

## Disclaimer

The following report(s) provides findings from an FDA-initiated query using Sentinel. While 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 Sentinel, and seeking to better understand Sentinel capabilities.

Data obtained through 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 Sentinel in the public domain as soon as possible. Any public health actions taken by FDA regarding products involved in 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.

The following report contains a description of the request, request specifications, and results from the modular program run(s).

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### Overview for Request cder\_mpl1r\_wp020\_nsdp\_v01 (Report 3 of 3)

**Request ID:** cder\_mpl1r\_wp020\_nsdp\_v01

**Query Description:** This query investigated use of Beta Blocker drugs. Separate reports in this request examine Statin drugs and Angiotensin Converting Enzyme (ACE) Inhibitor drugs. This is report 3 of 3. Report 1 presents results on Statin drugs, and report 2 presents results on ACE inhibitors.

**Sentinel Modular Program Tool Used:** Cohort Identification and Descriptive Analysis (CIDA) tool, version 2.2.1

**Data Source:** Data from January 1, 2011 to December 31, 2015, from 15 Data Partners contributing to the Sentinel Distributed Database (SDD) were included in this report. This request was distributed on June 17, 2016. See Appendix A for a list of the dates of available data for each Data Partner.

**Study Design:** This request was designed to calculate background rates for years 2011-2015. The number of qualifying patients with prevalent (washout days = 0) use of the drug of interest were calculated overall and by year, then stratified by age group and sex.

**Exposure of Interest:** The exposure of interest was the use of Beta Blocker drugs, including Atenolol, Metoprolol, Nebivolol, and Propranolol. Please see Appendix B for a list of generic and brand names of medical products used in this request.

**Cohort Eligibility Criteria:** Patients were required to be continuously enrolled in plans with both medical and drug coverage for at least 1 day, during which gaps in coverage of up to 45 days were allowed. The following age groups were included in the cohort: 0-21, 22-44, 45-64, and 65+ years.

**Please see Appendix C for the specifications of parameters used in the analyses for this request.**

**Limitations:** Algorithms to define exposures and events are imperfect and may be misclassified. Therefore, data should be interpreted with this limitation in mind.

**Notes:** Please contact the Sentinel Operations Center ([info@sentinelssystem.org](mailto:info@sentinelssystem.org)) for questions and to provide comments/suggestions for future enhancements to this document. For more information on Sentinel's routine querying modules, please refer to the documentation (<https://dev.sentinelssystem.org/projects/SENTINEL/repos/sentinel-routine-querying-tool-documentation/browse>).

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**Glossary of Terms for Analyses Using  
Cohort Identification and Descriptive Analysis (CIDA) Module\***

**Amount Supplied** - number of units (pills, tablets, vials) dispensed. Net amount per NDC per dispensing.

**Blackout Period** - number of days at the beginning of a treatment episode that events are to be ignored. If an event occurs during the blackout period, the episode is excluded.

**Care Setting** - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency Department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or Missing (U). The Care Setting, along with the Principal Diagnosis Indicator (PDX), forms the Care Setting/PDX parameter.

**Ambulatory Visit (AV)** - includes visits at outpatient clinics, same-day surgeries, urgent care visits, and other same-day ambulatory hospital encounters, but excludes emergency department encounters.

**Emergency Department (ED)** - includes ED encounters that become inpatient stays (in which case inpatient stays would be a separate encounter). Excludes urgent care visits.

**Inpatient Hospital Stay (IP)** - includes all inpatient stays, same-day hospital discharges, hospital transfers, and acute hospital care where the discharge is after the admission date.

**Non-Acute Institutional Stay (IS)** - includes hospice, skilled nursing facility (SNF), rehab center, nursing home, residential, overnight non-hospital dialysis and other non-hospital stays.

**Other Ambulatory Visit (OA)** - includes other non overnight AV encounters such as hospice visits, home health visits, skilled nursing facility visits, other non-hospital visits, as well as telemedicine, telephone and email consultations.

**Charlson/Elixhauser Combined Comorbidity Score** - calculated based on comorbidities observed during a requester-defined window around the exposure episode start date (e.g., in the 183 days prior to index).

**Code Days** - the minimum number of times the diagnosis must be found during the evaluation period in order to fulfill the algorithm to identify the corresponding patient characteristic.

**Cohort Definition (drug/exposure)** - indicates how the cohort will be defined: 01: Cohort includes only the first valid treatment episode during the query period; 02: Cohort includes all valid treatment episodes during the query period; 03: Cohort includes all valid treatment episodes during the query period until an event occurs.

**Computed Start Marketing Date** - represents the first observed dispensing date among all valid users within a GROUP (scenario) within each Data Partner site.

**Days Supplied** - number of days supplied for all dispensings in qualifying treatment episodes.

**Eligible Members** - number of members eligible for an incident treatment episode (defined by the drug/exposure and event washout periods) with drug and medical coverage during the query period.

**Enrollment Gap** - number of days allowed between two consecutive enrollment periods without breaking a "continuously enrolled" sequence.

**Episodes** - treatment episodes; length of episode is determined by days supplied in one dispensing or consecutive dispensings bridged by the episode gap.

**Episode Gap** - number of days allowed between two (or more) consecutive exposures (dispensings/procedures) to be considered the same treatment episode.

**Event Deduplication** - specifies how events are counted by the Modular Program (MP) algorithm: 0: Counts all occurrences of a health outcome of interest (HOI) during an exposure episode; 1: de-duplicates occurrences of the same HOI code and code type on the same day; 2: de-duplicates occurrences of the same HOI group on the same day (e.g., de-duplicates at the group level).

**Exposure Episode Length** - number of days after exposure initiation that is considered "exposed time."

**Exposure Extension Period** - number of days post treatment period in which the outcomes/events are counted for a treatment episode. Extensions are added after any episode gaps have been bridged.

**Lookback Period** - number of days wherein a member is required to have evidence of pre-existing condition (diagnosis/procedure/drug dispensing).

**Maximum Episode Duration** - truncates exposure episodes after a requester-specified number of exposed days. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

**Member-Years** - sum of all days of enrollment with medical and drug coverage in the query period preceded by an exposure washout period all divided by 365.25.

**Minimum Days Supplied** - specifies a minimum number of days in length of the days supplied for the episode to be considered.

