

## Disclaimer

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).

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Overview for Request: to09y05\_mpr\_wp25

**Request ID:** to09y05\_mpr\_wp25\_v01

**Request Description:** In this request, we investigated use of abacavir, carbamazepine, clopidogrel, and phenytoin and several genetic testing procedures in the Mini-Sentinel Distributed Database (MSDD).

**Sentinel Modular Program Tool Used:** Modular Program #7 (MP7)

**Data Source:** Data from January 1, 2007 to December 31, 2012 from 17 Data Partners contributing to the MSDD were included in this request. The package was distributed to 18 Data Partners on April 16, 2014. Please see Appendix A for a list of dates of available data for each Data Partner.

**Study Design:** This report provides counts of incident abacavir, carbamazepine, clopidogrel, and phenytoin users and prevalent counts for specified genetic testing procedures in the 90, 183, and 365 days before and after an incident dispensing. Results are stratified by age group, sex, and year.

**Exposures of Interest:** The exposures of interest were incident dispensings of abacavir, carbamazepine, clopidogrel, and phenytoin. Exposures were considered incident if members had no prior dispensings of the drug of interest in the 183 days before the first valid dispensing (index). The exposures of interest were defined using National Drug Codes (NDCs). Please see Appendix B for a list of generic and brand names of medical products used to define the exposures in this request.

**Outcomes of Interest:** We assessed the prevalence of several genetic testing procedures in the time period before and after index dispensings of the exposures of interest. The genetic testing procedures were defined using Current Procedural Terminology, Fourth Edition (CPT-4) procedure codes. Please see Appendix C for a list of procedure codes used to define the specific genetic tests assessed in this request. The prevalence of the testing procedure outcomes was evaluated over three windows of time: 90 days pre- and post-index dispensing, 183 days pre- and post-index dispensing, and 365 days pre- and post-index dispensing.

**Cohort Eligibility Criteria:** Members included in the cohorts were required to be enrolled in plans with medical and drug coverage for 183 days prior to the index dispensing date, during which gaps in coverage up to 45 days were allowed. Both drug and medical coverage enrollment was required for the entire pre-/post-index outcome assessment windows. The following age groups were included in the cohorts: 0-21, 22-44, 45-64, and 65+ years.

**Please see Appendix D for specifications defining the parameters used in these analyses.**

**Limitations:** Algorithms used to define exposures and outcomes are imperfect; thus, it is possible that there may be misclassification. 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.

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**Appendix D** Specifications for Parameters Used for this Request

## Glossary of Terms in Modular Program 7\*

**Age Stratifications** - age group categories for reporting.

**Coverage Requirement** - specifies the type of coverage (medical, drug, or both) required of members.

**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 Days** - number of days of continuous enrollment required before the occurrence of an incident claim used to define the index date.

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

**Incident Exposure** - exposure for index claim of interest.

**Incident with Respect to** - exposure that the exposure of interest is incident with respect to. For example, if an exposure is Drug X, we could examine Drug X incident with respect to itself (new Drug X users who do not have a Drug X dispensing in the prior washout period days). Instead, we could examine Drug X incident with respect to both Drug X and Drug Y (new Drug X users who do not have a Drug X or Drug Y dispensing in the prior washout period days).

**Incidence Type** - *minimum incidence type* considers the first exposure/event as long as it is the first such exposure/event in the user's entire available history. *Single incidence type* identifies and reports metrics only for the first valid incident index claim during the query period, and uses claims observed during the specified washout period days to determine incidence.

**Index Date** - period of time during which incident drug exposure occurred.

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

**Most Frequent Procedures** - procedures to be ranked in the pre/post-index periods.

**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

**Post-Index Blackout Period** - number of days at the beginning of the post-index period that dispensings, procedures, or diagnoses are to be ignored. The index date will be included in the post-index lookup period if Blackout = 0.

**Pre/Post Index Care Setting** - type of medical encounter or facility where the procedure or diagnosis 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).

**Pre/Post-Index Enrollment Requirements** - number of days of continuous enrollment required before/after an index date claim to include the claim in the output metrics for prevalent or incident pre/post claims.

**Pre/Post-Index Incidence Type** - defines how incidence is evaluated for the pre- and post-index codes. A value of MIN identifies and reports metrics only for the first valid incident pre/post code during the query prior, and uses all previously observed codes, even those before the query period start date, to determine incidence. A value of MULT identifies and reports metrics for all valid incident pre/post codes during the query period, and uses codes observed during the specified washout period to determine incidence.

**Pre/Post-Index Lookup Periods** - number of days before and after the index date to consider and rank exposures/events (dispensings, procedures, diagnoses).

**Pre/Post-Index Washout Period** - number of washout days to determine pre/post period code incidence when the pre/post index incidence type = MULT.

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

**Washout Period** - number of days a user is required to have no evidence of prior exposure/event (drug dispensing/procedure/diagnosis/anniversary date).

**Table 1a. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 90 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	New Users	Eligible Members	Member-Days
<b>Abacavir</b>			
Total	6,851	78,847,486	62,442,772,935
Age Group (years)			
0-21	131	21,358,130	15,257,233,783
22-44	2,816	30,129,236	19,046,793,249
45-64	3,586	23,377,861	18,745,139,400
65+	317	6,976,784	6,643,543,491
Sex			
Female	1,397	41,322,448	30,292,797,290
Male	5,453	40,519,563	29,399,912,633
Unknown	0	0	0
Year			
2007	970	21,775,591	5,833,483,038
2008	1,234	41,965,041	9,462,175,606
2009	1,443	43,064,401	12,176,322,704
2010	1,133	41,809,773	11,876,839,836
2011	1,131	41,048,372	11,725,854,949
2012	940	39,659,483	11,204,989,887
<b>Carbamazepine</b>			
Total	93,879	78,942,005	62,471,867,491
Age Group (years)			
0-21	10,453	23,486,233	17,376,638,447
22-44	29,612	30,404,381	19,249,506,556
45-64	35,536	23,451,795	18,811,077,035
65+	18,278	7,306,811	7,033,005,867
Sex			
Female	57,517	43,102,456	32,159,802,171
Male	36,346	41,529,772	30,301,794,491
Unknown	16	16,992	8,631,243
Year			
2007	11,625	21,841,596	5,850,106,689
2008	15,901	42,165,487	9,519,940,889
2009	18,325	43,273,778	12,234,762,314
2010	17,049	41,838,217	11,883,456,808
2011	15,863	41,076,315	11,731,811,401
2012	15,116	39,977,109	11,251,789,390
<b>Clopidogrel</b>			
Total	589,702	78,640,156	61,824,548,634
Age Group (years)			
0-21	869	23,352,821	17,267,687,641
22-44	27,692	30,409,510	19,260,986,165
45-64	252,979	23,283,407	18,545,456,178
65+	308,161	7,109,875	6,626,416,485
Sex			
Female	226,083	42,963,615	31,920,265,472

**Table 1a. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 90 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	<b>New Users</b>	<b>Eligible Members</b>	<b>Member-Days</b>
Male	363,555	41,179,820	29,774,010,465
Unknown	63	12,178	6,270,532
<b>Year</b>			
2007	58,064	21,707,826	5,812,329,123
2008	105,138	41,886,487	9,433,779,301
2009	123,989	42,952,524	12,114,210,906
2010	106,699	41,479,713	11,753,726,166
2011	95,351	40,701,560	11,596,349,614
2012	100,461	39,590,050	11,114,153,524
<b>Phenytoin</b>			
Total	63,799	78,937,032	62,486,922,164
<b>Age Group (years)</b>			
0-21	5,258	23,490,772	17,384,360,962
22-44	15,627	30,412,303	19,263,224,167
45-64	24,803	23,446,684	18,813,498,164
65+	18,111	7,293,615	7,022,898,834
<b>Sex</b>			
Female	30,203	43,111,826	32,184,489,076
Male	33,588	41,518,108	30,292,144,836
Unknown	8	13,440	7,348,215
<b>Year</b>			
2007	9,698	21,836,299	5,849,494,418
2008	12,895	42,162,677	9,519,620,826
2009	13,288	43,274,607	12,236,096,912
2010	10,595	41,844,232	11,886,627,977
2011	9,371	41,088,394	11,736,817,398
2012	7,952	39,994,022	11,258,264,633

**Table 1b. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 183 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	New Users	Eligible Members	Member-Days
<b>Abacavir</b>			
Total	6,285	68,026,761	57,639,155,789
Age Group (years)			
0-21	120	19,031,747	14,795,703,529
22-44	2,567	25,562,410	17,259,699,159
45-64	3,303	20,559,199	17,431,573,021
65+	295	6,335,509	6,334,824,373
Sex			
Female	1,279	36,406,353	28,715,469,845
Male	5,006	35,082,512	27,106,330,237
Unknown	0	0	0
Year			
2007	917	20,099,449	5,489,405,351
2008	1,126	36,841,221	8,724,802,052
2009	1,305	39,283,205	11,208,264,580
2010	1,031	38,276,285	10,995,612,264
2011	1,052	37,558,558	10,817,177,798
2012	854	35,531,791	10,263,539,450
<b>Carbamazepine</b>			
Total	86,529	68,115,181	57,662,050,955
Age Group (years)			
0-21	9,623	20,320,311	15,978,648,576
22-44	26,650	25,810,045	17,448,672,076
45-64	32,911	20,661,157	17,527,133,795
65+	17,345	6,650,981	6,706,156,571
Sex			
Female	53,168	37,429,314	29,713,994,453
Male	33,347	35,998,065	27,938,766,184
Unknown	14	15,115	7,850,381
Year			
2007	10,974	20,160,393	5,504,122,331
2008	14,723	37,032,031	8,780,540,989
2009	16,819	39,481,481	11,260,807,058
2010	15,730	38,305,642	11,002,791,322
2011	14,581	37,584,257	10,823,525,705
2012	13,702	35,632,135	10,290,263,550
<b>Clopidogrel</b>			
Total	548,842	67,856,240	57,055,201,781
Age Group (years)			
0-21	792	20,201,112	15,879,430,392
22-44	25,077	25,814,652	17,459,337,540
45-64	232,985	20,517,747	17,282,087,820
65+	289,987	6,478,073	6,321,376,357
Sex			
Female	210,536	37,309,092	29,490,280,957



**Table 1b. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 183 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	<b>New Users</b>	<b>Eligible Members</b>	<b>Member-Days</b>
Male	338,245	35,691,591	27,446,169,288
Unknown	60	10,901	5,781,864
<b>Year</b>			
2007	55,329	20,033,546	5,468,003,205
2008	97,929	36,780,276	8,699,880,554
2009	114,783	39,179,842	11,148,483,385
2010	99,194	37,969,444	10,880,981,860
2011	88,764	37,230,642	10,696,282,919
2012	92,843	35,275,232	10,161,569,858
<b>Phenytoin</b>			
Total	57,309	68,110,078	57,676,312,976
<b>Age Group (years)</b>			
0-21	4,835	20,324,253	15,985,801,733
22-44	13,942	25,816,802	17,461,250,724
45-64	22,258	20,656,577	17,529,692,270
65+	16,274	6,638,892	6,696,911,670
<b>Sex</b>			
Female	27,127	37,437,175	29,737,143,162
Male	30,175	35,987,599	27,929,862,990
Unknown	7	11,750	6,650,245
<b>Year</b>			
2007	8,935	20,155,450	5,503,558,595
2008	11,629	37,029,559	8,780,310,768
2009	11,891	39,482,521	11,262,158,436
2010	9,460	38,311,485	11,005,808,861
2011	8,390	37,595,608	10,828,246,990
2012	7,004	35,647,645	10,296,229,326

**Table 1c. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 365 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	New Users	Eligible Members	Member-Days
<b>Abacavir</b>			
Total	4,209	48,544,528	38,920,129,178
Age Group (years)			
0-21	82	12,957,045	9,527,527,098
22-44	1,611	16,765,295	10,698,588,580
45-64	2,304	15,439,875	12,233,383,227
65+	212	4,790,495	4,557,923,622
Sex			
Female	860	25,413,744	19,021,234,548
Male	3,349	24,538,966	17,996,187,979
Unknown	0	0	0
Year			
2007	731	13,926,224	4,376,691,559
2008	532	28,013,621	4,658,989,737
2009	974	27,204,747	8,446,848,431
2010	796	26,850,876	8,468,969,026
2011	790	26,439,010	8,241,230,022
2012	386	25,433,104	4,572,810,602
<b>Carbamazepine</b>			
Total	59,897	48,614,633	38,939,408,768
Age Group (years)			
0-21	6,612	14,253,294	10,609,018,318
22-44	17,131	17,118,306	10,984,613,815
45-64	22,932	15,527,489	12,317,407,865
65+	13,222	5,321,284	5,027,542,906
Sex			
Female	37,106	26,747,418	20,171,655,590
Male	22,777	25,464,930	18,762,718,020
Unknown	14	8,025	4,209,294
Year			
2007	8,987	13,969,569	4,385,838,700
2008	8,608	28,304,463	4,747,054,525
2009	12,819	27,330,779	8,483,731,037
2010	12,203	26,881,275	8,476,567,036
2011	11,076	26,946,701	8,262,421,855
2012	6,204	25,506,495	4,582,587,787
<b>Clopidogrel</b>			
Total	384,132	48,393,080	38,514,857,309
Age Group (years)			
0-21	543	14,091,457	10,451,105,951
22-44	16,101	17,122,555	10,992,741,906
45-64	157,424	15,411,795	12,151,950,137
65+	210,063	5,175,507	4,752,027,445
Sex			
Female	148,678	26,577,892	19,932,580,692

**Table 1c. Summary of Incident Medical Product Exposure, with Genetic Testing Procedures in the 365 Days Before and After Dispensing, in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012**

	<b>New Users</b>	<b>Eligible Members</b>	<b>Member-Days</b>
Male	235,408	25,217,793	18,411,985,187
Unknown	45	5,629	3,259,560
<b>Year</b>			
2007	45,189	13,906,605	4,356,128,097
2008	52,570	28,076,041	4,702,118,208
2009	90,905	27,113,209	8,394,659,466
2010	80,050	26,636,248	8,378,588,565
2011	70,937	26,678,467	8,160,420,705
2012	44,481	25,959,022	4,522,486,423
<b>Phenytoin</b>			
Total	38,856	48,610,221	38,948,604,479
<b>Age Group (years)</b>			
0-21	3,337	14,236,216	10,600,818,075
22-44	9,007	17,123,531	10,992,869,963
45-64	14,982	15,519,809	12,316,543,590
65+	11,530	5,312,901	5,021,262,182
<b>Sex</b>			
Female	18,644	26,732,899	20,174,142,594
Male	20,208	25,456,547	18,756,037,474
Unknown	4	3,011	1,313,742
<b>Year</b>			
2007	7,031	13,966,869	4,385,413,216
2008	6,557	28,303,233	4,746,985,485
2009	8,819	27,331,117	8,484,777,301
2010	7,099	26,885,114	8,478,903,107
2011	6,324	26,955,173	8,266,079,103
2012	3,026	26,267,400	4,585,986,910

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,851</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		9	0.13%	9	1.0	0	0.00%	0	---
83890	Molecular Isolation/Extraction		600	8.76%	615	1.0	93	1.36%	100	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		523	7.63%	539	1.0	92	1.34%	93	1.0
83892	Molecular diagnostics; enzymatic digestion		21	0.31%	26	1.2	13	0.19%	16	1.2
83893	Molecular diagnostics; dot/slot blot production		539	7.87%	544	1.0	83	1.21%	84	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		76	1.11%	82	1.1	17	0.25%	22	1.3
83896	Molecular diagnostics; nucleic acid probe, each		1,033	15.08%	1,060	1.0	156	2.28%	161	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.01%	1	1.0	1	0.01%	1	1.0
83898	Molecular Amplification of Each Sequence		612	8.93%	625	1.0	112	1.63%	117	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		490	7.15%	498	1.0	71	1.04%	72	1.0
83901	Molecular Amplification of Each Additional Sequence		40	0.58%	40	1.0	13	0.19%	13	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.12%	10	1.3	6	0.09%	7	1.2
83903	Molecular Mutation Scanning		9	0.13%	9	1.0	0	0.00%	0	---
83904	Molecular Mutation Identification by Sequencing		13	0.19%	13	1.0	3	0.04%	3	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.04%	3	1.0	2	0.03%	2	1.0

