



## ***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.

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

If you are using a web page screen reader and are unable to access this document, please contact the Mini-Sentinel Operations Center for assistance at [info@mini-sentinel.org](mailto:info@mini-sentinel.org).

## Overview

**Request Description** FDA requested use of Modular Program #1 (MP1), version 1.0, to investigate the prevalent and incident use of carbidopa/levodopa, entacapone, and combination product carbidopa, levodopa, and entacapone (Stalevo) in the Mini-Sentinel Distributed Database (MSDD). The query was run against the MSDD for the time period 1/1/2000 to 12/31/2010. The package was distributed to 15 Data Partners on February 24, 2011.

Please review the notes below and refer to the Modular Program request for request specifications.

**Request ID** MSY2\_MP3t2 - MP1

**Requester** FDA

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**Modular Program Specifications for Query ID MP3t2 - MP1**

FDA requested use of MP1 (version 1.0) to investigate the prevalent and incident use of carbidopa/levodopa, entacapone, and combination product carbidopa, levodopa, and entacapone (Stalevo) in the Mini-Sentinel Distributed Database (MSDD). The query was run against the MSDD for the time period 1/1/2000 to 12/31/2010. Age groups were split as follows: 18-44, 45-64, and 65+ years. In total, 3 scenarios were examined in this report with differing exposures of interest and incidence criteria. See below for a description of each of these scenarios.

Scenario	Drug/Exposure		
	Incident exposure	Incident w/ respect to (incidence criteria):	Washout (days)
1	Carbidopa/Levodopa	Carbidopa/Levodopa	183
2	Entacapone	Entacapone	183
3	Combination Product Carbidopa, Levodopa, and Entacapone* (Stalevo)	Combination Product Carbidopa, Levodopa, and Entacapone* (Stalevo)	183

\*Combination product comprised of carbidopa, levodopa, and entacapone (Stalevo)

## Glossary of Terms in Modular Program 1\*

**Eligible Members (incidence-based cohort)** - Number of members eligible for incident exposure (defined by the washout period) with drug and medical coverage during the query period.

**Eligible Members (prevalence-based cohort)** - Number of members with at least one day of 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.

**Member-Days (incidence-based cohort)** - Sum of all days of enrollment with medical and drug coverage\*\* in the query period preceded by an exposure washout period.

**Member-Days (prevalence-based cohort)** - Sum of all days members are enrolled with drug and medical coverage\*\* during the query period.

**New Starts**- Number of incident exposures during the query period. User must have no prior exposures in the washout period. For a minimum incidence type, an individual may have no more than one new start. For a multiple incidence type, an individual may have more than one new start.

**New Users** - Number of members with incident exposure during the query period. Member must have no evidence of exposure (s) of interest (defined by incidence criteria) in the prior washout period. A user may only be counted once in a query period.

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

**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.

\*all terms may not be used in this report

\*\*in cases where only NDCs are used to identify exposure, only drug coverage is required

Table 1a. Summary of Prevalent Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product, Age Group, and Sex

			Users	Dispensings	Days Supplied	Dispensings per User	Days Supplied per Dispensing	Days Supplied per User
<b>Carbidopa/Levodopa</b>	<b>Overall</b>		<b>221,885</b>	<b>2,693,340</b>	<b>111,831,085</b>	<b>12.14</b>	<b>41.52</b>	<b>504.00</b>
	Age group	18 to 44 years	10,581	75,974	2,950,552	7.18	38.84	278.85
		45 to 64 years	47,716	571,733	25,402,917	11.98	44.43	532.38
		65+ years	163,588	2,045,633	83,477,616	12.50	40.81	510.29
	Sex	Female	117,551	1,402,014	56,543,602	11.93	40.33	481.01
		Male	104,290	1,290,902	55,273,638	12.38	42.82	530.00
		Unknown	42	385	11,938	9.17	31.01	284.24
<b>Entacapone</b>	<b>Overall</b>		<b>15,754</b>	<b>159,357</b>	<b>6,482,018</b>	<b>10.12</b>	<b>40.68</b>	<b>411.45</b>
	Age group	18 to 44 years	223	1,913	75,308	8.58	39.37	337.70
		45 to 64 years	3,324	41,051	1,815,894	12.35	44.24	546.30
		65+ years	12,207	116,393	4,590,816	9.53	39.44	376.08
	Sex	Female	6,268	62,595	2,430,789	9.99	38.83	387.81
		Male	9,483	96,749	4,050,769	10.20	41.87	427.16
		Unknown	2	10	360	5.00	36.00	180.00
<b>Combination product</b>	<b>Overall</b>		<b>15,066</b>	<b>172,471</b>	<b>5,867,871</b>	<b>11.45</b>	<b>34.02</b>	<b>389.48</b>
<b>Carbidopa, Levodopa, and Entacapone (Stalevo)</b>	Age group	18 to 44 years	197	2,000	65,962	10.15	32.98	334.83
		45 to 64 years	3,045	40,081	1,422,091	13.16	35.48	467.02
		65+ years	11,824	130,390	4,379,818	11.03	33.59	370.42
	Sex	Female	6,530	73,883	2,456,248	11.31	33.25	376.15
		Male	8,534	98,570	3,411,130	11.55	34.61	399.71
		Unknown	2	18	493	9.00	27.39	246.50