**Minimum Episode Duration** - specifies a minimum number of days in length of the episode for it to be considered. Applied after any gaps are bridged and extension days added to the length of the exposure episode.

**Monitoring Period** - used to define time periods of interest for both sequential analysis and simple cohort characterization requests.

**Principal Diagnosis (PDX)** - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

**Query Period** - period in which the modular program looks for exposures and outcomes of interest.

**Switch Evaluation Step Value** - value used to differentiate evaluation step. Each switch pattern can support up to 2 evaluation steps (0 = switch pattern evaluation start; 1 = first evaluation; 2 = second evaluation).

**Switch Gap Inclusion Indicator** - indicator for whether gaps in treatment episodes that are included in a switch episode will be counted as part of the switch episode duration.

**Switch Pattern Cohort Inclusion Date** - indicates which date to use for inclusion into the switch pattern cohort of interest as well as optionally as the index date of the treatment episode initiating the switch pattern. Valid options are the product approval date, product marketing date, other requester defined date, or computed start marketing date.

**Switch Pattern Cohort Inclusion Strategy** - indicates how the switch pattern cohort inclusion date will be used: 01: used only as a switch cohort entry date. First treatment episode dispensing date is used as index for computing time to first switch; 02: used as switch cohort entry date and as initial switch step index date for computing time to first switch.

**Treatment Episode Truncation Indicator** - indicates whether the exposure episode will be truncated at the occurrence of a requester-specified code.

**Washout Period (drug/exposure)** - number of days a user is required to have no evidence of prior exposure (drug dispensing/procedure) and continuous drug and medical coverage prior to an incident treatment episode.

**Washout Period (event/outcome)** - number of days a user is required to have no evidence of a prior event (procedure/diagnosis) and continuous drug and medical coverage prior to an incident treatment episode.

**Years at Risk** - number of days supplied plus any episode gaps and exposure extension periods all divided by 365.25.

\*all terms may not be used in this report

**Table 1. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug and Year**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2011</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	2,380,980	11,384,262	541,733,097	727,714,593	48,590,889	39,900,487.1	49.00	227.53	4.78	47.59
<b>Atenolol</b>										
	888,771	3,972,078	222,716,564	260,594,015	48,590,889	39,900,487.1	18.29	250.59	4.47	56.07
<b>Metoprolol</b>										
	1,214,861	6,007,949	266,204,672	395,527,156	48,590,889	39,900,487.1	25.00	219.12	4.95	44.31
<b>Nebivolol</b>										
	137,381	692,457	25,643,876	26,857,959	48,590,889	39,900,487.1	2.83	186.66	5.04	37.03
<b>Propranolol</b>										
	179,640	711,778	27,167,985	44,735,464	48,590,889	39,900,487.1	3.70	151.24	3.96	38.17
<b>2012</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	2,517,801	11,880,800	578,879,557	779,383,958	50,002,931	41,147,651.0	50.35	229.91	4.72	48.72
<b>Atenolol</b>										
	872,296	3,860,946	219,977,029	256,876,740	50,002,931	41,147,651.0	17.44	252.18	4.43	56.97
<b>Metoprolol</b>										
	1,349,880	6,475,310	300,089,765	444,855,864	50,002,931	41,147,651.0	27.00	222.31	4.80	46.34
<b>Nebivolol</b>										
	158,863	816,050	30,729,242	32,201,433	50,002,931	41,147,651.0	3.18	193.43	5.14	37.66
<b>Propranolol</b>										
	178,469	728,494	28,083,521	45,449,921	50,002,931	41,147,651.0	3.57	157.36	4.08	38.55
<b>2013</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	2,566,910	12,265,121	604,650,820	813,825,277	50,092,041	40,934,330.3	51.24	235.56	4.78	49.30
<b>Atenolol</b>										
	828,377	3,683,021	212,060,982	247,264,237	50,092,041	40,934,330.3	16.54	256.00	4.45	57.58
<b>Metoprolol</b>										
	1,436,752	6,980,269	330,927,094	486,133,792	50,092,041	40,934,330.3	28.68	230.33	4.86	47.41
<b>Nebivolol</b>										
	166,514	886,572	33,641,000	35,362,605	50,092,041	40,934,330.3	3.32	202.03	5.32	37.95
<b>Propranolol</b>										
	177,815	715,259	28,021,744	45,064,643	50,092,041	40,934,330.3	3.55	157.59	4.02	39.18

**Table 1. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug and Year**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2014</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	2,659,285	12,244,282	614,404,663	835,802,017	52,192,175	42,131,001.3	50.95	231.04	4.60	50.18
<b>Atenolol</b>										
	805,013	3,440,674	201,701,144	235,317,194	52,192,175	42,131,001.3	15.42	250.56	4.27	58.62
<b>Metoprolol</b>										
	1,533,362	7,161,332	348,451,608	513,907,269	52,192,175	42,131,001.3	29.38	227.25	4.67	48.66
<b>Nebivolol</b>										
	158,840	842,770	32,555,273	34,831,923	52,192,175	42,131,001.3	3.04	204.96	5.31	38.63
<b>Propranolol</b>										
	203,893	799,506	31,696,638	51,745,631	52,192,175	42,131,001.3	3.91	155.46	3.92	39.65
<b>2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	2,336,397	8,009,043	365,993,114	499,094,954	48,252,032	29,099,337.9	48.42	156.65	3.43	45.70
<b>Atenolol</b>										
	675,420	2,264,722	124,476,079	144,464,426	48,252,032	29,099,337.9	14.00	184.29	3.35	54.96
<b>Metoprolol</b>										
	1,385,669	4,698,344	204,148,359	301,966,955	48,252,032	29,099,337.9	28.72	147.33	3.39	43.45
<b>Nebivolol</b>										
	126,365	510,934	18,075,887	21,473,925	48,252,032	29,099,337.9	2.62	143.05	4.04	35.38
<b>Propranolol</b>										
	173,564	535,043	19,292,789	31,189,647	48,252,032	29,099,337.9	3.60	111.16	3.08	36.06
<b>2011-2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
	5,435,833	55,783,508	2,705,661,251	3,655,820,798	95,195,286	193,212,807.5	57.10	497.75	10.26	48.50
<b>Atenolol</b>										
	1,623,477	17,221,441	980,931,798	1,144,516,612	95,195,286	193,212,807.5	17.05	604.22	10.61	56.96
<b>Metoprolol</b>										
	3,147,287	31,323,204	1,449,821,498	2,142,391,036	95,195,286	193,212,807.5	33.06	460.66	9.95	46.29
<b>Nebivolol</b>										
	369,256	3,748,783	140,645,278	150,727,844	95,195,286	193,212,807.5	3.88	380.89	10.15	37.52
<b>Propranolol</b>										
	543,775	3,490,080	134,262,677	218,185,306	95,195,286	193,212,807.5	5.71	246.91	6.42	38.47