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		7	0.10%	7	1.0	2	0.03%	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		15	0.22%	15	1.0	8	0.12%	8	1.0
83912	Genetic Examination		1,051	15.34%	1,094	1.0	202	2.95%	217	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		11	0.16%	11	1.0	10	0.15%	10	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.07%	5	1.0	2	0.03%	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		1,178	17.19%	5,206	4.4	232	3.39%	930	4.0
<b>Carbamazepine</b>		<b>93,879</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	4	0.00%	4	1.0
81381	HLA Class I Typing		8	0.01%	8	1.0	4	0.00%	4	1.0
83890	Molecular Isolation/Extraction		103	0.11%	115	1.1	99	0.11%	102	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		380	0.40%	399	1.1	376	0.40%	387	1.0
83892	Molecular diagnostics; enzymatic digestion		143	0.15%	154	1.1	164	0.17%	168	1.0
83893	Molecular diagnostics; dot/slot blot production		52	0.06%	52	1.0	43	0.05%	44	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		112	0.12%	123	1.1	104	0.11%	107	1.0
83896	Molecular diagnostics; nucleic acid probe, each		301	0.32%	310	1.0	267	0.28%	274	1.0

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		14	0.01%	16	1.1	20	0.02%	21	1.1
83898	Molecular Amplification of Each Sequence		268	0.29%	293	1.1	247	0.26%	255	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		186	0.20%	189	1.0	167	0.18%	170	1.0
83901	Molecular Amplification of Each Additional Sequence		73	0.08%	76	1.0	102	0.11%	103	1.0
83902	Molecular Diagnostics; Reverse Transcription		17	0.02%	19	1.1	24	0.03%	25	1.0
83903	Molecular Mutation Scanning		42	0.04%	42	1.0	58	0.06%	59	1.0
83904	Molecular Mutation Identification by Sequencing		46	0.05%	59	1.3	44	0.05%	46	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		13	0.01%	13	1.0	16	0.02%	16	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		41	0.04%	41	1.0	50	0.05%	51	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		91	0.10%	135	1.5	103	0.11%	123	1.2
83912	Genetic Examination		456	0.49%	481	1.1	443	0.47%	457	1.0
83913	Molecular diagnostics; RNA stabilization		5	0.01%	5	1.0	4	0.00%	4	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		57	0.06%	62	1.1	88	0.09%	90	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.00%	2	1.0	3	0.00%	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		13	0.01%	13	1.0	11	0.01%	11	1.0
	Any of the above codes		533	0.57%	2,607	4.9	523	0.56%	2,524	4.8
<b>Clopidogrel</b>		<b>589,702</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	27	0.00%	28	1.0
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		782	0.13%	808	1.0	756	0.13%	781	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		3,220	0.55%	3,373	1.0	4,281	0.73%	4,547	1.1
83892	Molecular diagnostics; enzymatic digestion		1,935	0.33%	1,974	1.0	2,596	0.44%	2,661	1.0
83893	Molecular diagnostics; dot/slot blot production		82	0.01%	83	1.0	74	0.01%	75	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		938	0.16%	961	1.0	1,082	0.18%	1,119	1.0
83896	Molecular diagnostics; nucleic acid probe, each		2,438	0.41%	2,513	1.0	2,901	0.49%	2,990	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.00%	7	1.0	9	0.00%	9	1.0
83898	Molecular Amplification of Each Sequence		2,676	0.45%	2,764	1.0	3,124	0.53%	3,262	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		737	0.12%	797	1.1	1,165	0.20%	1,247	1.1
83901	Molecular Amplification of Each Additional Sequence		412	0.07%	457	1.1	827	0.14%	895	1.1
83902	Molecular Diagnostics; Reverse Transcription		239	0.04%	260	1.1	283	0.05%	297	1.0
83903	Molecular Mutation Scanning		1,151	0.20%	1,169	1.0	1,476	0.25%	1,495	1.0
83904	Molecular Mutation Identification by Sequencing		291	0.05%	298	1.0	427	0.07%	433	1.0
83905	Molecular Mutation Identification by Transcription		38	0.01%	40	1.1	28	0.00%	28	1.0

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.00%	1	1.0	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		148	0.03%	154	1.0	155	0.03%	160	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		821	0.14%	840	1.0	1,031	0.17%	1,052	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		511	0.09%	534	1.0	796	0.13%	820	1.0
83912	Genetic Examination		4,152	0.70%	4,379	1.1	4,815	0.82%	5,140	1.1
83913	Molecular diagnostics; RNA stabilization		47	0.01%	50	1.1	49	0.01%	53	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		688	0.12%	732	1.1	1,147	0.19%	1,226	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		5	0.00%	5	1.0	1	0.00%	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		9	0.00%	9	1.0	15	0.00%	15	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		8	0.00%	8	1.0	10	0.00%	10	1.0
	Any of the above codes		4,969	0.84%	22,216	4.5	5,459	0.93%	28,344	5.2
<b>Phenytoin</b>		<b>63,799</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		2	0.00%	2	1.0	1	0.00%	1	1.0
83890	Molecular Isolation/Extraction		151	0.24%	198	1.3	170	0.27%	195	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		374	0.59%	491	1.3	464	0.73%	527	1.1
83892	Molecular diagnostics; enzymatic digestion		143	0.22%	154	1.1	199	0.31%	205	1.0
83893	Molecular diagnostics; dot/slot blot production		17	0.03%	19	1.1	17	0.03%	17	1.0



**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		135	0.21%	207	1.5	165	0.26%	178	1.1
83896	Molecular diagnostics; nucleic acid probe, each		245	0.38%	295	1.2	272	0.43%	282	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		8	0.01%	9	1.1	8	0.01%	8	1.0
83898	Molecular Amplification of Each Sequence		361	0.57%	464	1.3	413	0.65%	454	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		151	0.24%	210	1.4	181	0.28%	218	1.2
83901	Molecular Amplification of Each Additional Sequence		114	0.18%	137	1.2	145	0.23%	175	1.2
83902	Molecular Diagnostics; Reverse Transcription		52	0.08%	77	1.5	40	0.06%	43	1.1
83903	Molecular Mutation Scanning		44	0.07%	46	1.0	64	0.10%	66	1.0
83904	Molecular Mutation Identification by Sequencing		81	0.13%	111	1.4	79	0.12%	87	1.1
83905	Molecular Mutation Identification by Transcription		4	0.01%	4	1.0	2	0.00%	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		102	0.16%	116	1.1	118	0.18%	121	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		41	0.06%	42	1.0	53	0.08%	56	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		164	0.26%	208	1.3	188	0.29%	237	1.3
83912	Genetic Examination		552	0.87%	733	1.3	634	0.99%	774	1.2
83913	Molecular diagnostics; RNA stabilization		7	0.01%	11	1.6	3	0.00%	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		69	0.11%	79	1.1	67	0.11%	69	1.0

**Table 2a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		21	0.03%	31	1.5	2	0.00%	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		11	0.02%	17	1.5	6	0.01%	7	1.2
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.01%	9	1.8	8	0.01%	8	1.0
	Any of the above codes		681	1.07%	3,670	5.4	769	1.21%	3,735	4.9

"---" represent missing information

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,285</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	1	0.02%	1	1.0
81381	HLA Class I Typing		10	0.16%	10	1.0	3	0.05%	3	1.0
83890	Molecular Isolation/Extraction		650	10.34%	669	1.0	104	1.65%	120	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		568	9.04%	594	1.0	105	1.67%	108	1.0
83892	Molecular diagnostics; enzymatic digestion		32	0.51%	39	1.2	19	0.30%	29	1.5
83893	Molecular diagnostics; dot/slot blot production		582	9.26%	589	1.0	91	1.45%	92	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		94	1.50%	102	1.1	24	0.38%	34	1.4
83896	Molecular diagnostics; nucleic acid probe, each		1,110	17.66%	1,149	1.0	171	2.72%	185	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.05%	4	1.3	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		673	10.71%	693	1.0	137	2.18%	151	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		521	8.29%	536	1.0	71	1.13%	73	1.0
83901	Molecular Amplification of Each Additional Sequence		54	0.86%	55	1.0	13	0.21%	13	1.0
83902	Molecular Diagnostics; Reverse Transcription		10	0.16%	14	1.4	10	0.16%	17	1.7
83903	Molecular Mutation Scanning		14	0.22%	14	1.0	4	0.06%	4	1.0
83904	Molecular Mutation Identification by Sequencing		16	0.25%	16	1.0	6	0.10%	6	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.05%	3	1.0	3	0.05%	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		10	0.16%	10	1.0	5	0.08%	5	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		19	0.30%	19	1.0	9	0.14%	9	1.0
83912	Genetic Examination		1,132	18.01%	1,207	1.1	232	3.69%	277	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	2	0.03%	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.16%	10	1.0	8	0.13%	8	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		7	0.11%	7	1.0	3	0.05%	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		1,276	20.30%	5,740	4.5	277	4.41%	1,143	4.1
<b>Carbamazepine</b>		<b>86,259</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	7	0.01%	7	1.0
81381	HLA Class I Typing		8	0.01%	8	1.0	3	0.00%	3	1.0
83890	Molecular Isolation/Extraction		161	0.19%	175	1.1	168	0.19%	174	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		570	0.66%	612	1.1	598	0.69%	641	1.1
83892	Molecular diagnostics; enzymatic digestion		240	0.28%	261	1.1	275	0.32%	290	1.1
83893	Molecular diagnostics; dot/slot blot production		76	0.09%	77	1.0	63	0.07%	64	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		175	0.20%	198	1.1	171	0.20%	193	1.1

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		426	0.49%	444	1.0	391	0.45%	415	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		21	0.02%	22	1.0	29	0.03%	32	1.1
83898	Molecular Amplification of Each Sequence		399	0.46%	447	1.1	398	0.46%	439	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		267	0.31%	271	1.0	273	0.32%	280	1.0
83901	Molecular Amplification of Each Additional Sequence		132	0.15%	134	1.0	190	0.22%	194	1.0
83902	Molecular Diagnostics; Reverse Transcription		29	0.03%	35	1.2	34	0.04%	41	1.2
83903	Molecular Mutation Scanning		81	0.09%	84	1.0	88	0.10%	90	1.0
83904	Molecular Mutation Identification by Sequencing		74	0.09%	92	1.2	82	0.10%	93	1.1
83905	Molecular Mutation Identification by Transcription		1	0.00%	1	1.0	1	0.00%	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	1	0.00%	1	1.0
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		21	0.02%	21	1.0	30	0.03%	31	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		77	0.09%	78	1.0	77	0.09%	81	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		163	0.19%	213	1.3	200	0.23%	222	1.1
83912	Genetic Examination		688	0.80%	752	1.1	696	0.81%	754	1.1
83913	Molecular diagnostics; RNA stabilization		7	0.01%	7	1.0	6	0.01%	6	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		102	0.12%	106	1.0	177	0.21%	181	1.0

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular		1	0.00%	1	1.0	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular		3	0.00%	3	1.0	5	0.01%	5	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		20	0.02%	20	1.0	17	0.02%	17	1.0
	Any of the above codes		796	0.92%	4,062	5.1	831	0.96%	4,255	5.1
<b>Clopidogrel</b>		<b>548,842</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	72	0.01%	74	1.0
81381	HLA Class I Typing		0	0.00%	0	---	2	0.00%	2	1.0
83890	Molecular Isolation/Extraction		997	0.18%	1,056	1.1	1,005	0.18%	1,064	1.1
83891	Molecular diagnostics; isolation/extraction of		4,116	0.75%	4,398	1.1	5,492	1.00%	5,994	1.1
83892	Molecular diagnostics; enzymatic digestion		2,482	0.45%	2,561	1.0	3,328	0.61%	3,474	1.0
83893	Molecular diagnostics; dot/slot blot production		143	0.03%	147	1.0	131	0.02%	132	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		1,152	0.21%	1,209	1.0	1,343	0.24%	1,423	1.1
83896	Molecular diagnostics; nucleic acid probe, each		3,145	0.57%	3,313	1.1	3,821	0.70%	4,049	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		14	0.00%	14	1.0	20	0.00%	20	1.0
83898	Molecular Amplification of Each Sequence		3,366	0.61%	3,558	1.1	3,967	0.72%	4,253	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		981	0.18%	1,061	1.1	1,567	0.29%	1,705	1.1
83901	Molecular Amplification of Each Additional Sequence		525	0.10%	577	1.1	1,096	0.20%	1,206	1.1
83902	Molecular Diagnostics; Reverse Transcription		370	0.07%	435	1.2	410	0.07%	484	1.2
83903	Molecular Mutation Scanning		1,456	0.27%	1,486	1.0	1,919	0.35%	1,966	1.0
83904	Molecular Mutation Identification by Sequencing		455	0.08%	468	1.0	618	0.11%	646	1.0
83905	Molecular Mutation Identification by Transcription		37	0.01%	39	1.1	30	0.01%	30	1.0

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		2	0.00%	2	1.0	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		196	0.04%	207	1.1	243	0.04%	259	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1,007	0.18%	1,036	1.0	1,345	0.25%	1,383	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		715	0.13%	756	1.1	1,054	0.19%	1,110	1.1
83912	Genetic Examination		5,215	0.95%	5,646	1.1	6,200	1.13%	6,852	1.1
83913	Molecular diagnostics; RNA stabilization		79	0.01%	89	1.1	79	0.01%	94	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		836	0.15%	889	1.1	1,462	0.27%	1,596	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		4	0.00%	4	1.0	4	0.00%	4	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		14	0.00%	15	1.1	28	0.01%	28	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		12	0.00%	12	1.0	15	0.00%	16	1.1
	Any of the above codes		6,151	1.12%	28,978	4.7	7,046	1.28%	37,864	5.4
<b>Phenytoin</b>		<b>57,309</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	3	0.01%	3	1.0
81381	HLA Class I Typing		2	0.00%	2	1.0	1	0.00%	1	1.0
83890	Molecular Isolation/Extraction		194	0.34%	290	1.5	220	0.38%	296	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		505	0.88%	707	1.4	590	1.03%	723	1.2
83892	Molecular diagnostics; enzymatic digestion		236	0.41%	259	1.1	264	0.46%	275	1.0
83893	Molecular diagnostics; dot/slot blot production		33	0.06%	35	1.1	25	0.04%	25	1.0

**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		195	0.34%	320	1.6	214	0.37%	258	1.2
83896	Molecular diagnostics; nucleic acid probe, each		347	0.61%	444	1.3	361	0.63%	396	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		13	0.02%	14	1.1	10	0.02%	10	1.0
83898	Molecular Amplification of Each Sequence		464	0.81%	638	1.4	516	0.90%	625	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		209	0.36%	306	1.5	245	0.43%	341	1.4
83901	Molecular Amplification of Each Additional Sequence		158	0.28%	202	1.3	180	0.31%	253	1.4
83902	Molecular Diagnostics; Reverse Transcription		71	0.12%	112	1.6	52	0.09%	71	1.4
83903	Molecular Mutation Scanning		77	0.13%	80	1.0	88	0.15%	92	1.0
83904	Molecular Mutation Identification by Sequencing		112	0.20%	170	1.5	101	0.18%	125	1.2
83905	Molecular Mutation Identification by Transcription		5	0.01%	5	1.0	2	0.00%	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.00%	1	1.0	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		99	0.17%	122	1.2	117	0.20%	129	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		72	0.13%	75	1.0	77	0.13%	81	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		221	0.39%	303	1.4	252	0.44%	374	1.5
83912	Genetic Examination		711	1.24%	1,061	1.5	797	1.39%	1,099	1.4
83913	Molecular diagnostics; RNA stabilization		12	0.02%	17	1.4	7	0.01%	9	1.3



