020	16,248
		Total Days at Risk	1,383,084	1,304,467	1,245,255
		Total Number of Events	4	4	4
		Rate per 1000 Days at Risk	0.003	0.003	0.003
TELMISARTAN	2007	Unique Users	13,615	9,648	8,192
		Total Days at Risk	2,247,834	1,307,296	1,138,670
		Total Number of Events	5	4	4
		Rate per 1000 Days at Risk	0.002	0.003	0.004
	2008	Unique Users	8,186	7,781	7,432
		Total Days at Risk	942,599	895,379	855,610
		Total Number of Events	1	1	1
		Rate per 1000 Days at Risk	0.001	0.001	0.001
	2009	Unique Users	5,665	5,413	5,187
		Total Days at Risk	536,280	508,691	488,544
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-
	2010	Unique Users	4,247	4,002	3,785
		Total Days at Risk	317,311	294,971	280,919
		Total Number of Events	-	-	-
		Rate per 1000 Days at Risk	-	-	-

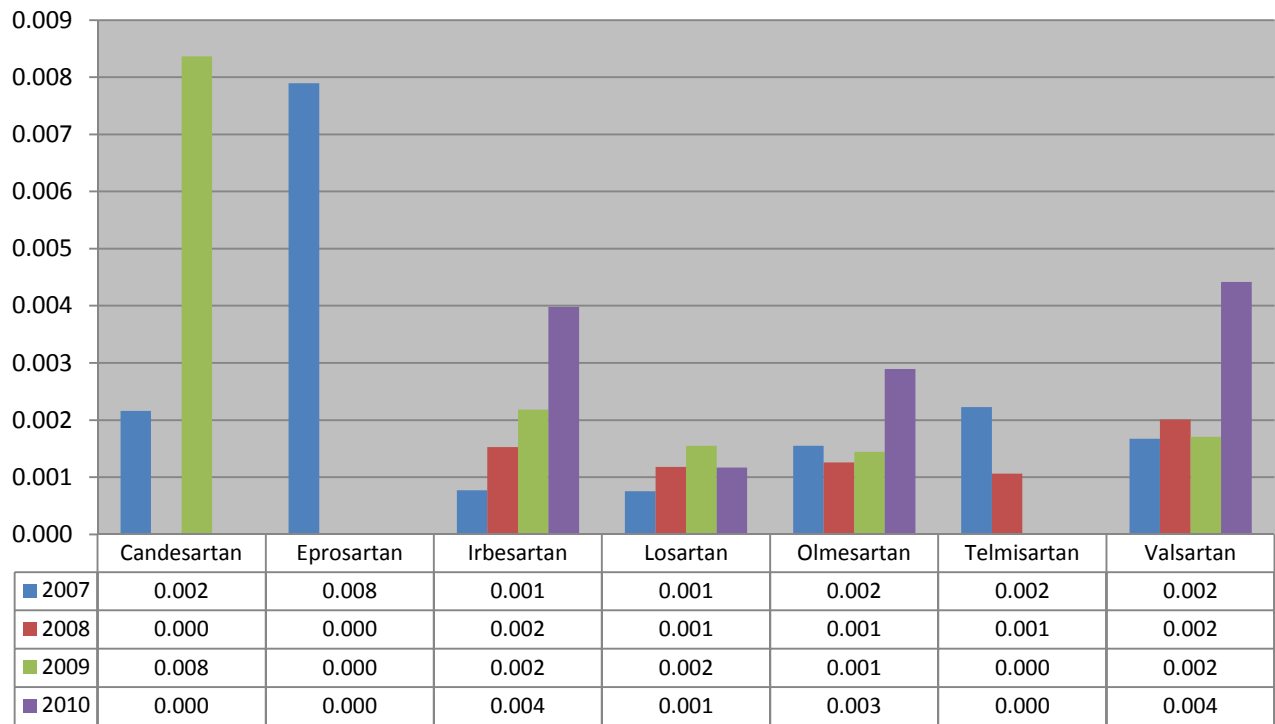
*Rates are calculated as number of events/total days at risk x 1000)