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2011</b>										
<b>Propranolol, Metoprolol, Atenolol, Nebivolol</b>										
00-21 Years	22,301	72,219	2,332,953	4,640,706	14,021,420	11,122,212.1	1.59	104.61	3.24	32.30
22-44 Years	277,320	1,140,011	41,402,602	53,942,699	17,215,602	12,947,975.5	16.11	149.30	4.11	36.32
45-64 Years	1,084,612	5,320,622	229,742,217	301,290,287	14,146,778	11,616,603.0	76.67	211.82	4.91	43.18
65+ Years	1,039,084	4,851,410	268,255,325	367,840,900	4,705,738	4,213,696.5	220.81	258.17	4.67	55.29
<b>Atenolol</b>										
00-21 Years	5,970	22,240	775,728	1,225,136	14,021,420	11,122,212.1	0.43	129.94	3.73	34.88
22-44 Years	85,066	343,987	14,511,854	16,408,712	17,215,602	12,947,975.5	4.94	170.60	4.04	42.19
45-64 Years	406,411	1,838,733	94,462,821	109,159,790	14,146,778	11,616,603.0	28.73	232.43	4.52	51.37
65+ Years	408,445	1,767,118	112,966,161	133,800,376	4,705,738	4,213,696.5	86.80	276.58	4.33	63.93
<b>Metoprolol</b>										
00-21 Years	3,657	11,581	375,638	518,508	14,021,420	11,122,212.1	0.26	102.72	3.17	32.44
22-44 Years	113,674	499,672	17,192,498	24,058,520	17,215,602	12,947,975.5	6.60	151.24	4.40	34.41
45-64 Years	541,497	2,753,460	108,424,240	157,506,914	14,146,778	11,616,603.0	38.28	200.23	5.08	39.38
65+ Years	576,175	2,743,236	140,212,296	213,443,214	4,705,738	4,213,696.5	122.44	243.35	4.76	51.11
<b>Nebivolol</b>										
00-21 Years	405	1,267	41,443	43,279	14,021,420	11,122,212.1	0.03	102.33	3.13	32.71
22-44 Years	23,917	106,374	3,511,154	3,631,716	17,215,602	12,947,975.5	1.39	146.81	4.45	33.01
45-64 Years	77,998	398,546	14,410,970	15,105,508	14,146,778	11,616,603.0	5.51	184.76	5.11	36.16
65+ Years	37,663	186,270	7,680,309	8,077,456	4,705,738	4,213,696.5	8.00	203.92	4.95	41.23
<b>Propranolol</b>										
00-21 Years	12,603	37,131	1,140,144	2,853,784	14,021,420	11,122,212.1	0.90	90.47	2.95	30.71
22-44 Years	59,729	189,978	6,187,096	9,843,751	17,215,602	12,947,975.5	3.47	103.59	3.18	32.57
45-64 Years	74,776	329,883	12,444,186	19,518,075	14,146,778	11,616,603.0	5.29	166.42	4.41	37.72
65+ Years	34,895	154,786	7,396,559	12,519,854	4,705,738	4,213,696.5	7.42	211.97	4.44	47.79

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2012</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
00-21 Years	22,709	74,031	2,397,712	4,583,039	14,096,676	11,173,551.7	1.61	105.58	3.26	32.39
22-44 Years	283,057	1,171,025	42,742,091	55,775,693	17,663,114	13,289,779.9	16.03	151.00	4.14	36.50
45-64 Years	1,130,292	5,508,076	240,312,233	315,004,098	14,617,059	11,983,381.5	77.33	212.61	4.87	43.63
65+ Years	1,128,314	5,127,668	293,427,521	404,021,127	5,235,850	4,700,937.9	215.50	260.06	4.54	57.22
<b>Atenolol</b>										
00-21 Years	5,743	21,283	745,474	1,012,750	14,096,676	11,173,551.7	0.41	129.81	3.71	35.03
22-44 Years	80,781	329,654	13,855,546	15,714,656	17,663,114	13,289,779.9	4.57	171.52	4.08	42.03
45-64 Years	390,494	1,771,216	90,863,731	104,832,976	14,617,059	11,983,381.5	26.71	232.69	4.54	51.30
65+ Years	412,714	1,738,793	114,512,278	135,316,358	5,235,850	4,700,937.9	78.82	277.46	4.21	65.86
<b>Metoprolol</b>										
00-21 Years	3,804	12,098	394,377	534,600	14,096,676	11,173,551.7	0.27	103.67	3.18	32.60
22-44 Years	119,980	520,732	18,413,390	25,799,492	17,663,114	13,289,779.9	6.79	153.47	4.34	35.36
45-64 Years	593,289	2,935,785	119,802,558	173,003,729	14,617,059	11,983,381.5	40.59	201.93	4.95	40.81
65+ Years	655,967	3,006,695	161,479,440	245,518,043	5,235,850	4,700,937.9	125.28	246.17	4.58	53.71
<b>Nebivolol</b>										
00-21 Years	438	1,545	49,227	49,928	14,096,676	11,173,551.7	0.03	112.39	3.53	31.86
22-44 Years	26,293	120,657	4,002,503	4,137,154	17,663,114	13,289,779.9	1.49	152.23	4.59	33.17
45-64 Years	89,928	469,390	17,111,353	17,916,568	14,617,059	11,983,381.5	6.15	190.28	5.22	36.45
65+ Years	45,317	224,458	9,566,159	10,097,783	5,235,850	4,700,937.9	8.66	211.09	4.95	42.62
<b>Propranolol</b>										
00-21 Years	13,047	39,105	1,208,634	2,985,761	14,096,676	11,173,551.7	0.93	92.64	3.00	30.91
22-44 Years	60,963	199,982	6,470,652	10,124,391	17,663,114	13,289,779.9	3.45	106.14	3.28	32.36
45-64 Years	73,065	331,685	12,534,591	19,250,825	14,617,059	11,983,381.5	5.00	171.55	4.54	37.79
65+ Years	34,118	157,722	7,869,644	13,088,943	5,235,850	4,700,937.9	6.52	230.66	4.62	49.90