**Table 2b. Summary of Prevalent Genetic Testing Procedure Codes in the 183 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		104	0.18%	119	1.1	102	0.18%	106	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		24	0.04%	35	1.5	5	0.01%	5	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		12	0.02%	23	1.9	8	0.01%	10	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		10	0.02%	17	1.7	10	0.02%	10	1.0
	Any of the above codes		860	1.50%	5,357	6.2	953	1.66%	5,319	5.6

"--" represent missing information

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>4,209</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		7	0.17%	7	1.0	2	0.05%	2	1.0
83890	Molecular Isolation/Extraction		485	11.52%	507	1.0	91	2.16%	114	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		431	10.24%	460	1.1	100	2.38%	114	1.1
83892	Molecular diagnostics; enzymatic digestion		30	0.71%	42	1.4	24	0.57%	54	2.3
83893	Molecular diagnostics; dot/slot blot production		440	10.45%	449	1.0	69	1.64%	72	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		72	1.71%	78	1.1	31	0.74%	45	1.5
83896	Molecular diagnostics; nucleic acid probe, each		831	19.74%	877	1.1	147	3.49%	178	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.05%	2	1.0	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		522	12.40%	554	1.1	123	2.92%	149	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		380	9.03%	399	1.1	67	1.59%	72	1.1
83901	Molecular Amplification of Each Additional Sequence		44	1.05%	45	1.0	19	0.45%	21	1.1
83902	Molecular Diagnostics; Reverse Transcription		11	0.26%	19	1.7	12	0.29%	26	2.2
83903	Molecular Mutation Scanning		11	0.26%	11	1.0	8	0.19%	8	1.0
83904	Molecular Mutation Identification by Sequencing		14	0.33%	14	1.0	5	0.12%	5	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.05%	2	1.0	2	0.05%	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.19%	8	1.0	4	0.10%	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		24	0.57%	25	1.0	12	0.29%	12	1.0
83912	Genetic Examination		843	20.03%	942	1.1	205	4.87%	261	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.02%	1	1.0	3	0.07%	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.24%	10	1.0	6	0.14%	6	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		6	0.14%	6	1.0	3	0.07%	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		961	22.83%	4,458	4.6	254	6.03%	1,151	4.5
<b>Carbamazepine</b>		<b>59,897</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	3	0.01%	3	1.0
81381	HLA Class I Typing		7	0.01%	7	1.0	3	0.01%	3	1.0
83890	Molecular Isolation/Extraction		182	0.30%	187	1.0	215	0.36%	227	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		700	1.17%	768	1.1	722	1.21%	806	1.1
83892	Molecular diagnostics; enzymatic digestion		321	0.54%	347	1.1	362	0.60%	392	1.1
83893	Molecular diagnostics; dot/slot blot production		90	0.15%	90	1.0	81	0.14%	82	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		212	0.35%	227	1.1	213	0.36%	249	1.2

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		496	0.83%	537	1.1	455	0.76%	494	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		36	0.06%	37	1.0	34	0.06%	36	1.1
83898	Molecular Amplification of Each Sequence		453	0.76%	502	1.1	488	0.81%	558	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		314	0.52%	333	1.1	321	0.54%	336	1.0
83901	Molecular Amplification of Each Additional Sequence		195	0.33%	205	1.1	249	0.42%	262	1.1
83902	Molecular Diagnostics; Reverse Transcription		41	0.07%	59	1.4	34	0.06%	56	1.6
83903	Molecular Mutation Scanning		114	0.19%	119	1.0	123	0.21%	129	1.0
83904	Molecular Mutation Identification by Sequencing		72	0.12%	79	1.1	104	0.17%	127	1.2
83905	Molecular Mutation Identification by Transcription		1	0.00%	1	1.0	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		22	0.04%	23	1.0	31	0.05%	32	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		96	0.16%	102	1.1	114	0.19%	119	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		215	0.36%	230	1.1	255	0.43%	291	1.1
83912	Genetic Examination		818	1.37%	904	1.1	847	1.41%	959	1.1
83913	Molecular diagnostics; RNA stabilization		8	0.01%	9	1.1	5	0.01%	7	1.4
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		148	0.25%	153	1.0	229	0.38%	272	1.2

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.01%	3	1.0	1	0.00%	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.01%	3	1.0	3	0.01%	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		16	0.03%	16	1.0	15	0.03%	15	1.0
	Any of the above codes		958	1.60%	4,941	5.2	1,012	1.69%	5,459	5.4
<b>Clopidogrel</b>		<b>384,132</b>								
81225	CYP2C19 Gene Analysis Common Variants		1	0.00%	1	1.0	61	0.02%	62	1.0
81381	HLA Class I Typing		0	0.00%	0	---	2	0.00%	2	1.0
83890	Molecular Isolation/Extraction		980	0.26%	1,057	1.1	1,125	0.29%	1,194	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		3,870	1.01%	4,301	1.1	5,334	1.39%	6,005	1.1
83892	Molecular diagnostics; enzymatic digestion		2,332	0.61%	2,454	1.1	3,267	0.85%	3,452	1.1
83893	Molecular diagnostics; dot/slot blot production		189	0.05%	192	1.0	184	0.05%	187	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		1,131	0.29%	1,215	1.1	1,290	0.34%	1,370	1.1
83896	Molecular diagnostics; nucleic acid probe, each		2,957	0.77%	3,226	1.1	3,788	0.99%	4,126	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		24	0.01%	27	1.1	22	0.01%	23	1.0
83898	Molecular Amplification of Each Sequence		3,214	0.84%	3,530	1.1	3,847	1.00%	4,242	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		980	0.26%	1,090	1.1	1,703	0.44%	1,906	1.1
83901	Molecular Amplification of Each Additional Sequence		501	0.13%	564	1.1	1,225	0.32%	1,380	1.1
83902	Molecular Diagnostics; Reverse Transcription		399	0.10%	547	1.4	444	0.12%	591	1.3
83903	Molecular Mutation Scanning		1,346	0.35%	1,391	1.0	1,902	0.50%	1,975	1.0
83904	Molecular Mutation Identification by Sequencing		360	0.09%	381	1.1	690	0.18%	720	1.0

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		28	0.01%	31	1.1	24	0.01%	25	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		2	0.00%	2	1.0	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		166	0.04%	191	1.2	311	0.08%	339	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		906	0.24%	942	1.0	1,391	0.36%	1,444	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		720	0.19%	772	1.1	1,037	0.27%	1,105	1.1
83912	Genetic Examination		4,845	1.26%	5,450	1.1	6,094	1.59%	6,986	1.1
83913	Molecular diagnostics; RNA stabilization		86	0.02%	102	1.2	101	0.03%	116	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		670	0.17%	710	1.1	1,505	0.39%	1,659	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.00%	3	1.0	5	0.00%	5	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		19	0.00%	20	1.1	37	0.01%	45	1.2
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		12	0.00%	14	1.2	24	0.01%	30	1.3
	Any of the above codes		5,697	1.48%	28,213	5.0	6,951	1.81%	38,989	5.6
<b>Phenytoin</b>		<b>38,856</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		1	0.00%	1	1.0	3	0.01%	3	1.0
83890	Molecular Isolation/Extraction		148	0.38%	231	1.6	200	0.51%	305	1.5
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		468	1.20%	668	1.4	610	1.57%	786	1.3

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period			Post-Index Period				
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		230	0.59%	262	1.1	284	0.73%	304	1.1
83893	Molecular diagnostics; dot/slot blot production		29	0.07%	33	1.1	37	0.10%	37	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		164	0.42%	258	1.6	199	0.51%	253	1.3
83896	Molecular diagnostics; nucleic acid probe, each		308	0.79%	429	1.4	363	0.93%	420	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		14	0.04%	15	1.1	12	0.03%	12	1.0
83898	Molecular Amplification of Each Sequence		401	1.03%	557	1.4	488	1.26%	629	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		202	0.52%	296	1.5	236	0.61%	355	1.5
83901	Molecular Amplification of Each Additional Sequence		157	0.40%	217	1.4	176	0.45%	271	1.5
83902	Molecular Diagnostics; Reverse Transcription		60	0.15%	120	2.0	63	0.16%	108	1.7
83903	Molecular Mutation Scanning		72	0.19%	75	1.0	98	0.25%	102	1.0
83904	Molecular Mutation Identification by Sequencing		83	0.21%	126	1.5	103	0.27%	128	1.2
83905	Molecular Mutation Identification by Transcription		3	0.01%	3	1.0	4	0.01%	4	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		2	0.01%	2	1.0	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		79	0.20%	101	1.3	91	0.23%	109	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		60	0.15%	66	1.1	93	0.24%	96	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		189	0.49%	260	1.4	232	0.60%	379	1.6
83912	Genetic Examination		606	1.56%	907	1.5	751	1.93%	1,089	1.5

**Table 2c. Summary of Prevalent Genetic Testing Procedure Codes in the 365 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		11	0.03%	20	1.8	10	0.03%	15	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		100	0.26%	117	1.2	124	0.32%	130	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		16	0.04%	21	1.3	3	0.01%	4	1.3
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		13	0.03%	24	1.8	10	0.03%	11	1.1
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		12	0.03%	19	1.6	14	0.04%	15	1.1
	Any of the above codes		746	1.92%	4,828	6.5	905	2.33%	5,565	6.1

"---" represent missing information



**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,851</b>								
<b>0-21 years</b>		<b>131</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		16	12.21%	16	1.0	0	0.00%	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		6	4.58%	7	1.2	1	0.76%	1	1.0
83892	Molecular diagnostics; enzymatic digestion		0	0.00%	0	---	1	0.76%	1	1.0
83893	Molecular diagnostics; dot/slot blot production		14	10.69%	14	1.0	0	0.00%	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		2	1.53%	2	1.0	0	0.00%	0	---
83896	Molecular diagnostics; nucleic acid probe, each		18	13.74%	18	1.0	0	0.00%	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		18	13.74%	18	1.0	0	0.00%	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		4	3.05%	5	1.3	1	0.76%	1	1.0
83901	Molecular Amplification of Each Additional Sequence		2	1.53%	2	1.0	1	0.76%	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.00%	0	---	0	0.00%	0	---
83903	Molecular Mutation Scanning		0	0.00%	0	---	0	0.00%	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.00%	0	---	0	0.00%	0	---
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.00%	0	---	0	0.00%	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.00%	0	---	0	0.00%	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	2.29%	3	1.0	1	0.76%	1	1.0
83912	Genetic Examination		12	9.16%	13	1.1	1	0.76%	1	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	1.53%	2	1.0	1	0.76%	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.76%	1	1.0	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		23	17.56%	101	4.4	1	0.76%	7	7.0
<b>22-44 years</b>		<b>2,816</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		3	0.11%	3	1.0	0	0.00%	0	---
83890	Molecular Isolation/Extraction		264	9.38%	270	1.0	51	1.81%	53	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		220	7.81%	227	1.0	44	1.56%	45	1.0
83892	Molecular diagnostics; enzymatic digestion		9	0.32%	10	1.1	5	0.18%	6	1.2
83893	Molecular diagnostics; dot/slot blot production		242	8.59%	244	1.0	47	1.67%	48	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		33	1.17%	34	1.0	7	0.25%	7	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		445	15.80%	457	1.0	82	2.91%	85	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.04%	1	1.0	1	0.04%	1	1.0
83898	Molecular Amplification of Each Sequence		269	9.55%	276	1.0	54	1.92%	56	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		203	7.21%	208	1.0	40	1.42%	41	1.0
83901	Molecular Amplification of Each Additional Sequence		18	0.64%	18	1.0	9	0.32%	9	1.0
83902	Molecular Diagnostics; Reverse Transcription		4	0.14%	5	1.3	3	0.11%	4	1.3
83903	Molecular Mutation Scanning		3	0.11%	3	1.0	0	0.00%	0	---
83904	Molecular Mutation Identification by Sequencing		8	0.28%	8	1.0	1	0.04%	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.00%	0	---	0	0.00%	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.11%	3	1.0	1	0.04%	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		9	0.32%	9	1.0	7	0.25%	7	1.0
83912	Genetic Examination		459	16.30%	479	1.0	98	3.48%	99	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		5	0.18%	5	1.0	7	0.25%	7	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.04%	1	1.0	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		496	17.61%	2,261	4.6	113	4.01%	470	4.2
<b>45-64 years</b>		<b>3,586</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		5	0.14%	5	1.0	0	0.00%	0	---
83890	Molecular Isolation/Extraction		299	8.34%	306	1.0	37	1.03%	42	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		276	7.70%	283	1.0	45	1.25%	45	1.0
83892	Molecular diagnostics; enzymatic digestion		11	0.31%	15	1.4	7	0.20%	9	1.3
83893	Molecular diagnostics; dot/slot blot production		265	7.39%	267	1.0	33	0.92%	33	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		37	1.03%	42	1.1	10	0.28%	15	1.5
83896	Molecular diagnostics; nucleic acid probe, each		532	14.84%	545	1.0	69	1.92%	71	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		305	8.51%	310	1.0	55	1.53%	58	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		263	7.33%	264	1.0	28	0.78%	28	1.0
83901	Molecular Amplification of Each Additional Sequence		17	0.47%	17	1.0	3	0.08%	3	1.0
83902	Molecular Diagnostics; Reverse Transcription		4	0.11%	5	1.3	3	0.08%	3	1.0
83903	Molecular Mutation Scanning		5	0.14%	5	1.0	0	0.00%	0	---

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		5	0.14%	5	1.0	2	0.06%	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.06%	2	1.0	2	0.06%	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		4	0.11%	4	1.0	1	0.03%	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	0.08%	3	1.0	0	0.00%	0	---
83912	Genetic Examination		544	15.17%	564	1.0	96	2.68%	110	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.08%	3	1.0	2	0.06%	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.08%	3	1.0	2	0.06%	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		614	17.12%	2,648	4.3	108	3.01%	426	3.9
<b>65+ years</b>		<b>317</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		1	0.32%	1	1.0	0	0.00%	0	---

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83890	Molecular Isolation/Extraction		21	6.62%	23	1.1	5	1.58%	5	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		21	6.62%	22	1.0	2	0.63%	2	1.0
83892	Molecular diagnostics; enzymatic digestion		1	0.32%	1	1.0	0	0.00%	0	---
83893	Molecular diagnostics; dot/slot blot production		18	5.68%	19	1.1	3	0.95%	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		4	1.26%	4	1.0	0	0.00%	0	---
83896	Molecular diagnostics; nucleic acid probe, each		38	11.99%	40	1.1	5	1.58%	5	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		20	6.31%	21	1.1	3	0.95%	3	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		20	6.31%	21	1.1	2	0.63%	2	1.0
83901	Molecular Amplification of Each Additional Sequence		3	0.95%	3	1.0	0	0.00%	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.00%	0	---	0	0.00%	0	---
83903	Molecular Mutation Scanning		1	0.32%	1	1.0	0	0.00%	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.00%	0	---	0	0.00%	0	---
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.32%	1	1.0	0	0.00%	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.00%	0	---	0	0.00%	0	---