Table 6 (cont). Rate of Celiac Disease per 1000 Exposed Days at Risk, by Drug Product, Index Year, and Drug Washout Period

		DRUG WASHOUT PERIOD			
		91 Days	183 Days	365 Days	
StudyClass	IndexYear				
VALSARTAN	2007	Unique Users	105,139	60,237	49,375
		Total Days at Risk	24,495,613	11,475,443	9,844,723
		Total Number of Events	41	22	19
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2008	Unique Users	43,568	42,078	40,913
		Total Days at Risk	7,470,836	7,172,546	6,998,677
		Total Number of Events	15	14	13
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2009	Unique Users	41,148	38,523	37,012
		Total Days at Risk	5,860,252	5,358,110	5,146,287
		Total Number of Events	10	9	9
		Rate per 1000 Days at Risk	0.002	0.002	0.002
	2010	Unique Users	28,642	26,990	25,859
		Total Days at Risk	2,716,944	2,517,405	2,420,747
		Total Number of Events	12	11	9
		Rate per 1000 Days at Risk	0.004	0.004	0.004

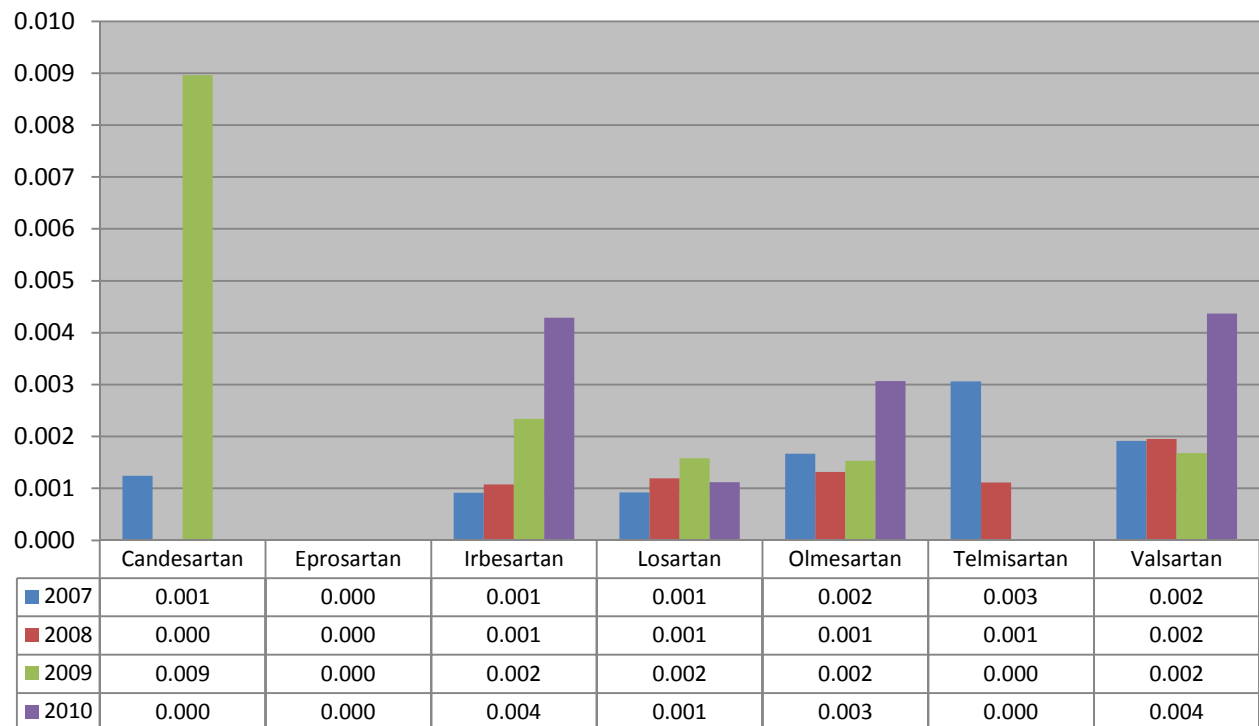
*Rates are calculated as number of events/total days at risk x 1000)