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2013</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
00-21 Years	22,366	74,217	2,412,729	4,768,894	13,906,114	10,929,960.7	1.61	107.87	3.32	32.51
22-44 Years	280,442	1,184,814	43,153,959	56,214,236	17,792,983	13,257,242.5	15.76	153.88	4.22	36.42
45-64 Years	1,140,053	5,684,040	247,947,569	324,313,945	14,579,539	11,915,058.8	78.20	217.49	4.99	43.62
65+ Years	1,169,672	5,322,050	311,136,563	428,528,202	5,383,559	4,832,068.2	217.27	266.00	4.55	58.46
<b>Atenolol</b>										
00-21 Years	5,564	20,796	732,080	1,032,337	13,906,114	10,929,960.7	0.40	131.57	3.74	35.20
22-44 Years	74,673	309,993	12,914,814	14,651,668	17,792,983	13,257,242.5	4.20	172.95	4.15	41.66
45-64 Years	365,710	1,687,986	86,042,984	99,108,916	14,579,539	11,915,058.8	25.08	235.28	4.62	50.97
65+ Years	398,353	1,664,246	112,371,104	132,471,316	5,383,559	4,832,068.2	73.99	282.09	4.18	67.52
<b>Metoprolol</b>										
00-21 Years	3,952	12,854	427,674	580,414	13,906,114	10,929,960.7	0.28	108.22	3.25	33.27
22-44 Years	123,880	548,504	19,535,449	27,132,460	17,792,983	13,257,242.5	6.96	157.70	4.43	35.62
45-64 Years	623,578	3,157,964	130,762,326	186,753,314	14,579,539	11,915,058.8	42.77	209.70	5.06	41.41
65+ Years	709,004	3,260,947	180,201,645	271,667,605	5,383,559	4,832,068.2	131.70	254.16	4.60	55.26
<b>Nebivolol</b>										
00-21 Years	433	1,575	50,742	53,704	13,906,114	10,929,960.7	0.03	117.19	3.64	32.22
22-44 Years	26,667	125,957	4,178,826	4,330,791	17,792,983	13,257,242.5	1.50	156.70	4.72	33.18
45-64 Years	94,736	512,876	18,727,965	19,656,121	14,579,539	11,915,058.8	6.50	197.69	5.41	36.52
65+ Years	47,994	246,164	10,683,467	11,321,988	5,383,559	4,832,068.2	8.91	222.60	5.13	43.40
<b>Propranolol</b>										
00-21 Years	12,757	38,992	1,202,233	3,102,438	13,906,114	10,929,960.7	0.92	94.24	3.06	30.83
22-44 Years	60,361	200,360	6,524,870	10,099,317	17,792,983	13,257,242.5	3.39	108.10	3.32	32.57
45-64 Years	72,452	325,214	12,414,294	18,795,594	14,579,539	11,915,058.8	4.97	171.35	4.49	38.17
65+ Years	34,841	150,693	7,880,347	13,067,294	5,383,559	4,832,068.2	6.47	226.18	4.33	52.29

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2014</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
00-21 Years	23,152	75,783	2,464,921	4,861,836	13,873,358	10,845,684.4	1.67	106.47	3.27	32.53
22-44 Years	280,701	1,146,744	41,998,683	55,714,722	18,683,301	13,717,389.5	15.02	149.62	4.09	36.62
45-64 Years	1,155,902	5,527,422	243,619,784	322,433,525	15,392,745	12,306,230.0	75.09	210.76	4.78	44.07
65+ Years	1,244,905	5,494,333	326,321,275	452,791,934	5,892,108	5,261,697.4	211.28	262.13	4.41	59.39
<b>Atenolol</b>										
00-21 Years	5,176	19,529	687,971	960,213	13,873,358	10,845,684.4	0.37	132.92	3.77	35.23
22-44 Years	68,909	277,143	11,618,303	13,187,790	18,683,301	13,717,389.5	3.69	168.60	4.02	41.92
45-64 Years	347,446	1,539,948	78,724,196	90,513,824	15,392,745	12,306,230.0	22.57	226.58	4.43	51.12
65+ Years	398,244	1,604,054	110,670,674	130,655,367	5,892,108	5,261,697.4	67.59	277.90	4.03	68.99
<b>Metoprolol</b>										
00-21 Years	3,812	12,463	422,942	567,895	13,873,358	10,845,684.4	0.27	110.95	3.27	33.94
22-44 Years	124,221	534,550	19,308,837	26,950,101	18,683,301	13,717,389.5	6.65	155.44	4.30	36.12
45-64 Years	652,677	3,150,635	133,200,482	191,420,698	15,392,745	12,306,230.0	42.40	204.08	4.83	42.28
65+ Years	776,937	3,463,684	195,519,347	294,968,575	5,892,108	5,261,697.4	131.86	251.65	4.46	56.45
<b>Nebivolol</b>										
00-21 Years	381	1,293	42,083	45,039	13,873,358	10,845,684.4	0.03	110.45	3.39	32.55
22-44 Years	23,437	111,233	3,749,521	3,955,582	18,683,301	13,717,389.5	1.25	159.98	4.75	33.71
45-64 Years	88,894	477,089	17,745,611	18,947,739	15,392,745	12,306,230.0	5.78	199.63	5.37	37.20
65+ Years	49,390	253,155	11,018,058	11,883,563	5,892,108	5,261,697.4	8.38	223.08	5.13	43.52
<b>Propranolol</b>										
00-21 Years	14,166	42,498	1,311,925	3,288,690	13,873,358	10,845,684.4	1.02	92.61	3.00	30.87
22-44 Years	69,063	223,818	7,322,022	11,621,249	18,683,301	13,717,389.5	3.70	106.02	3.24	32.71
45-64 Years	83,013	359,750	13,949,495	21,551,264	15,392,745	12,306,230.0	5.39	168.04	4.33	38.78
65+ Years	40,584	173,440	9,113,196	15,284,428	5,892,108	5,261,697.4	6.89	224.55	4.27	52.54