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.00%	0	---	0	0.00%	0	---
83912	Genetic Examination		36	11.36%	38	1.1	7	2.21%	7	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.32%	1	1.0	0	0.00%	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.00%	0	---	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		45	14.20%	196	4.4	10	3.15%	27	2.7
<b>Carbamazepine</b>		<b>93,879</b>								
<b>0-21 years</b>		<b>10,453</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	2	0.02%	2	1.0
81381	HLA Class I Typing		1	0.01%	1	1.0	0	0.00%	0	---
83890	Molecular Isolation/Extraction		17	0.16%	26	1.5	14	0.13%	14	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		52	0.50%	60	1.2	60	0.57%	62	1.0
83892	Molecular diagnostics; enzymatic digestion		27	0.26%	33	1.2	27	0.26%	27	1.0
83893	Molecular diagnostics; dot/slot blot production		6	0.06%	6	1.0	6	0.06%	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		27	0.26%	34	1.3	28	0.27%	28	1.0
83896	Molecular diagnostics; nucleic acid probe, each		36	0.34%	41	1.1	34	0.33%	34	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		11	0.11%	12	1.1	13	0.12%	13	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		39	0.37%	53	1.4	39	0.37%	40	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		27	0.26%	28	1.0	25	0.24%	25	1.0
83901	Molecular Amplification of Each Additional Sequence		15	0.14%	16	1.1	20	0.19%	20	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.00%	0	---	0	0.00%	0	---
83903	Molecular Mutation Scanning		2	0.02%	2	1.0	4	0.04%	4	1.0
83904	Molecular Mutation Identification by Sequencing		14	0.13%	25	1.8	11	0.11%	12	1.1
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.00%	0	---	0	0.00%	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.03%	3	1.0	1	0.01%	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		26	0.25%	69	2.7	22	0.21%	41	1.9
83912	Genetic Examination		55	0.53%	68	1.2	55	0.53%	56	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.10%	13	1.3	12	0.11%	12	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---



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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.00%	0	---	2	0.02%	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		11	0.11%	11	1.0	9	0.09%	9	1.0
	Any of the above codes		71	0.68%	501	7.1	76	0.73%	408	5.4
<b>22-44 years</b>		<b>29,612</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	1	0.00%	1	1.0
81381	HLA Class I Typing		2	0.01%	2	1.0	1	0.00%	1	1.0
83890	Molecular Isolation/Extraction		45	0.15%	47	1.0	39	0.13%	39	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		128	0.43%	136	1.1	129	0.44%	133	1.0
83892	Molecular diagnostics; enzymatic digestion		47	0.16%	49	1.0	61	0.21%	62	1.0
83893	Molecular diagnostics; dot/slot blot production		24	0.08%	24	1.0	22	0.07%	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		41	0.14%	44	1.1	33	0.11%	34	1.0
83896	Molecular diagnostics; nucleic acid probe, each		96	0.32%	98	1.0	93	0.31%	94	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.01%	4	1.3	4	0.01%	4	1.0
83898	Molecular Amplification of Each Sequence		98	0.33%	106	1.1	82	0.28%	84	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		56	0.19%	58	1.0	80	0.27%	82	1.0
83901	Molecular Amplification of Each Additional Sequence		35	0.12%	36	1.0	59	0.20%	60	1.0
83902	Molecular Diagnostics; Reverse Transcription		6	0.02%	6	1.0	6	0.02%	6	1.0
83903	Molecular Mutation Scanning		17	0.06%	17	1.0	17	0.06%	17	1.0
83904	Molecular Mutation Identification by Sequencing		13	0.04%	15	1.2	8	0.03%	9	1.1

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.01%	2	1.0	5	0.02%	5	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.05%	16	1.0	14	0.05%	14	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		31	0.10%	32	1.0	48	0.16%	49	1.0
83912	Genetic Examination		157	0.53%	165	1.1	163	0.55%	168	1.0
83913	Molecular diagnostics; RNA stabilization		1	0.00%	1	1.0	1	0.00%	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		28	0.09%	30	1.1	47	0.16%	49	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.00%	1	1.0	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.01%	2	1.0	1	0.00%	1	1.0
	Any of the above codes		186	0.63%	891	4.8	186	0.63%	935	5.0
<b>45-64 years</b>		<b>35,536</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	1	0.00%	1	1.0
81381	HLA Class I Typing		3	0.01%	3	1.0	2	0.01%	2	1.0
83890	Molecular Isolation/Extraction		32	0.09%	33	1.0	37	0.10%	39	1.1

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		130	0.37%	131	1.0	137	0.39%	140	1.0
83892	Molecular diagnostics; enzymatic digestion		56	0.16%	59	1.1	62	0.17%	65	1.0
83893	Molecular diagnostics; dot/slot blot production		17	0.05%	17	1.0	10	0.03%	11	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		33	0.09%	34	1.0	31	0.09%	32	1.0
83896	Molecular diagnostics; nucleic acid probe, each		110	0.31%	110	1.0	106	0.30%	110	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	3	0.01%	4	1.3
83898	Molecular Amplification of Each Sequence		98	0.28%	99	1.0	98	0.28%	101	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		55	0.15%	55	1.0	35	0.10%	36	1.0
83901	Molecular Amplification of Each Additional Sequence		13	0.04%	14	1.1	12	0.03%	12	1.0
83902	Molecular Diagnostics; Reverse Transcription		7	0.02%	7	1.0	13	0.04%	13	1.0
83903	Molecular Mutation Scanning		21	0.06%	21	1.0	28	0.08%	29	1.0
83904	Molecular Mutation Identification by Sequencing		16	0.05%	16	1.0	22	0.06%	22	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.02%	6	1.0	7	0.02%	7	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		20	0.06%	20	1.0	29	0.08%	30	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		22	0.06%	22	1.0	28	0.08%	28	1.0
83912	Genetic Examination		161	0.45%	162	1.0	168	0.47%	174	1.0
83913	Molecular diagnostics; RNA stabilization		2	0.01%	2	1.0	3	0.01%	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		12	0.03%	12	1.0	22	0.06%	22	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.00%	0	---	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	1	0.00%	1	1.0
	Any of the above codes		186	0.52%	823	4.4	198	0.56%	882	4.5
<b>65+ years</b>		<b>18,278</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		2	0.01%	2	1.0	1	0.01%	1	1.0
83890	Molecular Isolation/Extraction		9	0.05%	9	1.0	9	0.05%	10	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		70	0.38%	72	1.0	50	0.27%	52	1.0
83892	Molecular diagnostics; enzymatic digestion		13	0.07%	13	1.0	14	0.08%	14	1.0
83893	Molecular diagnostics; dot/slot blot production		5	0.03%	5	1.0	5	0.03%	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		11	0.06%	11	1.0	12	0.07%	13	1.1
83896	Molecular diagnostics; nucleic acid probe, each		59	0.32%	61	1.0	34	0.19%	36	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		33	0.18%	35	1.1	28	0.15%	30	1.1

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		48	0.26%	48	1.0	27	0.15%	27	1.0
83901	Molecular Amplification of Each Additional Sequence		10	0.05%	10	1.0	11	0.06%	11	1.0
83902	Molecular Diagnostics; Reverse Transcription		4	0.02%	6	1.5	5	0.03%	6	1.2
83903	Molecular Mutation Scanning		2	0.01%	2	1.0	9	0.05%	9	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.02%	3	1.0	3	0.02%	3	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		5	0.03%	5	1.0	4	0.02%	4	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.01%	2	1.0	6	0.03%	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		12	0.07%	12	1.0	5	0.03%	5	1.0
83912	Genetic Examination		83	0.45%	86	1.0	57	0.31%	59	1.0
83913	Molecular diagnostics; RNA stabilization		2	0.01%	2	1.0	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		7	0.04%	7	1.0	7	0.04%	7	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.01%	1	1.0	1	0.01%	1	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		90	0.49%	392	4.4	63	0.34%	299	4.7
<b>Clopidogrel</b>		<b>589,702</b>								
<b>0-21 years</b>		<b>869</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		10	1.15%	10	1.0	5	0.58%	5	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		34	3.91%	36	1.1	22	2.53%	23	1.0
83892	Molecular diagnostics; enzymatic digestion		28	3.22%	30	1.1	14	1.61%	14	1.0
83893	Molecular diagnostics; dot/slot blot production		0	0.00%	0	---	0	0.00%	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		8	0.92%	10	1.3	14	1.61%	14	1.0
83896	Molecular diagnostics; nucleic acid probe, each		28	3.22%	29	1.0	9	1.04%	9	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.00%	0	---	1	0.12%	1	1.0
83898	Molecular Amplification of Each Sequence		28	3.22%	30	1.1	20	2.30%	20	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		7	0.81%	7	1.0	3	0.35%	3	1.0
83901	Molecular Amplification of Each Additional Sequence		2	0.23%	2	1.0	1	0.12%	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.12%	1	1.0	1	0.12%	1	1.0
83903	Molecular Mutation Scanning		9	1.04%	10	1.1	5	0.58%	5	1.0
83904	Molecular Mutation Identification by Sequencing		2	0.23%	2	1.0	3	0.35%	3	1.0
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.12%	1	1.0	1	0.12%	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		15	1.73%	16	1.1	2	0.23%	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		5	0.58%	5	1.0	4	0.46%	4	1.0
83912	Genetic Examination		48	5.52%	51	1.1	22	2.53%	22	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.69%	6	1.0	2	0.23%	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.00%	0	---	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	1	0.12%	1	1.0
	Any of the above codes		59	6.79%	246	4.2	28	3.22%	131	4.7
<b>22-44 years</b>		<b>27,692</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	1	0.00%	1	1.0
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		148	0.53%	157	1.1	131	0.47%	137	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		575	2.08%	624	1.1	632	2.28%	699	1.1
83892	Molecular diagnostics; enzymatic digestion		362	1.31%	376	1.0	409	1.48%	427	1.0

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83893	Molecular diagnostics; dot/slot blot production		13	0.05%	13	1.0	15	0.05%	15	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		200	0.72%	204	1.0	226	0.82%	237	1.0
83896	Molecular diagnostics; nucleic acid probe, each		429	1.55%	452	1.1	423	1.53%	447	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.01%	2	1.0	2	0.01%	2	1.0
83898	Molecular Amplification of Each Sequence		483	1.74%	510	1.1	527	1.90%	567	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		111	0.40%	119	1.1	130	0.47%	137	1.1
83901	Molecular Amplification of Each Additional Sequence		37	0.13%	41	1.1	80	0.29%	84	1.1
83902	Molecular Diagnostics; Reverse Transcription		16	0.06%	21	1.3	16	0.06%	19	1.2
83903	Molecular Mutation Scanning		186	0.67%	193	1.0	200	0.72%	206	1.0
83904	Molecular Mutation Identification by Sequencing		30	0.11%	34	1.1	37	0.13%	38	1.0
83905	Molecular Mutation Identification by Transcription		12	0.04%	14	1.2	8	0.03%	8	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		11	0.04%	11	1.0	8	0.03%	9	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		156	0.56%	161	1.0	156	0.56%	164	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		89	0.32%	95	1.1	129	0.47%	136	1.1
83912	Genetic Examination		770	2.78%	831	1.1	736	2.66%	800	1.1



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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		1	0.00%	1	1.0	4	0.01%	6	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		117	0.42%	128	1.1	156	0.56%	163	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.00%	1	1.0	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.00%	1	1.0	1	0.00%	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	1	0.00%	1	1.0
	Any of the above codes		941	3.40%	3,989	4.2	830	3.00%	4,304	5.2
<b>45-64 years</b>		<b>252,979</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	19	0.01%	20	1.1
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		455	0.18%	469	1.0	442	0.17%	456	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,833	0.72%	1,910	1.0	2,475	0.98%	2,613	1.1
83892	Molecular diagnostics; enzymatic digestion		1,110	0.44%	1,129	1.0	1,503	0.59%	1,539	1.0
83893	Molecular diagnostics; dot/slot blot production		46	0.02%	47	1.0	41	0.02%	42	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		551	0.22%	565	1.0	652	0.26%	675	1.0
83896	Molecular diagnostics; nucleic acid probe, each		1,399	0.55%	1,441	1.0	1,699	0.67%	1,747	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.00%	3	1.0	5	0.00%	5	1.0
83898	Molecular Amplification of Each Sequence		1,573	0.62%	1,620	1.0	1,832	0.72%	1,907	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		383	0.15%	415	1.1	624	0.25%	668	1.1
83901	Molecular Amplification of Each Additional Sequence		217	0.09%	240	1.1	421	0.17%	455	1.1

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83902	Molecular Diagnostics; Reverse Transcription		127	0.05%	140	1.1	145	0.06%	152	1.0
83903	Molecular Mutation Scanning		686	0.27%	693	1.0	884	0.35%	893	1.0
83904	Molecular Mutation Identification by Sequencing		162	0.06%	164	1.0	232	0.09%	237	1.0
83905	Molecular Mutation Identification by Transcription		22	0.01%	22	1.0	15	0.01%	15	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		63	0.02%	66	1.0	59	0.02%	61	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		474	0.19%	484	1.0	622	0.25%	631	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		290	0.11%	302	1.0	447	0.18%	460	1.0
83912	Genetic Examination		2,367	0.94%	2,485	1.0	2,786	1.10%	2,965	1.1
83913	Molecular diagnostics; RNA stabilization		23	0.01%	26	1.1	20	0.01%	21	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		384	0.15%	404	1.1	620	0.25%	658	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		4	0.00%	4	1.0	1	0.00%	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		7	0.00%	7	1.0	8	0.00%	8	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.00%	3	1.0	3	0.00%	3	1.0
	Any of the above codes		2,844	1.12%	12,639	4.4	3,136	1.24%	16,232	5.2

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>65+ years</b>		<b>308,161</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	7	0.00%	7	1.0
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		169	0.05%	172	1.0	178	0.06%	183	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		778	0.25%	803	1.0	1,152	0.37%	1,212	1.1
83892	Molecular diagnostics; enzymatic digestion		435	0.14%	439	1.0	670	0.22%	681	1.0
83893	Molecular diagnostics; dot/slot blot production		23	0.01%	23	1.0	18	0.01%	18	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		179	0.06%	182	1.0	190	0.06%	193	1.0
83896	Molecular diagnostics; nucleic acid probe, each		582	0.19%	591	1.0	770	0.25%	787	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.00%	2	1.0	1	0.00%	1	1.0
83898	Molecular Amplification of Each Sequence		592	0.19%	604	1.0	745	0.24%	768	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		236	0.08%	256	1.1	408	0.13%	439	1.1
83901	Molecular Amplification of Each Additional Sequence		156	0.05%	174	1.1	325	0.11%	355	1.1
83902	Molecular Diagnostics; Reverse Transcription		95	0.03%	98	1.0	121	0.04%	125	1.0
83903	Molecular Mutation Scanning		270	0.09%	273	1.0	387	0.13%	391	1.0
83904	Molecular Mutation Identification by Sequencing		97	0.03%	98	1.0	155	0.05%	155	1.0
83905	Molecular Mutation Identification by Transcription		4	0.00%	4	1.0	5	0.00%	5	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.00%	1	1.0	0	0.00%	0	---