Figure 6a. Rate of Celiac Disease per 1,000 Exposed Days, by Drug and Year: Drug Washout Period = 91 Days



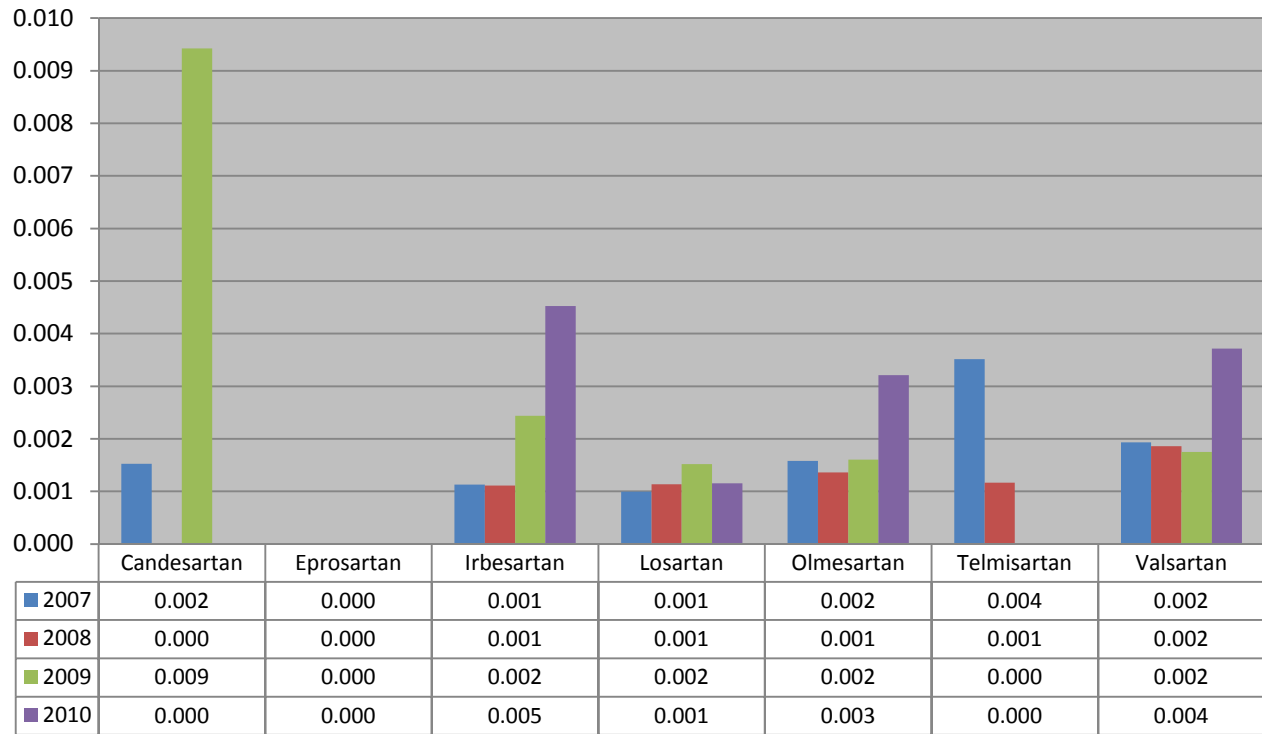
*Rates are calculated as number of events/total days at risk x 1000)

Figure 6b. Rate of Celiac Disease per 1,000 Exposed Days, by Drug and Year: Drug Washout Period = 183 Days



*Rates are calculated as number of events/total days at risk x 1000)

Figure 6c. Rate of Celiac Disease per 1,000 Exposed Days, by Drug and Year: Drug Washout Period = 365 Days



*Rates are calculated as number of events/total days at risk x 1000)