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
00-21 Years	16,103	44,528	1,384,793	2,731,948	11,862,418	6,975,681.5	1.36	86.00	2.77	31.10
22-44 Years	218,867	719,502	24,755,794	32,979,311	17,138,860	9,592,136.4	12.77	113.11	3.29	34.41
45-64 Years	984,039	3,625,028	146,531,075	194,736,836	14,500,050	8,708,542.1	67.86	148.91	3.68	40.42
65+ Years	1,144,343	3,619,985	193,321,452	268,646,858	5,904,954	3,822,977.9	193.79	168.94	3.16	53.40
<b>Atenolol</b>										
00-21 Years	3,375	10,537	367,458	527,977	11,862,418	6,975,681.5	0.28	108.88	3.12	34.87
22-44 Years	50,258	166,459	6,793,535	7,685,587	17,138,860	9,592,136.4	2.93	135.17	3.31	40.81
45-64 Years	278,718	995,492	48,278,987	55,371,533	14,500,050	8,708,542.1	19.22	173.22	3.57	48.50
65+ Years	352,504	1,092,234	69,036,099	80,879,328	5,904,954	3,822,977.9	59.70	195.84	3.10	63.21
<b>Metoprolol</b>										
00-21 Years	2,626	7,206	231,890	306,337	11,862,418	6,975,681.5	0.22	88.31	2.74	32.18
22-44 Years	99,666	340,603	11,402,353	15,788,613	17,138,860	9,592,136.4	5.82	114.41	3.42	33.48
45-64 Years	571,281	2,091,458	79,581,949	114,180,655	14,500,050	8,708,542.1	39.40	139.30	3.66	38.05
65+ Years	726,181	2,259,077	112,932,167	171,691,350	5,904,954	3,822,977.9	122.98	155.52	3.11	49.99
<b>Nebivolol</b>										
00-21 Years	236	768	23,418	26,507	11,862,418	6,975,681.5	0.02	99.23	3.25	30.49
22-44 Years	17,036	64,168	2,024,946	2,332,696	17,138,860	9,592,136.4	0.99	118.86	3.77	31.56
45-64 Years	70,905	292,975	10,018,344	11,881,255	14,500,050	8,708,542.1	4.89	141.29	4.13	34.20
65+ Years	39,904	153,023	6,009,179	7,233,468	5,904,954	3,822,977.9	6.76	150.59	3.83	39.27
<b>Propranolol</b>										
00-21 Years	10,025	26,017	762,027	1,871,127	11,862,418	6,975,681.5	0.85	76.01	2.60	29.29
22-44 Years	54,688	148,272	4,534,960	7,172,415	17,138,860	9,592,136.4	3.19	82.92	2.71	30.59
45-64 Years	72,556	245,103	8,651,795	13,303,392	14,500,050	8,708,542.1	5.00	119.24	3.38	35.30
65+ Years	37,958	115,651	5,344,007	8,842,713	5,904,954	3,822,977.9	6.43	140.79	3.05	46.21

**Table 2. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Age Group**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2011-2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
00-21 Years	77,055	340,778	10,993,108	21,586,424	27,178,643	51,047,090.4	2.84	142.67	4.42	32.26
22-44 Years	799,079	5,362,096	194,053,129	254,626,662	38,224,633	62,804,523.7	20.90	242.85	6.71	36.19
45-64 Years	2,584,520	25,665,188	1,108,152,878	1,457,778,691	28,333,576	56,529,815.5	91.22	428.77	9.93	43.18
65+ Years	2,255,149	24,415,446	1,392,462,136	1,921,829,022	9,260,114	22,831,377.9	243.53	617.46	10.83	57.03
<b>Atenolol</b>										
00-21 Years	17,122	94,385	3,308,711	4,758,413	27,178,643	51,047,090.4	0.63	193.24	5.51	35.06
22-44 Years	202,596	1,427,236	59,694,052	67,648,414	38,224,633	62,804,523.7	5.30	294.65	7.04	41.82
45-64 Years	783,954	7,833,375	398,372,719	458,987,038	28,333,576	56,529,815.5	27.67	508.16	9.99	50.86
65+ Years	721,458	7,866,445	519,556,316	613,122,746	9,260,114	22,831,377.9	77.91	720.15	10.90	66.05
<b>Metoprolol</b>										
00-21 Years	13,168	56,202	1,852,521	2,507,755	27,178,643	51,047,090.4	0.48	140.68	4.27	32.96
22-44 Years	346,426	2,444,061	85,852,527	119,729,185	38,224,633	62,804,523.7	9.06	247.82	7.06	35.13
45-64 Years	1,474,689	14,089,302	571,771,555	822,865,309	28,333,576	56,529,815.5	52.05	387.72	9.55	40.58
65+ Years	1,453,194	14,733,639	790,344,895	1,197,288,787	9,260,114	22,831,377.9	156.93	543.87	10.14	53.64
<b>Nebivolol</b>										
00-21 Years	1,347	6,448	206,913	218,455	27,178,643	51,047,090.4	0.05	153.61	4.79	32.09
22-44 Years	67,679	528,389	17,466,950	18,387,939	38,224,633	62,804,523.7	1.77	258.09	7.81	33.06
45-64 Years	211,166	2,150,876	78,014,243	83,507,192	28,333,576	56,529,815.5	7.45	369.45	10.19	36.27
65+ Years	106,579	1,063,070	44,957,172	48,614,258	9,260,114	22,831,377.9	11.51	421.82	9.97	42.29
<b>Propranolol</b>										
00-21 Years	47,538	183,743	5,624,963	14,101,801	27,178,643	51,047,090.4	1.75	118.33	3.87	30.61
22-44 Years	214,135	962,410	31,039,600	48,861,123	38,224,633	62,804,523.7	5.60	144.95	4.49	32.25
45-64 Years	212,093	1,591,635	59,994,361	92,419,151	28,333,576	56,529,815.5	7.49	282.87	7.50	37.69
65+ Years	87,522	752,292	37,603,753	62,803,231	9,260,114	22,831,377.9	9.45	429.65	8.60	49.99