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Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		73	0.02%	76	1.0	87	0.03%	89	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		176	0.06%	179	1.0	251	0.08%	255	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		127	0.04%	132	1.0	216	0.07%	220	1.0
83912	Genetic Examination		967	0.31%	1,012	1.0	1,271	0.41%	1,353	1.1
83913	Molecular diagnostics; RNA stabilization		23	0.01%	23	1.0	25	0.01%	26	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		181	0.06%	194	1.1	369	0.12%	403	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.00%	1	1.0	6	0.00%	6	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.00%	5	1.0	5	0.00%	5	1.0
	Any of the above codes		1,125	0.37%	5,342	4.7	1,465	0.48%	7,677	5.2
<b>Phenytoin</b>		<b>63,799</b>								
<b>0-21 years</b>		<b>5,258</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		15	0.29%	16	1.1	17	0.32%	18	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		33	0.63%	60	1.8	49	0.93%	64	1.3
83892	Molecular diagnostics; enzymatic digestion		10	0.19%	11	1.1	24	0.46%	24	1.0
83893	Molecular diagnostics; dot/slot blot production		2	0.04%	2	1.0	3	0.06%	3	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		18	0.34%	25	1.4	29	0.55%	30	1.0
83896	Molecular diagnostics; nucleic acid probe, each		18	0.34%	18	1.0	22	0.42%	22	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.10%	6	1.2	5	0.10%	5	1.0
83898	Molecular Amplification of Each Sequence		30	0.57%	38	1.3	44	0.84%	57	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		15	0.29%	16	1.1	19	0.36%	19	1.0
83901	Molecular Amplification of Each Additional Sequence		14	0.27%	15	1.1	17	0.32%	17	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.02%	1	1.0	0	0.00%	0	---
83903	Molecular Mutation Scanning		1	0.02%	1	1.0	0	0.00%	0	---
83904	Molecular Mutation Identification by Sequencing		10	0.19%	17	1.7	11	0.21%	12	1.1
83905	Molecular Mutation Identification by Transcription		1	0.02%	1	1.0	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.04%	2	1.0	2	0.04%	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.04%	3	1.5	4	0.08%	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		18	0.34%	22	1.2	21	0.40%	32	1.5
83912	Genetic Examination		47	0.89%	55	1.2	60	1.14%	78	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.02%	1	1.0	1	0.02%	1	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		4	0.08%	4	1.0	7	0.13%	7	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.00%	0	---	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.00%	0	---	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.02%	1	1.0	5	0.10%	5	1.0
	Any of the above codes		59	1.12%	315	5.3	76	1.45%	400	5.3
<b>22-44 years</b>		<b>15,627</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		1	0.01%	1	1.0	0	0.00%	0	---
83890	Molecular Isolation/Extraction		51	0.33%	63	1.2	47	0.30%	52	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		111	0.71%	147	1.3	136	0.87%	148	1.1
83892	Molecular diagnostics; enzymatic digestion		43	0.28%	46	1.1	64	0.41%	66	1.0
83893	Molecular diagnostics; dot/slot blot production		8	0.05%	9	1.1	9	0.06%	9	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		42	0.27%	68	1.6	47	0.30%	51	1.1
83896	Molecular diagnostics; nucleic acid probe, each		73	0.47%	95	1.3	76	0.49%	81	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.01%	1	1.0	2	0.01%	2	1.0
83898	Molecular Amplification of Each Sequence		107	0.68%	142	1.3	110	0.70%	119	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		51	0.33%	75	1.5	50	0.32%	64	1.3
83901	Molecular Amplification of Each Additional Sequence		37	0.24%	44	1.2	47	0.30%	59	1.3
83902	Molecular Diagnostics; Reverse Transcription		15	0.10%	26	1.7	5	0.03%	5	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		13	0.08%	14	1.1	25	0.16%	26	1.0
83904	Molecular Mutation Identification by Sequencing		20	0.13%	26	1.3	15	0.10%	20	1.3
83905	Molecular Mutation Identification by Transcription		1	0.01%	1	1.0	1	0.01%	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		20	0.13%	21	1.1	19	0.12%	21	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		14	0.09%	14	1.0	20	0.13%	21	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		56	0.36%	67	1.2	55	0.35%	68	1.2
83912	Genetic Examination		175	1.12%	240	1.4	185	1.18%	228	1.2
83913	Molecular diagnostics; RNA stabilization		2	0.01%	3	1.5	1	0.01%	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		18	0.12%	18	1.0	24	0.15%	24	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		8	0.05%	11	1.4	1	0.01%	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.03%	8	1.6	4	0.03%	5	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.01%	1	1.0	2	0.01%	2	1.0
	Any of the above codes		208	1.33%	1,141	5.5	212	1.36%	1,074	5.1
<b>45-64 years</b>		<b>24,803</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.00%	1	1.0	1	0.00%	1	1.0
83890	Molecular Isolation/Extraction		70	0.28%	101	1.4	86	0.35%	100	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		178	0.72%	227	1.3	221	0.89%	255	1.2
83892	Molecular diagnostics; enzymatic digestion		69	0.28%	74	1.1	87	0.35%	90	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.03%	8	1.1	5	0.02%	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		62	0.25%	95	1.5	77	0.31%	83	1.1
83896	Molecular diagnostics; nucleic acid probe, each		122	0.49%	150	1.2	133	0.54%	138	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.00%	1	1.0	1	0.00%	1	1.0
83898	Molecular Amplification of Each Sequence		180	0.73%	237	1.3	199	0.80%	215	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		64	0.26%	89	1.4	98	0.40%	118	1.2
83901	Molecular Amplification of Each Additional Sequence		45	0.18%	58	1.3	72	0.29%	90	1.3
83902	Molecular Diagnostics; Reverse Transcription		31	0.12%	45	1.5	24	0.10%	27	1.1
83903	Molecular Mutation Scanning		22	0.09%	22	1.0	29	0.12%	30	1.0
83904	Molecular Mutation Identification by Sequencing		35	0.14%	49	1.4	44	0.18%	45	1.0
83905	Molecular Mutation Identification by Transcription		2	0.01%	2	1.0	1	0.00%	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		61	0.25%	74	1.2	73	0.29%	74	1.0



**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		20	0.08%	20	1.0	18	0.07%	20	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		69	0.28%	96	1.4	95	0.38%	116	1.2
83912	Genetic Examination		258	1.04%	355	1.4	307	1.24%	373	1.2
83913	Molecular diagnostics; RNA stabilization		4	0.02%	7	1.8	1	0.00%	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		34	0.14%	41	1.2	28	0.11%	29	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		12	0.05%	19	1.6	1	0.00%	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.02%	8	1.6	2	0.01%	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.01%	7	2.3	1	0.00%	1	1.0
	Any of the above codes		324	1.31%	1,786	5.5	377	1.52%	1,816	4.8
<b>65+ years</b>		<b>18,111</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.00%	0	---	0	0.00%	0	---
81381	HLA Class I Typing		0	0.00%	0	---	0	0.00%	0	---
83890	Molecular Isolation/Extraction		15	0.08%	18	1.2	20	0.11%	25	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		52	0.29%	57	1.1	58	0.32%	60	1.0
83892	Molecular diagnostics; enzymatic digestion		21	0.12%	23	1.1	24	0.13%	25	1.0
83893	Molecular diagnostics; dot/slot blot production		0	0.00%	0	---	0	0.00%	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		13	0.07%	19	1.5	12	0.07%	14	1.2
83896	Molecular diagnostics; nucleic acid probe, each		32	0.18%	32	1.0	41	0.23%	41	1.0

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.01%	1	1.0	0	0.00%	0	---
83898	Molecular Amplification of Each Sequence		44	0.24%	47	1.1	60	0.33%	63	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		21	0.12%	30	1.4	14	0.08%	17	1.2
83901	Molecular Amplification of Each Additional Sequence		18	0.10%	20	1.1	9	0.05%	9	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.03%	5	1.0	11	0.06%	11	1.0
83903	Molecular Mutation Scanning		8	0.04%	9	1.1	10	0.06%	10	1.0
83904	Molecular Mutation Identification by Sequencing		16	0.09%	19	1.2	9	0.05%	10	1.1
83905	Molecular Mutation Identification by Transcription		0	0.00%	0	---	0	0.00%	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.00%	0	---	0	0.00%	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		19	0.10%	19	1.0	24	0.13%	24	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		5	0.03%	5	1.0	11	0.06%	11	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		21	0.12%	23	1.1	17	0.09%	21	1.2
83912	Genetic Examination		72	0.40%	83	1.2	82	0.45%	95	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.00%	0	---	0	0.00%	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		13	0.07%	16	1.2	8	0.04%	9	1.1

**Table 3a. Summary of Prevalent Genetic Testing Procedure Codes in the 90 Days Before and After Incident Medical Product Use in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product Exposure and Age Group**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.01%	1	1.0	0	0.00%	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.01%	1	1.0	0	0.00%	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.00%	0	---	0	0.00%	0	---
	Any of the above codes		90	0.50%	428	4.8	104	0.57%	445	4.3

"---" represent missing information

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,285</b>								
<b>0-21 years</b>		<b>120</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		18	15.0	18	1.0	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		6	5.0	7	1.2	1	0.8	1	1.0
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	1	0.8	1	1.0
83893	Molecular diagnostics; dot/slot blot production		15	12.5	15	1.0	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		2	1.7	2	1.0	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		19	15.8	19	1.0	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		20	16.7	20	1.0	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		4	3.3	5	1.3	1	0.8	1	1.0
83901	Molecular Amplification of Each Additional Sequence		2	1.7	2	1.0	1	0.8	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	2.5	3	1.0	1	0.8	1	1.0
83912	Genetic Examination		12	10.0	13	1.1	1	0.8	1	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.8	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	1.7	2	1.0	1	0.8	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.8	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		26	21.7	107	4.1	2	1.7	8	4.0
<b>22-44 years</b>		<b>2,567</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		4	0.2	4	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		289	11.3	297	1.0	54	2.1	58	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		242	9.4	251	1.0	44	1.7	45	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		12	0.5	13	1.1	4	0.2	7	1.8
83893	Molecular diagnostics; dot/slot blot production		265	10.3	269	1.0	48	1.9	49	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		36	1.4	37	1.0	9	0.4	9	1.0
83896	Molecular diagnostics; nucleic acid probe, each		486	18.9	502	1.0	81	3.2	86	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		298	11.6	307	1.0	58	2.3	63	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		218	8.5	225	1.0	36	1.4	37	1.0
83901	Molecular Amplification of Each Additional Sequence		22	0.9	22	1.0	7	0.3	7	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.2	6	1.2	4	0.2	8	2.0
83903	Molecular Mutation Scanning		4	0.2	4	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		10	0.4	10	1.0	2	0.1	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each		4	0.2	4	1.0	1	0.0	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		10	0.4	10	1.0	6	0.2	6	1.0
83912	Genetic Examination		503	19.6	533	1.1	104	4.1	113	1.1

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		5	0.2	5	1.0	4	0.2	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.1	2	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		544	21.2	2,503	4.6	121	4.7	497	4.1
<b>45-64 years</b>		<b>3,303</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		5	0.2	5	1.0	2	0.1	2	1.0
83890	Molecular Isolation/Extraction		321	9.7	330	1.0	45	1.4	57	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		299	9.1	314	1.1	56	1.7	58	1.0
83892	Molecular diagnostics; enzymatic digestion		18	0.5	24	1.3	13	0.4	20	1.5
83893	Molecular diagnostics; dot/slot blot production		283	8.6	286	1.0	40	1.2	40	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		50	1.5	57	1.1	15	0.5	25	1.7
83896	Molecular diagnostics; nucleic acid probe, each		565	17.1	587	1.0	84	2.5	93	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.1	3	1.5	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		334	10.1	345	1.0	75	2.3	84	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		279	8.4	285	1.0	31	0.9	32	1.0
83901	Molecular Amplification of Each Additional Sequence		27	0.8	28	1.0	5	0.2	5	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83902	Molecular Diagnostics; Reverse Transcription		5	0.2	8	1.6	6	0.2	9	1.5
83903	Molecular Mutation Scanning		8	0.2	8	1.0	3	0.1	3	1.0
83904	Molecular Mutation Identification by Sequencing		6	0.2	6	1.0	4	0.1	4	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.1	2	1.0	3	0.1	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.2	6	1.0	4	0.1	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	0.2	6	1.0	2	0.1	2	1.0
83912	Genetic Examination		581	17.6	622	1.1	119	3.6	155	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.1	3	1.0	3	0.1	3	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.1	4	1.0	2	0.1	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		660	20.0	2,929	4.4	143	4.3	603	4.2
<b>65+ years</b>			<b>295</b>							



**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.3	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		22	7.5	24	1.1	5	1.7	5	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		21	7.1	22	1.0	4	1.4	4	1.0
83892	Molecular diagnostics; enzymatic digestion		2	0.7	2	1.0	1	0.3	1	1.0
83893	Molecular diagnostics; dot/slot blot production		19	6.4	19	1.0	3	1.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		6	2.0	6	1.0	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		40	13.6	41	1.0	6	2.0	6	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		21	7.1	21	1.0	4	1.4	4	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		20	6.8	21	1.1	3	1.0	3	1.0
83901	Molecular Amplification of Each Additional Sequence		3	1.0	3	1.0	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		2	0.7	2	1.0	1	0.3	1	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		36	12.2	39	1.1	8	2.7	8	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		46	15.6	201	4.4	11	3.7	35	3.2
<b>Carbamazepine</b>		<b>86,529</b>								
<b>0-21 years</b>		<b>9,623</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	2	0.0	2	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		28	0.3	37	1.3	25	0.3	25	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		89	0.9	102	1.1	103	1.1	111	1.1
83892	Molecular diagnostics; enzymatic digestion		49	0.5	57	1.2	53	0.6	55	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.1	7	1.0	5	0.1	5	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		43	0.4	56	1.3	48	0.5	59	1.2
83896	Molecular diagnostics; nucleic acid probe, each		57	0.6	62	1.1	49	0.5	50	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		16	0.2	16	1.0	17	0.2	17	1.0
83898	Molecular Amplification of Each Sequence		58	0.6	85	1.5	65	0.7	80	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		45	0.5	46	1.0	44	0.5	45	1.0
83901	Molecular Amplification of Each Additional Sequence		24	0.2	25	1.0	30	0.3	31	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		6	0.1	6	1.0	6	0.1	7	1.2
83904	Molecular Mutation Identification by Sequencing		19	0.2	37	1.9	23	0.2	33	1.4
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.1	6	1.0	5	0.1	5	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		41	0.4	87	2.1	42	0.4	62	1.5
83912	Genetic Examination		91	0.9	119	1.3	97	1.0	114	1.2

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		14	0.1	17	1.2	28	0.3	29	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	4	0.0	4	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		18	0.2	18	1.0	15	0.2	15	1.0
	Any of the above codes		117	1.2	788	6.7	128	1.3	751	5.9
<b>22-44 years</b>		<b>26,650</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	2	0.0	2	1.0
81381	HLA Class I Typing		2	0.0	2	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		63	0.2	67	1.1	64	0.2	67	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		192	0.7	207	1.1	218	0.8	236	1.1
83892	Molecular diagnostics; enzymatic digestion		76	0.3	81	1.1	94	0.4	97	1.0
83893	Molecular diagnostics; dot/slot blot production		33	0.1	34	1.0	33	0.1	33	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		63	0.2	69	1.1	53	0.2	59	1.1
83896	Molecular diagnostics; nucleic acid probe, each		122	0.5	128	1.0	136	0.5	145	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	5	1.3	7	0.0	9	1.3
83898	Molecular Amplification of Each Sequence		135	0.5	148	1.1	128	0.5	137	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		94	0.4	95	1.0	143	0.5	149	1.0
83901	Molecular Amplification of Each Additional Sequence		70	0.3	70	1.0	124	0.5	127	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83902	Molecular Diagnostics; Reverse Transcription		8	0.0	9	1.1	10	0.0	11	1.1
83903	Molecular Mutation Scanning		24	0.1	25	1.0	23	0.1	23	1.0
83904	Molecular Mutation Identification by Sequencing		23	0.1	23	1.0	18	0.1	19	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		4	0.0	4	1.0	10	0.0	11	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		22	0.1	22	1.0	20	0.1	21	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		67	0.3	70	1.0	100	0.4	102	1.0
83912	Genetic Examination		234	0.9	254	1.1	263	1.0	284	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		55	0.2	56	1.0	99	0.4	101	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	1	0.0	1	1.0
	Any of the above codes		273	1.0	1,371	5.0	303	1.1	1,637	5.4
<b>45-64 years</b>		<b>32,911</b>								