**Table 1b. Summary of Incident Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product, Age Group, and Sex**

		Users	Dispensings	Days Supplied	Dispensings per User	Days Supplied per Dispensing	Days Supplied per User	
<b>Carbidopa/Levodopa</b>	<b>Overall</b>	<b>112,243</b>	<b>1,050,764</b>	<b>47,815,755</b>	<b>9.36</b>	<b>45.51</b>	<b>426.00</b>	
	Age group	18 to 44 years	6,618	38,394	1,569,033	5.80	40.87	237.09
		45 to 64 years	27,479	258,091	12,218,399	9.39	47.34	444.64
		65+ years	78,146	754,279	34,028,323	9.65	45.11	435.45
	Sex	Female	58,525	527,916	23,498,072	9.02	44.51	401.50
		Male	53,695	522,663	24,310,734	9.73	46.51	452.76
Unknown		21	146	5,042	6.95	34.53	240.10	
<b>Entacapone</b>	<b>Overall</b>	<b>9,036</b>	<b>78,095</b>	<b>3,642,269</b>	<b>8.64</b>	<b>46.64</b>	<b>403.08</b>	
	Age group	18 to 44 years	147	1,385	56,776	9.42	40.99	386.23
		45 to 64 years	1,949	22,512	1,124,092	11.55	49.93	576.75
		65+ years	6,940	54,198	2,461,401	7.81	45.41	354.67
	Sex	Female	3,483	28,505	1,292,460	8.18	45.34	371.08
		Male	5,551	49,579	2,349,469	8.93	47.39	423.25
Unknown		1	8	240	8.00	30.00	240.00	
<b>Combination product</b>	<b>Overall</b>	<b>6,993</b>	<b>66,325</b>	<b>2,261,109</b>	<b>9.48</b>	<b>34.09</b>	<b>323.34</b>	
<b>Carbidopa, Levodopa, and Entacapone (Stalevo)</b>	Age group	18 to 44 years	103	882	29,445	8.56	33.38	285.87
		45 to 64 years	1,549	19,231	681,676	12.42	35.45	440.07
		65+ years	5,341	46,212	1,549,988	8.65	33.54	290.21
	Sex	Female	2,928	26,198	876,140	8.95	33.44	299.23
		Male	4,065	40,127	1,384,969	9.87	34.51	340.71
		Unknown	0	0	0	0.00	0.00	0.00