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2011</b>										
<b>Propranolol, Metoprolol, Atenolol, Nebivolol</b>										
Female	1,253,946	6,017,980	286,222,181	385,438,824	24,758,280	20,439,743.4	50.65	228.26	4.80	47.56
Male	1,126,912	5,365,696	255,483,880	342,238,529	23,830,255	19,458,864.3	47.29	226.71	4.76	47.61
Unknown	122	586	27,036	37,240	2,354	1,879.3	51.83	221.61	4.80	46.14
<b>Atenolol</b>										
Female	495,632	2,234,302	124,581,561	147,661,134	24,758,280	20,439,743.4	20.02	251.36	4.51	55.76
Male	393,103	1,737,596	98,125,797	112,923,910	23,830,255	19,458,864.3	16.50	249.62	4.42	56.47
Unknown	36	180	9,206	8,971	2,354	1,879.3	15.29	255.72	5.00	51.14
<b>Metoprolol</b>										
Female	596,805	2,980,991	131,251,706	195,487,515	24,758,280	20,439,743.4	24.11	219.92	4.99	44.03
Male	617,986	3,026,619	134,938,154	200,016,015	23,830,255	19,458,864.3	25.93	218.35	4.90	44.58
Unknown	70	339	14,812	23,626	2,354	1,879.3	29.74	211.60	4.84	43.69
<b>Nebivolol</b>										
Female	65,080	325,191	12,090,447	12,671,251	24,758,280	20,439,743.4	2.63	185.78	5.00	37.18
Male	72,294	367,237	13,552,104	14,184,328	23,830,255	19,458,864.3	3.03	187.46	5.08	36.90
Unknown	7	29	1,325	2,380	2,354	1,879.3	2.97	189.29	4.14	45.69
<b>Propranolol</b>										
Female	118,079	477,496	18,298,467	29,618,925	24,758,280	20,439,743.4	4.77	154.97	4.04	38.32
Male	61,550	234,244	8,867,825	15,114,276	23,830,255	19,458,864.3	2.58	144.08	3.81	37.86
Unknown	11	38	1,693	2,263	2,354	1,879.3	4.67	153.91	3.45	44.55

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2012</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
Female	1,318,970	6,237,939	304,423,548	410,621,009	25,432,727	21,029,503.4	51.86	230.80	4.73	48.80
Male	1,198,696	5,642,229	274,426,052	368,720,699	24,567,557	20,116,040.2	48.79	228.94	4.71	48.64
Unknown	135	632	29,957	42,251	2,647	2,107.3	51.00	221.90	4.68	47.40
<b>Atenolol</b>										
Female	488,177	2,173,856	123,483,896	146,033,260	25,432,727	21,029,503.4	19.19	252.95	4.45	56.80
Male	384,082	1,686,888	96,483,815	110,834,001	24,567,557	20,116,040.2	15.63	251.21	4.39	57.20
Unknown	37	202	9,318	9,479	2,647	2,107.3	13.98	251.84	5.46	46.13
<b>Metoprolol</b>										
Female	661,706	3,197,563	147,648,985	219,504,402	25,432,727	21,029,503.4	26.02	223.13	4.83	46.18
Male	688,094	3,277,393	152,423,801	225,324,029	24,567,557	20,116,040.2	28.01	221.52	4.76	46.51
Unknown	80	354	16,979	27,432	2,647	2,107.3	30.22	212.24	4.43	47.96
<b>Nebivolol</b>										
Female	74,919	380,759	14,467,710	15,177,716	25,432,727	21,029,503.4	2.95	193.11	5.08	38.00
Male	83,935	435,251	16,259,492	17,020,927	24,567,557	20,116,040.2	3.42	193.72	5.19	37.36
Unknown	9	40	2,040	2,790	2,647	2,107.3	3.40	226.67	4.44	51.00
<b>Propranolol</b>										
Female	116,913	485,761	18,822,957	29,905,630	25,432,727	21,029,503.4	4.60	161.00	4.15	38.75
Male	61,547	242,697	9,258,944	15,541,741	24,567,557	20,116,040.2	2.51	150.44	3.94	38.15
Unknown	9	36	1,620	2,550	2,647	2,107.3	3.40	180.00	4.00	45.00

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2013</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
Female	1,337,844	6,399,199	316,126,479	426,378,977	25,429,877	20,893,234.8	52.61	236.30	4.78	49.40
Male	1,228,921	5,865,279	288,492,987	387,404,544	24,659,733	20,039,309.0	49.84	234.75	4.77	49.19
Unknown	145	643	31,354	41,757	2,431	1,786.4	59.65	216.23	4.43	48.76
<b>Atenolol</b>										
Female	463,447	2,072,167	119,140,846	140,675,708	25,429,877	20,893,234.8	18.22	257.08	4.47	57.50
Male	364,893	1,610,682	92,911,201	106,579,541	24,659,733	20,039,309.0	14.80	254.63	4.41	57.68
Unknown	37	172	8,935	8,988	2,431	1,786.4	15.22	241.49	4.65	51.95
<b>Metoprolol</b>										
Female	702,784	3,438,188	162,431,959	239,484,941	25,429,877	20,893,234.8	27.64	231.13	4.89	47.24
Male	733,882	3,541,696	168,476,501	246,621,171	24,659,733	20,039,309.0	29.76	229.57	4.83	47.57
Unknown	86	385	18,634	27,680	2,431	1,786.4	35.38	216.67	4.48	48.40
<b>Nebivolol</b>										
Female	78,565	413,073	15,822,001	16,653,178	25,429,877	20,893,234.8	3.09	201.39	5.26	38.30
Male	87,935	473,448	17,816,945	18,706,907	24,659,733	20,039,309.0	3.57	202.61	5.38	37.63
Unknown	14	51	2,054	2,520	2,431	1,786.4	5.76	146.71	3.64	40.27
<b>Propranolol</b>										
Female	116,294	475,771	18,731,673	29,565,149	25,429,877	20,893,234.8	4.57	161.07	4.09	39.37
Male	61,513	239,453	9,288,340	15,496,926	24,659,733	20,039,309.0	2.49	151.00	3.89	38.79
Unknown	8	35	1,731	2,569	2,431	1,786.4	3.29	216.38	4.38	49.46