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		3	0.0	3	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		51	0.2	52	1.0	66	0.2	68	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		203	0.6	213	1.0	207	0.6	219	1.1
83892	Molecular diagnostics; enzymatic digestion		89	0.3	97	1.1	102	0.3	110	1.1
83893	Molecular diagnostics; dot/slot blot production		26	0.1	26	1.0	19	0.1	20	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		52	0.2	56	1.1	57	0.2	61	1.1
83896	Molecular diagnostics; nucleic acid probe, each		170	0.5	174	1.0	157	0.5	166	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	5	0.0	6	1.2
83898	Molecular Amplification of Each Sequence		157	0.5	162	1.0	159	0.5	171	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		78	0.2	80	1.0	57	0.2	57	1.0
83901	Molecular Amplification of Each Additional Sequence		24	0.1	25	1.0	26	0.1	26	1.0
83902	Molecular Diagnostics; Reverse Transcription		13	0.0	15	1.2	16	0.0	20	1.3
83903	Molecular Mutation Scanning		41	0.1	43	1.0	43	0.1	43	1.0
83904	Molecular Mutation Identification by Sequencing		27	0.1	27	1.0	34	0.1	34	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		9	0.0	9	1.0	14	0.0	14	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		40	0.1	41	1.0	42	0.1	44	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		42	0.1	43	1.0	47	0.1	47	1.0
83912	Genetic Examination		250	0.8	261	1.0	257	0.8	272	1.1
83913	Molecular diagnostics; RNA stabilization		4	0.0	4	1.0	5	0.0	5	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		23	0.1	23	1.0	35	0.1	36	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	1	0.0	1	1.0
	Any of the above codes		287	0.9	1,357	4.7	309	0.9	1,424	4.6
<b>65+ years</b>		<b>17,345</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.0	2	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		19	0.1	19	1.0	13	0.1	14	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		86	0.5	90	1.0	70	0.4	75	1.1
83892	Molecular diagnostics; enzymatic digestion		26	0.1	26	1.0	26	0.1	28	1.1
83893	Molecular diagnostics; dot/slot blot production		10	0.1	10	1.0	6	0.0	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		17	0.1	17	1.0	13	0.1	14	1.1

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		77	0.4	80	1.0	49	0.3	54	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		49	0.3	52	1.1	46	0.3	51	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		50	0.3	50	1.0	29	0.2	29	1.0
83901	Molecular Amplification of Each Additional Sequence		14	0.1	14	1.0	10	0.1	10	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.0	11	1.4	8	0.0	10	1.3
83903	Molecular Mutation Scanning		10	0.1	10	1.0	16	0.1	17	1.1
83904	Molecular Mutation Identification by Sequencing		5	0.0	5	1.0	7	0.0	7	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	1	0.0	1	1.0
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		7	0.0	7	1.0	4	0.0	4	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		9	0.1	9	1.0	10	0.1	11	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		13	0.1	13	1.0	11	0.1	11	1.0
83912	Genetic Examination		113	0.7	118	1.0	79	0.5	84	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.1	10	1.0	15	0.1	15	1.0



**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		119	0.7	546	4.6	91	0.5	443	4.9
<b>Clopidogrel</b>		<b>548,842</b>								
<b>0-21 years</b>		<b>792</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		13	1.6	13	1.0	5	0.6	6	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		32	4.0	33	1.0	31	3.9	36	1.2
83892	Molecular diagnostics; enzymatic digestion		28	3.5	29	1.0	18	2.3	23	1.3
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		9	1.1	11	1.2	19	2.4	23	1.2
83896	Molecular diagnostics; nucleic acid probe, each		27	3.4	27	1.0	12	1.5	12	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	2	0.3	2	1.0
83898	Molecular Amplification of Each Sequence		30	3.8	32	1.1	27	3.4	30	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		9	1.1	9	1.0	4	0.5	4	1.0
83901	Molecular Amplification of Each Additional Sequence		4	0.5	4	1.0	2	0.3	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	2	0.3	2	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		8	1.0	8	1.0	6	0.8	6	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.4	3	1.0	6	0.8	6	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		12	1.5	12	1.0	4	0.5	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	0.8	6	1.0	5	0.6	6	1.2
83912	Genetic Examination		49	6.2	53	1.1	31	3.9	36	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.8	6	1.0	2	0.3	4	2.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.1	2	2.0
	Any of the above codes		59	7.4	248	4.2	36	4.5	205	5.7

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>22-44 years</b>		<b>25,077</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	2	0.0	2	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		170	0.7	183	1.1	152	0.6	166	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		643	2.6	707	1.1	736	2.9	831	1.1
83892	Molecular diagnostics; enzymatic digestion		421	1.7	438	1.0	483	1.9	514	1.1
83893	Molecular diagnostics; dot/slot blot production		21	0.1	21	1.0	22	0.1	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		223	0.9	230	1.0	254	1.0	268	1.1
83896	Molecular diagnostics; nucleic acid probe, each		486	1.9	520	1.1	519	2.1	561	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		538	2.1	579	1.1	590	2.4	654	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		131	0.5	139	1.1	165	0.7	174	1.1
83901	Molecular Amplification of Each Additional Sequence		50	0.2	53	1.1	113	0.5	119	1.1
83902	Molecular Diagnostics; Reverse Transcription		20	0.1	27	1.4	24	0.1	33	1.4
83903	Molecular Mutation Scanning		208	0.8	217	1.0	234	0.9	244	1.0
83904	Molecular Mutation Identification by Sequencing		41	0.2	45	1.1	55	0.2	58	1.1
83905	Molecular Mutation Identification by Transcription		14	0.1	16	1.1	8	0.0	8	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		13	0.1	13	1.0	11	0.0	12	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		181	0.7	190	1.0	190	0.8	199	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		108	0.4	118	1.1	162	0.6	170	1.0
83912	Genetic Examination		845	3.4	934	1.1	853	3.4	957	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	3	0.0	9	3.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		127	0.5	140	1.1	185	0.7	198	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	3	0.0	3	1.0
	Any of the above codes		1,030	4.1	4,574	4.4	953	3.8	5,209	5.5
<b>45-64 years</b>		<b>232,985</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	46	0.0	47	1.0
81381	HLA Class I Typing		0	0.0	0	---	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		566	0.2	600	1.1	597	0.3	631	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		2,276	1.0	2,438	1.1	3,141	1.3	3,421	1.1
83892	Molecular diagnostics; enzymatic digestion		1,386	0.6	1,435	1.0	1,917	0.8	2,001	1.0
83893	Molecular diagnostics; dot/slot blot production		80	0.0	84	1.1	76	0.0	77	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		672	0.3	708	1.1	809	0.3	863	1.1

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		1,728	0.7	1,830	1.1	2,190	0.9	2,319	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	4	1.0	9	0.0	9	1.0
83898	Molecular Amplification of Each Sequence		1,912	0.8	2,023	1.1	2,312	1.0	2,473	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		499	0.2	548	1.1	837	0.4	919	1.1
83901	Molecular Amplification of Each Additional Sequence		259	0.1	288	1.1	553	0.2	613	1.1
83902	Molecular Diagnostics; Reverse Transcription		180	0.1	222	1.2	199	0.1	235	1.2
83903	Molecular Mutation Scanning		833	0.4	846	1.0	1,152	0.5	1,177	1.0
83904	Molecular Mutation Identification by Sequencing		241	0.1	248	1.0	328	0.1	351	1.1
83905	Molecular Mutation Identification by Transcription		19	0.0	19	1.0	17	0.0	17	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		81	0.0	86	1.1	101	0.0	110	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		557	0.2	573	1.0	796	0.3	816	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		391	0.2	415	1.1	587	0.3	624	1.1
83912	Genetic Examination		2,886	1.2	3,139	1.1	3,562	1.5	3,928	1.1
83913	Molecular diagnostics; RNA stabilization		34	0.0	42	1.2	36	0.0	40	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		456	0.2	480	1.1	776	0.3	851	1.1

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		4	0.0	4	1.0	3	0.0	3	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		8	0.0	9	1.1	16	0.0	16	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	4	0.0	4	1.0
	Any of the above codes		3,419	1.5	16,047	4.7	4,016	1.7	21,547	5.4
<b>65+ years</b>		<b>289,987</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	24	0.0	25	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		248	0.1	260	1.0	251	0.1	261	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,165	0.4	1,220	1.0	1,584	0.5	1,706	1.1
83892	Molecular diagnostics; enzymatic digestion		647	0.2	659	1.0	910	0.3	936	1.0
83893	Molecular diagnostics; dot/slot blot production		42	0.0	42	1.0	33	0.0	33	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		248	0.1	260	1.0	261	0.1	269	1.0
83896	Molecular diagnostics; nucleic acid probe, each		904	0.3	936	1.0	1,100	0.4	1,157	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		8	0.0	8	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		886	0.3	924	1.0	1,038	0.4	1,096	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		342	0.1	365	1.1	561	0.2	608	1.1
83901	Molecular Amplification of Each Additional Sequence		212	0.1	232	1.1	428	0.1	472	1.1
83902	Molecular Diagnostics; Reverse Transcription		169	0.1	185	1.1	185	0.1	214	1.2
83903	Molecular Mutation Scanning		407	0.1	415	1.0	527	0.2	539	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		170	0.1	172	1.0	229	0.1	231	1.0
83905	Molecular Mutation Identification by Transcription		4	0.0	4	1.0	5	0.0	5	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		2	0.0	2	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		101	0.0	107	1.1	130	0.0	136	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		257	0.1	261	1.0	355	0.1	364	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		210	0.1	217	1.0	300	0.1	310	1.0
83912	Genetic Examination		1,435	0.5	1,520	1.1	1,754	0.6	1,931	1.1
83913	Molecular diagnostics; RNA stabilization		44	0.0	45	1.0	40	0.0	45	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		247	0.1	263	1.1	499	0.2	543	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		6	0.0	6	1.0	10	0.0	10	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	7	0.0	7	1.0
	Any of the above codes		1,643	0.6	8,109	4.9	2,041	0.7	10,903	5.3
<b>Phenytoin</b>		<b>57,309</b>								
<b>0-21 years</b>		<b>4,835</b>								

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		20	0.4	24	1.2	24	0.5	30	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		65	1.3	98	1.5	71	1.5	102	1.4
83892	Molecular diagnostics; enzymatic digestion		27	0.6	30	1.1	34	0.7	34	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.1	4	1.0	5	0.1	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		34	0.7	45	1.3	40	0.8	44	1.1
83896	Molecular diagnostics; nucleic acid probe, each		36	0.7	42	1.2	28	0.6	29	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.2	10	1.1	4	0.1	4	1.0
83898	Molecular Amplification of Each Sequence		51	1.1	65	1.3	53	1.1	83	1.6
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		26	0.5	27	1.0	27	0.6	29	1.1
83901	Molecular Amplification of Each Additional Sequence		25	0.5	26	1.0	21	0.4	23	1.1
83902	Molecular Diagnostics; Reverse Transcription		2	0.0	2	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		6	0.1	6	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		17	0.4	24	1.4	15	0.3	19	1.3
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---



**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	2	1.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.1	7	1.2	6	0.1	7	1.2
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		34	0.7	37	1.1	28	0.6	52	1.9
83912	Genetic Examination		80	1.7	95	1.2	82	1.7	121	1.5
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.2	10	1.0	8	0.2	8	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.1	6	1.0	7	0.1	7	1.0
	Any of the above codes		99	2.0	564	5.7	108	2.2	600	5.6
<b>22-44 years</b>		<b>13,942</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		72	0.5	108	1.5	60	0.4	81	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		152	1.1	216	1.4	184	1.3	210	1.1
83892	Molecular diagnostics; enzymatic digestion		77	0.6	87	1.1	81	0.6	84	1.0
83893	Molecular diagnostics; dot/slot blot production		18	0.1	19	1.1	14	0.1	14	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		61	0.4	105	1.7	57	0.4	71	1.2

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		103	0.7	138	1.3	110	0.8	121	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		131	0.9	182	1.4	147	1.1	173	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		75	0.5	113	1.5	73	0.5	97	1.3
83901	Molecular Amplification of Each Additional Sequence		60	0.4	76	1.3	64	0.5	84	1.3
83902	Molecular Diagnostics; Reverse Transcription		19	0.1	38	2.0	9	0.1	12	1.3
83903	Molecular Mutation Scanning		20	0.1	23	1.2	34	0.2	36	1.1
83904	Molecular Mutation Identification by Sequencing		34	0.2	50	1.5	23	0.2	29	1.3
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		19	0.1	22	1.2	17	0.1	20	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		26	0.2	27	1.0	30	0.2	31	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		80	0.6	106	1.3	83	0.6	110	1.3
83912	Genetic Examination		230	1.6	345	1.5	239	1.7	313	1.3
83913	Molecular diagnostics; RNA stabilization		3	0.0	4	1.3	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		34	0.2	34	1.0	45	0.3	46	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		10	0.1	14	1.4	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.0	11	2.2	4	0.0	5	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	1	0.0	1	1.0
	Any of the above codes		263	1.9	1,725	6.6	268	1.9	1,543	5.8
<b>45-64 years</b>		<b>22,258</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		83	0.4	136	1.6	114	0.5	154	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		226	1.0	319	1.4	270	1.2	338	1.3
83892	Molecular diagnostics; enzymatic digestion		99	0.4	105	1.1	120	0.5	126	1.1
83893	Molecular diagnostics; dot/slot blot production		10	0.0	11	1.1	5	0.0	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		88	0.4	150	1.7	99	0.4	121	1.2
83896	Molecular diagnostics; nucleic acid probe, each		165	0.7	215	1.3	177	0.8	196	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		233	1.0	333	1.4	252	1.1	294	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		81	0.4	126	1.6	125	0.6	186	1.5
83901	Molecular Amplification of Each Additional Sequence		52	0.2	74	1.4	84	0.4	134	1.6
83902	Molecular Diagnostics; Reverse Transcription		45	0.2	67	1.5	33	0.1	46	1.4
83903	Molecular Mutation Scanning		37	0.2	37	1.0	40	0.2	41	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		43	0.2	71	1.7	51	0.2	63	1.2
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		59	0.3	78	1.3	77	0.3	85	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		30	0.1	31	1.0	29	0.1	31	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		82	0.4	128	1.6	118	0.5	180	1.5
83912	Genetic Examination		318	1.4	518	1.6	380	1.7	543	1.4
83913	Molecular diagnostics; RNA stabilization		8	0.0	12	1.5	5	0.0	7	1.4
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		42	0.2	53	1.3	40	0.2	41	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		13	0.1	20	1.5	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	9	2.3	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	10	3.3	2	0.0	2	1.0
	Any of the above codes		393	1.8	2,507	6.4	457	2.1	2,605	5.7
<b>65+ years</b>		<b>16,274</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		19	0.1	22	1.2	22	0.1	31	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		62	0.4	74	1.2	65	0.4	73	1.1
83892	Molecular diagnostics; enzymatic digestion		33	0.2	37	1.1	29	0.2	31	1.1
83893	Molecular diagnostics; dot/slot blot production		1	0.0	1	1.0	1	0.0	1	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		12	0.1	20	1.7	18	0.1	22	1.2
83896	Molecular diagnostics; nucleic acid probe, each		43	0.3	49	1.1	46	0.3	50	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		49	0.3	58	1.2	64	0.4	75	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		27	0.2	40	1.5	20	0.1	29	1.5
83901	Molecular Amplification of Each Additional Sequence		21	0.1	26	1.2	11	0.1	12	1.1
83902	Molecular Diagnostics; Reverse Transcription		5	0.0	5	1.0	10	0.1	13	1.3
83903	Molecular Mutation Scanning		14	0.1	14	1.0	14	0.1	15	1.1
83904	Molecular Mutation Identification by Sequencing		18	0.1	25	1.4	12	0.1	14	1.2
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		19	0.1	20	1.1	21	0.1	22	1.0

**Table 3b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		10	0.1	10	1.0	12	0.1	12	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		25	0.2	32	1.3	23	0.1	32	1.4
83912	Genetic Examination		83	0.5	103	1.2	96	0.6	122	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		18	0.1	22	1.2	9	0.1	11	1.2
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	2	0.0	3	1.5
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		105	0.6	561	5.3	120	0.7	571	4.8