**Table 2a. Summary of Prevalent Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product and Year**

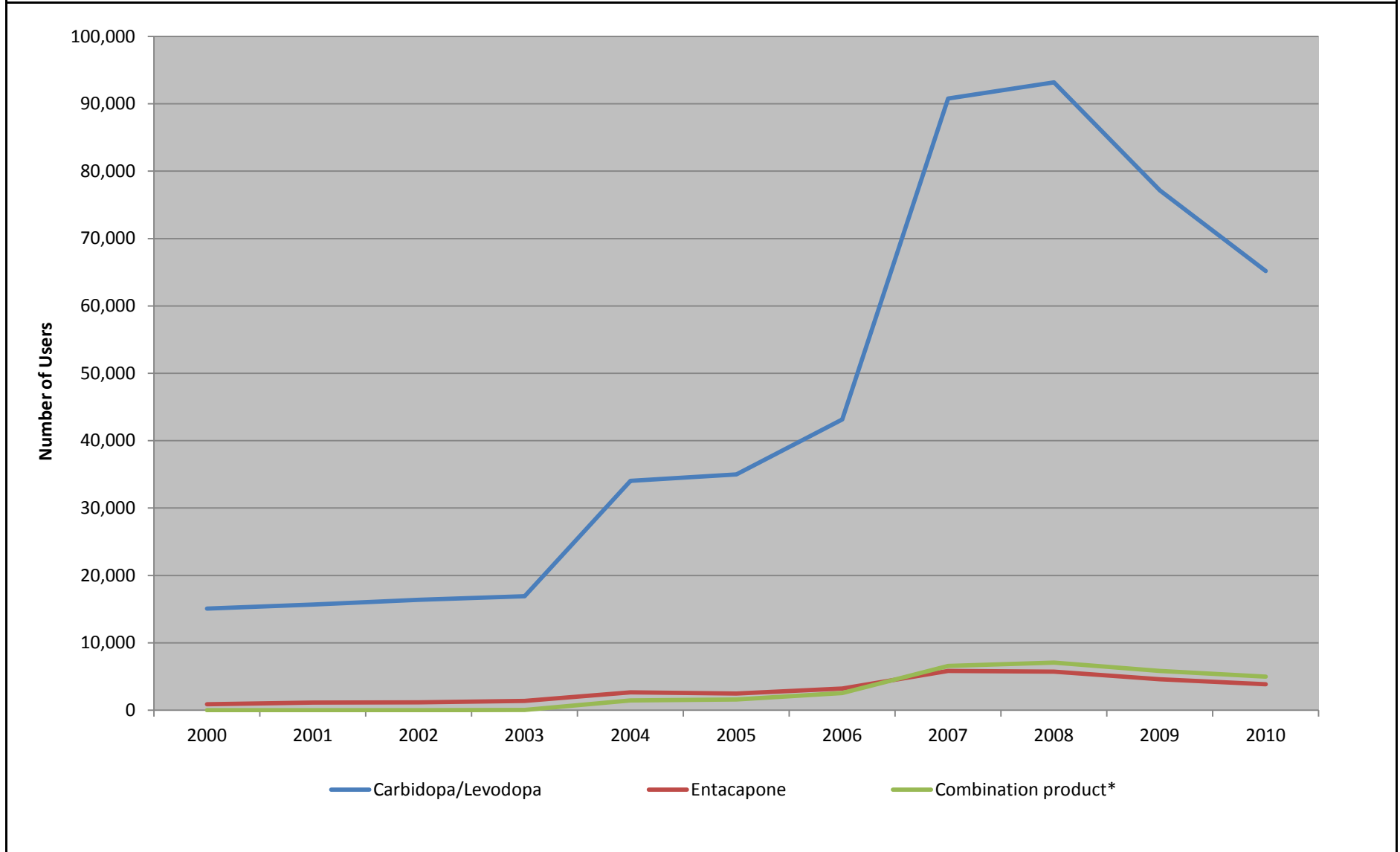
		Users	Dispensings	Days Supplied	Dispensings per User	Days Supplied per Dispensing	Days Supplied per User
<b>Carbidopa/Levodopa</b>	<b>Overall</b>	<b>221,885</b>	<b>2,693,340</b>	<b>111,831,085</b>	<b>12.14</b>	<b>41.52</b>	<b>504.00</b>
	Year						
	2000	15,063	79,825	3,940,065	5.30	49.36	261.57
	2001	15,666	80,242	4,151,041	5.12	51.73	264.97
	2002	16,382	79,450	4,325,599	4.85	54.44	264.05
	2003	16,904	79,389	4,443,195	4.70	55.97	262.85
	2004	34,035	180,738	7,905,376	5.31	43.74	232.27
	2005	35,001	180,580	8,074,946	5.16	44.72	230.71
	2006	43,166	220,613	9,767,306	5.11	44.27	226.27
	2007	90,771	454,528	17,417,489	5.01	38.32	191.88
	2008	93,180	585,773	21,889,600	6.29	37.37	234.92
	2009	77,144	453,369	18,152,279	5.88	40.04	235.30
	2010	65,200	298,833	11,764,189	4.58	39.37	180.43
<b>Entacapone</b>	<b>Overall</b>	<b>15,754</b>	<b>159,357</b>	<b>6,482,018</b>	<b>10.12</b>	<b>40.68</b>	<b>411.45</b>
	Year						
	2000	869	3,353	144,237	3.86	43.02	165.98
	2001	1,122	4,741	229,892	4.23	48.49	204.89
	2002	1,160	5,009	258,031	4.32	51.51	222.44
	2003	1,385	5,372	288,914	3.88	53.78	208.60
	2004	2,646	13,464	561,712	5.09	41.72	212.29
	2005	2,467	12,651	539,508	5.13	42.65	218.69
	2006	3,219	15,235	659,685	4.73	43.30	204.93
	2007	5,836	27,438	1,050,285	4.70	38.28	179.97
	2008	5,710	31,786	1,181,633	5.57	37.17	206.94
	2009	4,602	23,501	918,632	5.11	39.09	199.62
	2010	3,840	16,807	649,489	4.38	38.64	169.14
<b>Combination product Carbidopa, Levodopa, and Entacapone (Stalevo)</b>	<b>Overall</b>	<b>15,066</b>	<b>172,471</b>	<b>5,867,871</b>	<b>11.45</b>	<b>34.02</b>	<b>389.48</b>
	Year						
	2000	0	0	0	0.00	0.00	0.00
	2001	0	0	0	0.00	0.00	0.00
	2002	0	0	0	0.00	0.00	0.00
	2003	52	86	3,293	1.65	38.29	63.33
	2004	1,434	7,291	236,595	5.08	32.45	164.99
	2005	1,579	9,466	318,382	5.99	33.63	201.64
	2006	2,558	14,692	539,338	5.74	36.71	210.84
	2007	6,584	33,790	1,150,853	5.13	34.06	174.80
	2008	7,076	45,076	1,496,666	6.37	33.20	211.51
	2009	5,816	37,164	1,258,954	6.39	33.88	216.46
	2010	4,980	24,906	863,790	5.00	34.68	173.45