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2014</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
Female	1,389,862	6,407,819	321,831,316	438,919,809	26,474,584	21,486,218.3	52.50	231.56	4.61	50.22
Male	1,269,290	5,835,935	292,547,773	396,846,972	25,715,224	20,643,097.6	49.36	230.48	4.60	50.13
Unknown	133	528	25,574	35,236	2,367	1,685.5	56.19	192.29	3.97	48.44
<b>Atenolol</b>										
Female	452,628	1,945,563	113,915,112	134,834,926	26,474,584	21,486,218.3	17.10	251.67	4.30	58.55
Male	352,349	1,494,995	87,779,746	100,476,380	25,715,224	20,643,097.6	13.70	249.13	4.24	58.72
Unknown	36	116	6,286	5,888	2,367	1,685.5	15.21	174.61	3.22	54.19
<b>Metoprolol</b>										
Female	751,487	3,536,098	171,393,683	253,703,456	26,474,584	21,486,218.3	28.39	228.07	4.71	48.47
Male	781,795	3,624,885	177,041,364	260,178,131	25,715,224	20,643,097.6	30.40	226.45	4.64	48.84
Unknown	80	349	16,561	25,682	2,367	1,685.5	33.80	207.01	4.36	47.45
<b>Nebivolol</b>										
Female	75,190	395,740	15,402,264	16,463,716	26,474,584	21,486,218.3	2.84	204.84	5.26	38.92
Male	83,641	446,991	17,151,387	18,366,494	25,715,224	20,643,097.6	3.25	205.06	5.34	38.37
Unknown	9	39	1,622	1,712	2,367	1,685.5	3.80	180.22	4.33	41.59
<b>Propranolol</b>										
Female	133,344	530,418	21,120,257	33,917,710	26,474,584	21,486,218.3	5.04	158.39	3.98	39.82
Male	70,538	269,064	10,575,276	17,825,966	25,715,224	20,643,097.6	2.74	149.92	3.81	39.30
Unknown	11	24	1,105	1,954	2,367	1,685.5	4.65	100.45	2.18	46.04

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
Female	1,220,696	4,188,524	192,078,170	262,130,379	24,392,996	14,787,700.3	50.04	157.35	3.43	45.86
Male	1,115,612	3,820,303	173,905,253	236,951,001	23,856,625	14,310,501.0	46.76	155.88	3.42	45.52
Unknown	89	216	9,691	13,573	2,411	1,136.6	36.91	108.89	2.43	44.87
<b>Atenolol</b>										
Female	381,616	1,280,919	70,295,782	82,589,532	24,392,996	14,787,700.3	15.64	184.21	3.36	54.88
Male	293,785	983,759	54,177,920	61,872,522	23,856,625	14,310,501.0	12.31	184.41	3.35	55.07
Unknown	19	44	2,377	2,372	2,411	1,136.6	7.88	125.11	2.32	54.02
<b>Metoprolol</b>										
Female	679,632	2,313,957	100,388,152	148,994,186	24,392,996	14,787,700.3	27.86	147.71	3.40	43.38
Male	705,975	2,384,239	103,753,935	152,963,123	23,856,625	14,310,501.0	29.59	146.97	3.38	43.52
Unknown	62	148	6,272	9,646	2,411	1,136.6	25.72	101.16	2.39	42.38
<b>Nebivolol</b>										
Female	59,765	239,521	8,553,194	10,055,997	24,392,996	14,787,700.3	2.45	143.11	4.01	35.71
Male	66,595	271,394	9,521,995	11,416,991	23,856,625	14,310,501.0	2.79	142.98	4.08	35.09
Unknown	5	19	698	938	2,411	1,136.6	2.07	139.60	3.80	36.74
<b>Propranolol</b>										
Female	113,158	354,127	12,841,042	20,490,665	24,392,996	14,787,700.3	4.64	113.48	3.13	36.26
Male	60,403	180,911	6,451,403	10,698,365	23,856,625	14,310,501.0	2.53	106.81	3.00	35.66
Unknown	3	5	344	617	2,411	1,136.6	1.24	114.67	1.67	68.80

**Table 3. Summary of Use of Selected Drugs in the Sentinel Distributed Database (SDD) between January 1, 2011 and December 31, 2015, by Drug, Year, and Sex**

Year	New Users	Dispensings	Days Supplied	Amount Supplied	Eligible Members	Member- Years	New Users per 1,000 Eligible Members	Days Supplied per User	Dispensings per User	Days Supplied per Dispensing
<b>2011-2015</b>										
<b>Atenolol, Metoprolol, Nebivolol, Propranolol</b>										
Female	2,837,480	29,251,461	1,420,681,694	1,923,488,997	48,090,136	98,636,400.3	59.00	500.68	10.31	48.57
Male	2,598,085	26,529,442	1,284,855,945	1,732,161,744	47,099,887	94,567,812.2	55.16	494.54	10.21	48.43
Unknown	268	2,605	123,612	170,057	5,263	8,595.1	50.92	461.24	9.72	47.45
<b>Atenolol</b>										
Female	905,863	9,706,807	551,417,197	651,794,560	48,090,136	98,636,400.3	18.84	608.72	10.72	56.81
Male	717,549	7,513,920	429,478,479	492,686,355	47,099,887	94,567,812.2	15.23	598.54	10.47	57.16
Unknown	65	714	36,122	35,698	5,263	8,595.1	12.35	555.72	10.98	50.59
<b>Metoprolol</b>										
Female	1,537,796	15,466,797	713,114,485	1,057,174,501	48,090,136	98,636,400.3	31.98	463.73	10.06	46.11
Male	1,609,326	15,854,832	736,633,755	1,085,102,469	47,099,887	94,567,812.2	34.17	457.73	9.85	46.46
Unknown	165	1,575	73,258	114,066	5,263	8,595.1	31.35	443.99	9.55	46.51
<b>Nebivolol</b>										
Female	175,307	1,754,284	66,335,616	71,021,857	48,090,136	98,636,400.3	3.65	378.40	10.01	37.81
Male	193,926	1,994,321	74,301,923	79,695,647	47,099,887	94,567,812.2	4.12	383.15	10.28	37.26
Unknown	23	178	7,739	10,340	5,263	8,595.1	4.37	336.48	7.74	43.48
<b>Propranolol</b>										
Female	354,245	2,323,573	89,814,396	143,498,079	48,090,136	98,636,400.3	7.37	253.54	6.56	38.65
Male	189,506	1,166,369	44,441,788	74,677,274	47,099,887	94,567,812.2	4.02	234.51	6.15	38.10
Unknown	24	138	6,493	9,953	5,263	8,595.1	4.56	270.54	5.75	47.05