"---" represent missing information

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>4,209</b>								
<b>0-21 years</b>		<b>82</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		14	17.1	14	1.0	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		4	4.9	5	1.3	1	1.2	1	1.0
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		14	17.1	14	1.0	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		1	1.2	1	1.0	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		17	20.7	17	1.0	1	1.2	1	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		17	20.7	17	1.0	1	1.2	1	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		2	2.4	3	1.5	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		1	1.2	1	1.0	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	2.4	2	1.0	0	0.0	0	---
83912	Genetic Examination		7	8.5	8	1.1	2	2.4	2	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	1.2	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	1.2	1	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	1.2	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		21	25.6	84	4.0	3	3.7	6	2.0
<b>22-44 years</b>		<b>1,611</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.1	2	1.0	1	0.1	1	1.0
83890	Molecular Isolation/Extraction		212	13.2	222	1.0	40	2.5	46	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		171	10.6	182	1.1	44	2.7	48	1.1



**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		16	1.0	21	1.3	7	0.4	12	1.7
83893	Molecular diagnostics; dot/slot blot production		189	11.7	192	1.0	31	1.9	32	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		31	1.9	32	1.0	11	0.7	11	1.0
83896	Molecular diagnostics; nucleic acid probe, each		343	21.3	362	1.1	65	4.0	74	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		218	13.5	228	1.0	43	2.7	52	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		154	9.6	163	1.1	34	2.1	36	1.1
83901	Molecular Amplification of Each Additional Sequence		22	1.4	22	1.0	11	0.7	12	1.1
83902	Molecular Diagnostics; Reverse Transcription		4	0.2	8	2.0	4	0.2	11	2.8
83903	Molecular Mutation Scanning		5	0.3	5	1.0	2	0.1	2	1.0
83904	Molecular Mutation Identification by Sequencing		9	0.6	9	1.0	2	0.1	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		4	0.2	4	1.0	0	0.0	0	---

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		14	0.9	14	1.0	10	0.6	10	1.0
83912	Genetic Examination		363	22.5	396	1.1	88	5.5	105	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		8	0.5	8	1.0	5	0.3	5	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.1	2	1.0	1	0.1	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		394	24.5	1,873	4.8	106	6.6	461	4.3
<b>45-64 years</b>		<b>2,304</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		4	0.2	4	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		237	10.3	247	1.0	45	2.0	62	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		239	10.4	256	1.1	51	2.2	61	1.2
83892	Molecular diagnostics; enzymatic digestion		13	0.6	20	1.5	16	0.7	41	2.6
83893	Molecular diagnostics; dot/slot blot production		218	9.5	223	1.0	34	1.5	36	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		35	1.5	40	1.1	20	0.9	34	1.7
83896	Molecular diagnostics; nucleic acid probe, each		436	18.9	462	1.1	74	3.2	96	1.3
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		265	11.5	285	1.1	73	3.2	90	1.2

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		210	9.1	219	1.0	31	1.3	34	1.1
83901	Molecular Amplification of Each Additional Sequence		19	0.8	20	1.1	8	0.3	9	1.1
83902	Molecular Diagnostics; Reverse Transcription		6	0.3	10	1.7	7	0.3	14	2.0
83903	Molecular Mutation Scanning		5	0.2	5	1.0	5	0.2	5	1.0
83904	Molecular Mutation Identification by Sequencing		5	0.2	5	1.0	3	0.1	3	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.1	2	1.0	1	0.0	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		4	0.2	4	1.0	4	0.2	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		8	0.3	9	1.1	2	0.1	2	1.0
83912	Genetic Examination		440	19.1	502	1.1	106	4.6	145	1.4
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	2	0.1	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.0	1	1.0	1	0.0	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.1	3	1.0	2	0.1	2	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		505	21.9	2,319	4.6	133	5.8	643	4.8
<b>65+ years</b>		<b>212</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.5	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		22	10.4	24	1.1	6	2.8	6	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		17	8.0	17	1.0	4	1.9	4	1.0
83892	Molecular diagnostics; enzymatic digestion		1	0.5	1	1.0	1	0.5	1	1.0
83893	Molecular diagnostics; dot/slot blot production		19	9.0	20	1.1	4	1.9	4	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		5	2.4	5	1.0	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		35	16.5	36	1.0	7	3.3	7	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		22	10.4	24	1.1	6	2.8	6	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		14	6.6	14	1.0	2	0.9	2	1.0
83901	Molecular Amplification of Each Additional Sequence		2	0.9	2	1.0	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		1	0.5	1	1.0	1	0.5	1	1.0
83903	Molecular Mutation Scanning		1	0.5	1	1.0	1	0.5	1	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		33	15.6	36	1.1	9	4.2	9	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		41	19.3	182	4.4	12	5.7	41	3.4
<b>Carbamazepine</b>		<b>59,897</b>								
<b>0-21 years</b>		<b>6,612</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		28	0.4	29	1.0	30	0.5	36	1.2

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		105	1.6	118	1.1	118	1.8	142	1.2
83892	Molecular diagnostics; enzymatic digestion		61	0.9	67	1.1	64	1.0	78	1.2
83893	Molecular diagnostics; dot/slot blot production		11	0.2	11	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		50	0.8	54	1.1	58	0.9	83	1.4
83896	Molecular diagnostics; nucleic acid probe, each		69	1.0	75	1.1	57	0.9	58	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		21	0.3	21	1.0	22	0.3	23	1.0
83898	Molecular Amplification of Each Sequence		59	0.9	69	1.2	77	1.2	104	1.4
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		56	0.8	59	1.1	45	0.7	47	1.0
83901	Molecular Amplification of Each Additional Sequence		37	0.6	40	1.1	37	0.6	39	1.1
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		10	0.2	10	1.0	12	0.2	13	1.1
83904	Molecular Mutation Identification by Sequencing		15	0.2	21	1.4	26	0.4	45	1.7
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	3	0.0	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		7	0.1	8	1.1	9	0.1	9	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		44	0.7	47	1.1	48	0.7	73	1.5
83912	Genetic Examination		106	1.6	126	1.2	113	1.7	145	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		20	0.3	22	1.1	33	0.5	69	2.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	3	0.0	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		16	0.2	16	1.0	12	0.2	12	1.0
	Any of the above codes		130	2.0	800	6.2	146	2.2	988	6.8
<b>22-44 years</b>		<b>17,131</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		2	0.0	2	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		69	0.4	71	1.0	81	0.5	82	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		258	1.5	279	1.1	269	1.6	292	1.1
83892	Molecular diagnostics; enzymatic digestion		110	0.6	116	1.1	125	0.7	130	1.0
83893	Molecular diagnostics; dot/slot blot production		46	0.3	46	1.0	42	0.2	42	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		77	0.4	83	1.1	73	0.4	79	1.1
83896	Molecular diagnostics; nucleic acid probe, each		158	0.9	172	1.1	158	0.9	168	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		12	0.1	13	1.1	8	0.0	8	1.0
83898	Molecular Amplification of Each Sequence		148	0.9	166	1.1	152	0.9	164	1.1

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		132	0.8	136	1.0	168	1.0	180	1.1
83901	Molecular Amplification of Each Additional Sequence		117	0.7	119	1.0	159	0.9	169	1.1
83902	Molecular Diagnostics; Reverse Transcription		10	0.1	16	1.6	7	0.0	12	1.7
83903	Molecular Mutation Scanning		35	0.2	37	1.1	32	0.2	32	1.0
83904	Molecular Mutation Identification by Sequencing		22	0.1	23	1.0	23	0.1	25	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		4	0.0	4	1.0	10	0.1	11	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		28	0.2	30	1.1	35	0.2	36	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		102	0.6	105	1.0	126	0.7	133	1.1
83912	Genetic Examination		302	1.8	326	1.1	329	1.9	364	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		89	0.5	91	1.0	126	0.7	131	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---



**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		355	2.1	1,837	5.2	378	2.2	2,064	5.5
<b>45-64 years</b>		<b>22,932</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.0	2	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		65	0.3	67	1.0	82	0.4	85	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		246	1.1	273	1.1	247	1.1	274	1.1
83892	Molecular diagnostics; enzymatic digestion		117	0.5	131	1.1	134	0.6	141	1.1
83893	Molecular diagnostics; dot/slot blot production		26	0.1	26	1.0	27	0.1	28	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		63	0.3	68	1.1	64	0.3	67	1.0
83896	Molecular diagnostics; nucleic acid probe, each		193	0.8	207	1.1	179	0.8	199	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	4	1.3
83898	Molecular Amplification of Each Sequence		187	0.8	202	1.1	198	0.9	221	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		85	0.4	96	1.1	76	0.3	77	1.0
83901	Molecular Amplification of Each Additional Sequence		28	0.1	32	1.1	40	0.2	41	1.0
83902	Molecular Diagnostics; Reverse Transcription		20	0.1	27	1.4	18	0.1	31	1.7
83903	Molecular Mutation Scanning		56	0.2	59	1.1	63	0.3	65	1.0
83904	Molecular Mutation Identification by Sequencing		27	0.1	27	1.0	47	0.2	49	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		9	0.0	9	1.0	14	0.1	14	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		50	0.2	53	1.1	55	0.2	57	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		52	0.2	60	1.2	64	0.3	68	1.1
83912	Genetic Examination		299	1.3	331	1.1	304	1.3	338	1.1
83913	Molecular diagnostics; RNA stabilization		4	0.0	5	1.3	3	0.0	5	1.7
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		29	0.1	30	1.0	51	0.2	53	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		347	1.5	1,708	4.9	364	1.6	1,819	5.0
<b>65+ years</b>		<b>13,222</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.0	2	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		20	0.2	20	1.0	22	0.2	24	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		91	0.7	98	1.1	88	0.7	98	1.1

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		33	0.2	33	1.0	39	0.3	43	1.1
83893	Molecular diagnostics; dot/slot blot production		7	0.1	7	1.0	6	0.0	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		22	0.2	22	1.0	18	0.1	20	1.1
83896	Molecular diagnostics; nucleic acid probe, each		76	0.6	83	1.1	61	0.5	69	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		59	0.4	65	1.1	61	0.5	69	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		41	0.3	42	1.0	32	0.2	32	1.0
83901	Molecular Amplification of Each Additional Sequence		13	0.1	14	1.1	13	0.1	13	1.0
83902	Molecular Diagnostics; Reverse Transcription		11	0.1	16	1.5	9	0.1	13	1.4
83903	Molecular Mutation Scanning		13	0.1	13	1.0	16	0.1	19	1.2
83904	Molecular Mutation Identification by Sequencing		8	0.1	8	1.0	8	0.1	8	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		8	0.1	9	1.1	4	0.0	4	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		11	0.1	11	1.0	15	0.1	17	1.1

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		17	0.1	18	1.1	17	0.1	17	1.0
83912	Genetic Examination		111	0.8	121	1.1	101	0.8	112	1.1
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.1	10	1.0	19	0.1	19	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	2	0.0	2	1.0
	Any of the above codes		126	1.0	596	4.7	124	0.9	588	4.7
<b>Clopidogrel</b>		<b>384,132</b>								
<b>0-21 years</b>		<b>543</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		10	1.8	10	1.0	6	1.1	7	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		28	5.2	30	1.1	24	4.4	29	1.2
83892	Molecular diagnostics; enzymatic digestion		22	4.1	23	1.0	15	2.8	19	1.3
83893	Molecular diagnostics; dot/slot blot production		1	0.2	1	1.0	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		6	1.1	6	1.0	17	3.1	21	1.2
83896	Molecular diagnostics; nucleic acid probe, each		23	4.2	23	1.0	12	2.2	12	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	2	0.4	3	1.5

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		23	4.2	24	1.0	22	4.1	27	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		8	1.5	9	1.1	5	0.9	5	1.0
83901	Molecular Amplification of Each Additional Sequence		4	0.7	5	1.3	1	0.2	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.2	1	1.0	1	0.2	1	1.0
83903	Molecular Mutation Scanning		8	1.5	8	1.0	7	1.3	7	1.0
83904	Molecular Mutation Identification by Sequencing		1	0.2	1	1.0	2	0.4	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.2	1	1.0	2	0.4	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		13	2.4	13	1.0	4	0.7	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	1.1	7	1.2	2	0.4	2	1.0
83912	Genetic Examination		41	7.6	46	1.1	25	4.6	31	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		8	1.5	9	1.1	3	0.6	3	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.2	2	2.0
	Any of the above codes		49	9.0	217	4.4	28	5.2	178	6.4
<b>22-44 years</b>		<b>16,101</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	5	0.0	5	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		147	0.9	156	1.1	153	1.0	160	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		521	3.2	584	1.1	595	3.7	678	1.1
83892	Molecular diagnostics; enzymatic digestion		335	2.1	357	1.1	385	2.4	414	1.1
83893	Molecular diagnostics; dot/slot blot production		30	0.2	30	1.0	32	0.2	32	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		191	1.2	199	1.0	206	1.3	215	1.0
83896	Molecular diagnostics; nucleic acid probe, each		390	2.4	421	1.1	440	2.7	471	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		440	2.7	478	1.1	495	3.1	540	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		137	0.9	147	1.1	137	0.9	147	1.1
83901	Molecular Amplification of Each Additional Sequence		67	0.4	72	1.1	100	0.6	105	1.1
83902	Molecular Diagnostics; Reverse Transcription		16	0.1	21	1.3	14	0.1	19	1.4
83903	Molecular Mutation Scanning		166	1.0	175	1.1	201	1.2	212	1.1
83904	Molecular Mutation Identification by Sequencing		22	0.1	24	1.1	46	0.3	46	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		8	0.0	10	1.3	7	0.0	7	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		14	0.1	14	1.0	12	0.1	13	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		137	0.9	145	1.1	163	1.0	172	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		104	0.6	113	1.1	125	0.8	133	1.1
83912	Genetic Examination		686	4.3	768	1.1	695	4.3	784	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		124	0.8	133	1.1	154	1.0	164	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	3	0.0	3	1.0
	Any of the above codes		832	5.2	3,850	4.6	782	4.9	4,327	5.5
<b>45-64 years</b>		<b>157,424</b>								
81225	CYP2C19 Gene Analysis Common Variants		1	0.0	1	1.0	33	0.0	34	1.0
81381	HLA Class I Typing		0	0.0	0	---	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		541	0.3	596	1.1	672	0.4	713	1.1

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		2,072	1.3	2,308	1.1	3,006	1.9	3,389	1.1
83892	Molecular diagnostics; enzymatic digestion		1,249	0.8	1,317	1.1	1,899	1.2	1,994	1.1
83893	Molecular diagnostics; dot/slot blot production		99	0.1	102	1.0	104	0.1	105	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		636	0.4	686	1.1	758	0.5	808	1.1
83896	Molecular diagnostics; nucleic acid probe, each		1,574	1.0	1,729	1.1	2,176	1.4	2,360	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		12	0.0	15	1.3	8	0.0	8	1.0
83898	Molecular Amplification of Each Sequence		1,782	1.1	1,969	1.1	2,225	1.4	2,454	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		464	0.3	528	1.1	895	0.6	1,019	1.1
83901	Molecular Amplification of Each Additional Sequence		219	0.1	252	1.2	616	0.4	708	1.1
83902	Molecular Diagnostics; Reverse Transcription		184	0.1	275	1.5	210	0.1	289	1.4
83903	Molecular Mutation Scanning		734	0.5	750	1.0	1,154	0.7	1,190	1.0
83904	Molecular Mutation Identification by Sequencing		188	0.1	204	1.1	366	0.2	391	1.1
83905	Molecular Mutation Identification by Transcription		16	0.0	17	1.1	12	0.0	13	1.1
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		68	0.0	84	1.2	120	0.1	133	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		502	0.3	524	1.0	824	0.5	851	1.0