**Table 2b. Summary of Incident Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product and Year**

		Users	Dispensings	Days Supplied	Dispensings per User	Days Supplied per Dispensing	Days Supplied per User	
<b>Carbidopa/Levodopa</b>	<b>Overall</b>	<b>112,243</b>	<b>1,050,764</b>	<b>47,815,755</b>	<b>9.36</b>	<b>45.51</b>	<b>426.00</b>	
	Year	2000	7,072	31,881	1,349,046	4.51	42.32	190.76
		2001	8,656	39,869	1,824,064	4.61	45.75	210.73
		2002	9,876	44,148	2,162,874	4.47	48.99	219.00
		2003	11,110	48,940	2,533,727	4.41	51.77	228.06
		2004	15,197	60,163	3,077,429	3.96	51.15	202.50
		2005	20,287	83,794	4,083,623	4.13	48.73	201.29
		2006	23,726	99,359	4,850,560	4.19	48.82	204.44
		2007	27,933	119,554	5,713,158	4.28	47.79	204.53
		2008	40,466	180,226	7,725,509	4.45	42.87	190.91
		2009	42,354	201,625	8,662,122	4.76	42.96	204.52
	2010	33,097	141,205	5,833,643	4.27	41.31	176.26	
<b>Entacapone</b>	<b>Overall</b>	<b>9,036</b>	<b>78,095</b>	<b>3,642,269</b>	<b>8.64</b>	<b>46.64</b>	<b>403.08</b>	
	Year	2000	742	2,721	117,728	3.67	43.27	158.66
		2001	990	4,138	202,402	4.18	48.91	204.45
		2002	1,020	4,368	226,902	4.28	51.95	222.45
		2003	1,233	4,681	254,538	3.80	54.38	206.44
		2004	1,319	5,054	265,552	3.83	52.54	201.33
		2005	1,544	6,432	312,576	4.17	48.60	202.45
		2006	1,928	7,790	375,985	4.04	48.27	195.01
		2007	2,181	9,072	433,523	4.16	47.79	198.77
		2008	2,935	12,072	524,274	4.11	43.43	178.63
		2009	2,933	12,621	538,343	4.30	42.65	183.55
	2010	2,249	9,146	390,446	4.07	42.69	173.61	
<b>Combination product Carbidopa, Levodopa, and Entacapone (Stalevo)</b>	<b>Overall</b>	<b>6,993</b>	<b>66,325</b>	<b>2,261,109</b>	<b>9.48</b>	<b>34.09</b>	<b>323.34</b>	
Year	2000	0	0	0	0.00	0.00	0.00	
	2001	0	0	0	0.00	0.00	0.00	
	2002	0	0	0	0.00	0.00	0.00	
	2003	48	81	3,080	1.69	38.02	64.17	
	2004	482	1,481	49,010	3.07	33.09	101.68	
	2005	890	4,439	146,555	4.99	33.02	164.67	
	2006	1,210	6,187	215,527	5.11	34.84	178.12	
	2007	1,596	8,197	292,726	5.14	35.71	183.41	
	2008	3,031	15,123	504,016	4.99	33.33	166.29	
	2009	3,157	17,833	600,132	5.65	33.65	190.10	
	2010	2,543	12,984	450,063	5.11	34.66	176.98	