**Appendix A. Start and End Dates for Each Data Partner (DP) up to Request Distribution Date (June 17, 2016)**

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<b>DP ID</b>	<b>Start Date<sup>1</sup></b>	<b>End Date<sup>1</sup></b>
DP0001	1/1/2011	7/31/2015
DP0002	1/1/2011	10/31/2014
DP0003	1/1/2011	9/30/2015
DP0004	1/1/2011	12/31/2015
DP0005	1/1/2011	2/28/2015
DP0006	1/1/2011	10/31/2015
DP0007	1/1/2011	12/31/2014
DP0008	1/1/2011	11/30/2015
DP0009	1/1/2011	11/30/2015
DP0010	1/1/2011	9/30/2015
DP0011	1/1/2011	6/30/2015
DP0012	1/1/2011	6/30/2015
DP0013	1/1/2011	6/30/2012
DP0014	1/1/2011	7/31/2014
DP0015	1/1/2011	4/30/2015

<sup>1</sup>The start and end dates are based on the minimum and maximum dates within each DP. The month with the maximum date must have at least 80% of the number of records in the previous month.

**Appendix B. List of Generic and Brand Name Medical Products Used to Define Beta Blockers of Interest in this Request**

<b>Generic Name</b>	<b>Brand Name</b>
<b>Atenolol</b>	
Atenolol	Atenolol
Atenolol	Tenormin
<b>Metoprolol</b>	
Metoprolol Succinate	Metoprolol Succinate
Metoprolol Succinate	Toprol XL
Metoprolol Tartrate	Metoprolol Tartrate
Metoprolol Tartrate	Lopressor
<b>Nebivolol</b>	
Nebivolol HCl	Bystolic
<b>Propranolol</b>	
Propranolol HCl	Propranolol HCl
Propranolol HCl	Propranolol HCl ER
Propranolol HCl	Hemangeol
Propranolol HCl	Inderal LA
Propranolol HCl	Inderal XL
Propranolol HCl	Innopran XL

### Appendix C. Specifications Defining Parameters in this Request

This request used Sentinel's Cohort Identification and Descriptive Analysis (CIDA) tool, version 2.2.1 to identify prevalent use of beta blocker drugs in the Sentinel Distributed Database (SDD).

**Enrollment Gap:** 45 days  
**Age Groups:** 0-21, 22-44, 45-64, 65+  
**Query Period:** All Years AND One year at a time: Jan 1, 2011 - Dec 31, 2015  
**Coverage Requirement:** Medical and Drug Coverage  
**Enrollment Requirement:** 1 day

Scenario	Drug/Exposure			Pre-Existing Condition	Event/Outcome	
	Exposure	Incident with respect to:	Washout (days)	Cohort Definition	Pre-Existing Condition	Event/Outcome
1	Atorvastatin, Simvastatin, Rosuvastatin, Pravastatin	NA	0	02	None	Dummy
2	Atorvastatin	NA	0	02	None	Dummy
3	Simvastatin	NA	0	02	None	Dummy
4	Rosuvastatin	NA	0	02	None	Dummy
5	Pravastatin	NA	0	02	None	Dummy
6	Enalapril, Ramipril, Lisinopril, Benazepril	NA	0	02	None	Dummy
7	Enalapril	NA	0	02	None	Dummy
8	Ramipril	NA	0	02	None	Dummy
9	Lisinopril	NA	0	02	None	Dummy
10	Benazepril	NA	0	02	None	Dummy
11	Propranolol, Metoprolol, Atenolol, Nebivolol	NA	0	02	None	Dummy
12	Propranolol	NA	0	02	None	Dummy
13	Metoprolol	NA	0	02	None	Dummy
14	Atenolol	NA	0	02	None	Dummy
15	Nebivolol	NA	0	02	None	Dummy
16	Ferumoxytol, Ferric Carboxymaltose, Iron Dextran, Ferric Gluconate, Iron Sucrose	NA	0	02	None	Dummy
17	Ferumoxytol	NA	0	02	None	Dummy
18	Ferric Carboxymaltose	NA	0	02	None	Dummy
19	Iron Dextran	NA	0	02	None	Dummy
20	Ferric Gluconate	NA	0	02	None	Dummy
21	Iron Sucrose	NA	0	02	None	Dummy

**Appendix C. Specifications Defining Parameters in this Request**

Scenario	Drug/Exposure			Pre-Existing Condition	Event/Outcome	
	Exposure	Incident with respect to:	Washout (days)	Cohort Definition	Pre-Existing Condition	Event/Outcome
<b>22</b>	<b>Infliximab, Etanercept, Adalimumab, Golimumab, Certolizumab</b>	NA	0	02	None	Dummy
<b>23</b>	Infliximab	NA	0	02	None	Dummy
<b>24</b>	Etanercept	NA	0	02	None	Dummy
<b>25</b>	Adalimumab	NA	0	02	None	Dummy
<b>26</b>	Golimumab	NA	0	02	None	Dummy
<b>27</b>	Certolizumab	NA	0	02	None	Dummy
<b>28</b>	<b>Filgrastim, Pegfilgrastim, GM-CSF</b>	NA	0	02	None	Dummy
<b>29</b>	Filgrastim	NA	0	02	None	Dummy
<b>30</b>	Pegfilgrastim	NA	0	02	None	Dummy
<b>31</b>	GM-CSF	NA	0	02	None	Dummy

International Classification of Diseases, Ninth Revision (ICD-9), International Classification of Diseases, Tenth Revision (ICD-10), Healthcare Common Procedure Coding System (HCPCS), and Current Procedural Terminology (CPT) codes are provided by Optum360. National Drug Codes (NDCs) are checked against First Data Bank's "National Drug Data File (NDDF®) Plus."

NOTE: Other scenarios can be viewed in the two other reports in this request.