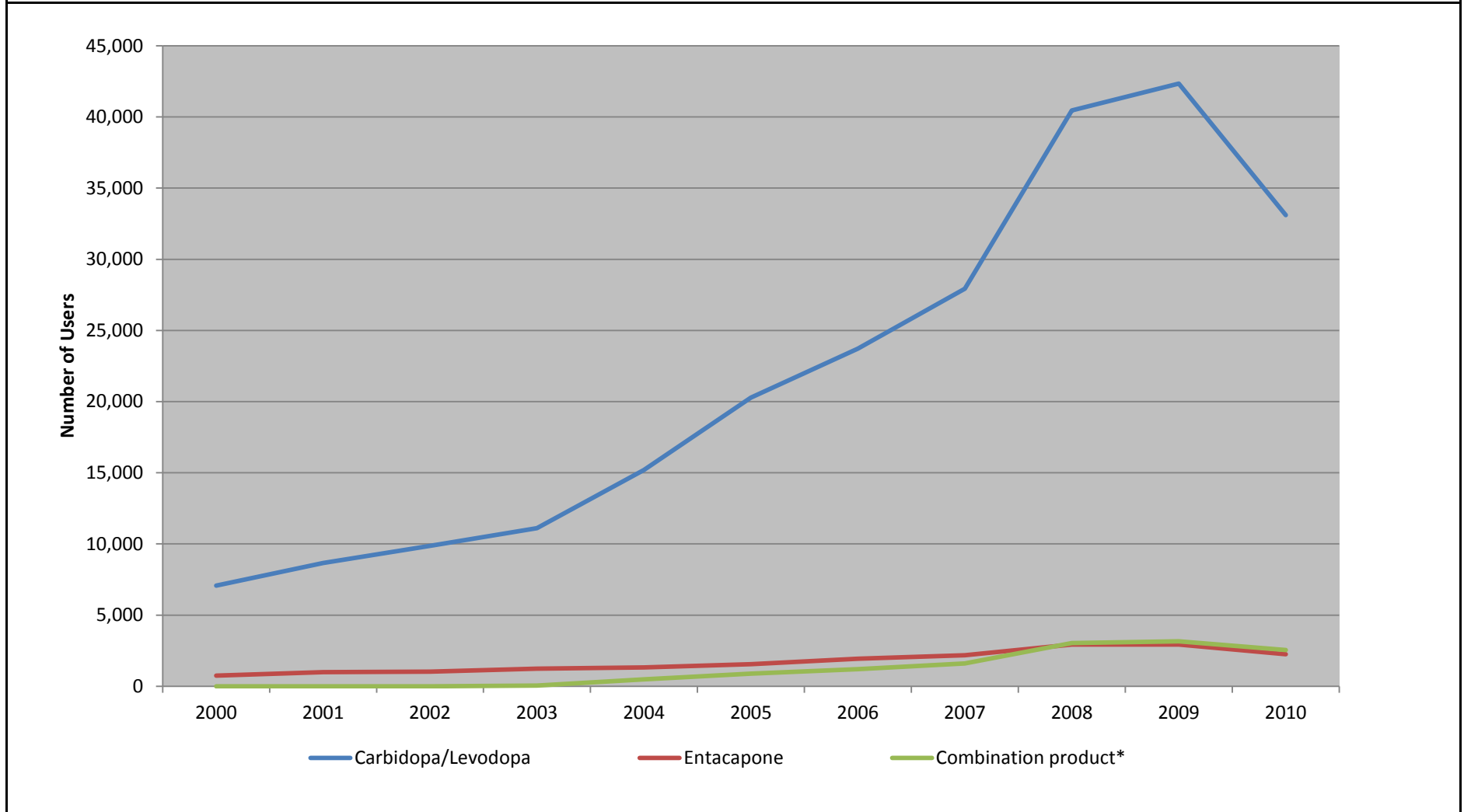


Figure 1a. Number of Prevalent Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product and Year



\*Combination product comprised of carbidopa, levodopa, and entacapone (Stalevo)

Figure 1b. Number of Incident Users in the MSDD between January 1, 2000 and December 31, 2010, by Drug Product and Year



\*Combination product comprised of carbidopa, levodopa, and entacapone (Stalevo)