**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		379	0.2	414	1.1	576	0.4	621	1.1
83912	Genetic Examination		2,587	1.6	2,941	1.1	3,468	2.2	3,978	1.1
83913	Molecular diagnostics; RNA stabilization		36	0.0	49	1.4	43	0.0	50	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		342	0.2	358	1.0	810	0.5	902	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.0	3	1.0	5	0.0	5	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		9	0.0	10	1.1	21	0.0	29	1.4
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	8	1.3	8	0.0	13	1.6
	Any of the above codes		3,063	1.9	15,141	4.9	3,927	2.5	22,059	5.6
<b>65+ years</b>		<b>210,063</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	23	0.0	23	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		282	0.1	295	1.0	294	0.1	314	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,249	0.6	1,379	1.1	1,709	0.8	1,909	1.1
83892	Molecular diagnostics; enzymatic digestion		726	0.3	757	1.0	968	0.5	1,025	1.1
83893	Molecular diagnostics; dot/slot blot production		59	0.0	59	1.0	48	0.0	50	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		298	0.1	324	1.1	309	0.1	326	1.1
83896	Molecular diagnostics; nucleic acid probe, each		970	0.5	1,053	1.1	1,160	0.6	1,283	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.0	9	1.0	7	0.0	7	1.0
83898	Molecular Amplification of Each Sequence		969	0.5	1,059	1.1	1,105	0.5	1,221	1.1

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		371	0.2	406	1.1	666	0.3	735	1.1
83901	Molecular Amplification of Each Additional Sequence		211	0.1	235	1.1	508	0.2	566	1.1
83902	Molecular Diagnostics; Reverse Transcription		198	0.1	250	1.3	219	0.1	282	1.3
83903	Molecular Mutation Scanning		438	0.2	458	1.0	540	0.3	566	1.0
83904	Molecular Mutation Identification by Sequencing		149	0.1	152	1.0	276	0.1	281	1.0
83905	Molecular Mutation Identification by Transcription		4	0.0	4	1.0	5	0.0	5	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		83	0.0	92	1.1	177	0.1	191	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		254	0.1	260	1.0	400	0.2	417	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		231	0.1	238	1.0	334	0.2	349	1.0
83912	Genetic Examination		1,531	0.7	1,695	1.1	1,906	0.9	2,193	1.2
83913	Molecular diagnostics; RNA stabilization		50	0.0	53	1.1	58	0.0	66	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		196	0.1	210	1.1	538	0.3	590	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		10	0.0	10	1.0	14	0.0	14	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	12	0.0	12	1.0
	Any of the above codes		1,753	0.8	9,005	5.1	2,214	1.1	12,425	5.6
<b>Phenytoin</b>		<b>38,856</b>								
<b>0-21 years</b>		<b>3,337</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		14	0.4	18	1.3	24	0.7	33	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		60	1.8	91	1.5	65	1.9	114	1.8
83892	Molecular diagnostics; enzymatic digestion		28	0.8	33	1.2	29	0.9	34	1.2
83893	Molecular diagnostics; dot/slot blot production		2	0.1	2	1.0	7	0.2	7	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		25	0.7	33	1.3	35	1.0	40	1.1
83896	Molecular diagnostics; nucleic acid probe, each		32	1.0	38	1.2	25	0.7	26	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.2	8	1.1	2	0.1	2	1.0
83898	Molecular Amplification of Each Sequence		44	1.3	55	1.3	48	1.4	87	1.8
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		26	0.8	26	1.0	25	0.7	30	1.2
83901	Molecular Amplification of Each Additional Sequence		26	0.8	26	1.0	26	0.8	47	1.8
83902	Molecular Diagnostics; Reverse Transcription		1	0.0	2	2.0	1	0.0	1	1.0
83903	Molecular Mutation Scanning		3	0.1	3	1.0	1	0.0	1	1.0
83904	Molecular Mutation Identification by Sequencing		17	0.5	20	1.2	18	0.5	24	1.3

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.1	2	1.0	2	0.1	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.1	4	1.3	6	0.2	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		29	0.9	32	1.1	30	0.9	70	2.3
83912	Genetic Examination		64	1.9	79	1.2	75	2.2	123	1.6
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		13	0.4	13	1.0	11	0.3	12	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.1	2	1.0	2	0.1	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		8	0.2	8	1.0	10	0.3	10	1.0
	Any of the above codes		84	2.5	496	5.9	97	2.9	672	6.9
<b>22-44 years</b>		<b>9,007</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		54	0.6	85	1.6	54	0.6	84	1.6

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		141	1.6	209	1.5	189	2.1	223	1.2
83892	Molecular diagnostics; enzymatic digestion		62	0.7	76	1.2	79	0.9	84	1.1
83893	Molecular diagnostics; dot/slot blot production		18	0.2	20	1.1	21	0.2	21	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		42	0.5	81	1.9	54	0.6	72	1.3
83896	Molecular diagnostics; nucleic acid probe, each		87	1.0	131	1.5	115	1.3	131	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		108	1.2	155	1.4	147	1.6	190	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		81	0.9	128	1.6	73	0.8	95	1.3
83901	Molecular Amplification of Each Additional Sequence		71	0.8	99	1.4	64	0.7	79	1.2
83902	Molecular Diagnostics; Reverse Transcription		12	0.1	35	2.9	12	0.1	27	2.3
83903	Molecular Mutation Scanning		16	0.2	19	1.2	29	0.3	30	1.0
83904	Molecular Mutation Identification by Sequencing		21	0.2	35	1.7	27	0.3	32	1.2
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		18	0.2	20	1.1	15	0.2	17	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		19	0.2	23	1.2	31	0.3	32	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		78	0.9	100	1.3	74	0.8	97	1.3
83912	Genetic Examination		186	2.1	286	1.5	233	2.6	318	1.4
83913	Molecular diagnostics; RNA stabilization		3	0.0	4	1.3	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		43	0.5	45	1.0	50	0.6	53	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		9	0.1	11	1.2	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		6	0.1	12	2.0	3	0.0	4	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	0	0.0	0	---
	Any of the above codes		229	2.5	1,581	6.9	263	2.9	1,597	6.1
<b>45-64 years</b>		<b>14,982</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		67	0.4	114	1.7	104	0.7	160	1.5
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		203	1.4	288	1.4	286	1.9	365	1.3
83892	Molecular diagnostics; enzymatic digestion		107	0.7	117	1.1	145	1.0	150	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.0	9	1.3	8	0.1	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		84	0.6	128	1.5	93	0.6	118	1.3
83896	Molecular diagnostics; nucleic acid probe, each		140	0.9	198	1.4	176	1.2	206	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		199	1.3	287	1.4	233	1.6	280	1.2

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		69	0.5	105	1.5	117	0.8	199	1.7
83901	Molecular Amplification of Each Additional Sequence		42	0.3	66	1.6	72	0.5	128	1.8
83902	Molecular Diagnostics; Reverse Transcription		37	0.2	69	1.9	37	0.2	59	1.6
83903	Molecular Mutation Scanning		39	0.3	39	1.0	55	0.4	57	1.0
83904	Molecular Mutation Identification by Sequencing		33	0.2	55	1.7	49	0.3	63	1.3
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		43	0.3	61	1.4	58	0.4	73	1.3
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		27	0.2	28	1.0	44	0.3	46	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		63	0.4	102	1.6	109	0.7	184	1.7
83912	Genetic Examination		274	1.8	438	1.6	352	2.3	519	1.5
83913	Molecular diagnostics; RNA stabilization		7	0.0	15	2.1	7	0.0	12	1.7
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		30	0.2	42	1.4	50	0.3	50	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		7	0.0	10	1.4	2	0.0	3	1.5
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	9	2.3	4	0.0	4	1.0

**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	9	4.5	4	0.0	5	1.3
	Any of the above codes		330	2.2	2,193	6.6	428	2.9	2,697	6.3
<b>65+ years</b>		<b>11,530</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		13	0.1	14	1.1	18	0.2	28	1.6
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		64	0.6	80	1.3	70	0.6	84	1.2
83892	Molecular diagnostics; enzymatic digestion		33	0.3	36	1.1	31	0.3	36	1.2
83893	Molecular diagnostics; dot/slot blot production		2	0.0	2	1.0	1	0.0	1	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		13	0.1	16	1.2	17	0.1	23	1.4
83896	Molecular diagnostics; nucleic acid probe, each		49	0.4	62	1.3	47	0.4	57	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		50	0.4	60	1.2	60	0.5	72	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		26	0.2	37	1.4	21	0.2	31	1.5
83901	Molecular Amplification of Each Additional Sequence		18	0.2	26	1.4	14	0.1	17	1.2
83902	Molecular Diagnostics; Reverse Transcription		10	0.1	14	1.4	13	0.1	21	1.6
83903	Molecular Mutation Scanning		14	0.1	14	1.0	13	0.1	14	1.1
83904	Molecular Mutation Identification by Sequencing		12	0.1	16	1.3	9	0.1	9	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0



**Table 3c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Age Group (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		16	0.1	18	1.1	16	0.1	17	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		11	0.1	11	1.0	12	0.1	12	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		19	0.2	26	1.4	19	0.2	28	1.5
83912	Genetic Examination		82	0.7	104	1.3	91	0.8	129	1.4
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		14	0.1	17	1.2	13	0.1	15	1.2
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		103	0.9	558	5.4	117	1.0	599	5.1

"---" represent missing information

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,851</b>								
<b>Female</b>		<b>1,397</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.1	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		135	9.7	137	1.0	22	1.6	25	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		109	7.8	112	1.0	22	1.6	23	1.0
83892	Molecular diagnostics; enzymatic digestion		5	0.4	5	1.0	3	0.2	3	1.0
83893	Molecular diagnostics; dot/slot blot production		130	9.3	130	1.0	21	1.5	21	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		9	0.6	9	1.0	5	0.4	8	1.6
83896	Molecular diagnostics; nucleic acid probe, each		233	16.7	237	1.0	35	2.5	36	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	1	0.1	1	1.0
83898	Molecular Amplification of Each Sequence		136	9.7	138	1.0	25	1.8	29	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		102	7.3	104	1.0	17	1.2	18	1.1
83901	Molecular Amplification of Each Additional Sequence		11	0.8	11	1.0	7	0.5	7	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		2	0.1	2	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.1	2	1.0	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	0.4	6	1.0	6	0.4	6	1.0
83912	Genetic Examination		222	15.9	232	1.0	41	2.9	48	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.4	6	1.0	6	0.4	6	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		254	18.2	1,134	4.5	50	3.6	231	4.6
<b>Male</b>		<b>5,453</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		7	0.1	7	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		465	8.5	478	1.0	71	1.3	75	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		414	7.6	427	1.0	70	1.3	70	1.0
83892	Molecular diagnostics; enzymatic digestion		16	0.3	21	1.3	10	0.2	13	1.3

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83893	Molecular diagnostics; dot/slot blot production		409	7.5	414	1.0	62	1.1	63	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		67	1.2	73	1.1	12	0.2	14	1.2
83896	Molecular diagnostics; nucleic acid probe, each		800	14.7	823	1.0	121	2.2	125	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		476	8.7	487	1.0	87	1.6	88	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		388	7.1	394	1.0	54	1.0	54	1.0
83901	Molecular Amplification of Each Additional Sequence		29	0.5	29	1.0	6	0.1	6	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.1	10	1.3	6	0.1	7	1.2
83903	Molecular Mutation Scanning		7	0.1	7	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		13	0.2	13	1.0	3	0.1	3	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.1	3	1.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		5	0.1	5	1.0	2	0.0	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		9	0.2	9	1.0	2	0.0	2	1.0
83912	Genetic Examination		829	15.2	862	1.0	161	3.0	169	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		5	0.1	5	1.0	4	0.1	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.1	5	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		924	16.9	4,072	4.4	182	3.3	699	3.8
<b>Unknown</b>		<b>0</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	---	0	---	0	---	0	---
81381	HLA Class I Typing		0	---	0	---	0	---	0	---
83890	Molecular Isolation/Extraction		0	---	0	---	0	---	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	---	0	---	0	---	0	---
83892	Molecular diagnostics; enzymatic digestion		0	---	0	---	0	---	0	---
83893	Molecular diagnostics; dot/slot blot production		0	---	0	---	0	---	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	---	0	---	0	---	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	---	0	---	0	---	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	---	0	---	0	---	0	---
83898	Molecular Amplification of Each Sequence		0	---	0	---	0	---	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	---	0	---	0	---	0	---
83901	Molecular Amplification of Each Additional Sequence		0	---	0	---	0	---	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83902	Molecular Diagnostics; Reverse Transcription		0	---	0	---	0	---	0	---
83903	Molecular Mutation Scanning		0	---	0	---	0	---	0	---
83904	Molecular Mutation Identification by Sequencing		0	---	0	---	0	---	0	---
83905	Molecular Mutation Identification by Transcription		0	---	0	---	0	---	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	---	0	---	0	---	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	---	0	---	0	---	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	---	0	---	0	---	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	---	0	---	0	---	0	---
83912	Genetic Examination		0	---	0	---	0	---	0	---
83913	Molecular diagnostics; RNA stabilization		0	---	0	---	0	---	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	---	0	---	0	---	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	---	0	---	0	---	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	---	0	---	0	---	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	---	0	---	0	---	0	---
	Any of the above codes		0	---	0	---	0	---	0	---
<b>Carbamazepine</b>			<b>93,879</b>							

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Female</b>		<b>57,517</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		4	0.0	4	1.0	3	0.0	3	1.0
83890	Molecular Isolation/Extraction		61	0.1	64	1.0	54	0.1	55	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		245	0.4	252	1.0	235	0.4	242	1.0
83892	Molecular diagnostics; enzymatic digestion		79	0.1	81	1.0	101	0.2	104	1.0
83893	Molecular diagnostics; dot/slot blot production		39	0.1	39	1.0	22	0.0	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		57	0.1	60	1.1	71	0.1	74	1.0
83896	Molecular diagnostics; nucleic acid probe, each		200	0.3	204	1.0	162	0.3	165	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	6	1.2	9	0.0	10	1.1
83898	Molecular Amplification of Each Sequence		160	0.3	168	1.1	144	0.3	149	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		117	0.2	119	1.0	114	0.2	116	1.0
83901	Molecular Amplification of Each Additional Sequence		47	0.1	48	1.0	78	0.1	78	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.0	10	1.3	12	0.0	13	1.1
83903	Molecular Mutation Scanning		25	0.0	25	1.0	37	0.1	38	1.0
83904	Molecular Mutation Identification by Sequencing		24	0.0	26	1.1	28	0.0	29	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		10	0.0	10	1.0	10	0.0	10	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		31	0.1	31	1.0	35	0.1	35	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		55	0.1	57	1.0	63	0.1	63	1.0
83912	Genetic Examination		294	0.5	302	1.0	281	0.5	289	1.0
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		40	0.1	40	1.0	68	0.1	69	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	5	1.0	1	0.0	1	1.0
	Any of the above codes		336	0.6	1,553	4.6	318	0.6	1,568	4.9
<b>Male</b>		<b>36,346</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		4	0.0	4	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		42	0.1	51	1.2	45	0.1	47	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		135	0.4	147	1.1	141	0.4	145	1.0
83892	Molecular diagnostics; enzymatic digestion		64	0.2	73	1.1	63	0.2	64	1.0
83893	Molecular diagnostics; dot/slot blot production		13	0.0	13	1.0	21	0.1	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		55	0.2	63	1.1	33	0.1	33	1.0



**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83896	Molecular diagnostics; nucleic acid probe, each		101	0.3	106	1.0	105	0.3	109	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.0	10	1.1	11	0.0	11	1.0
83898	Molecular Amplification of Each Sequence		108	0.3	125	1.2	103	0.3	106	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		69	0.2	70	1.0	53	0.1	54	1.0
83901	Molecular Amplification of Each Additional Sequence		26	0.1	28	1.1	24	0.1	25	1.0
83902	Molecular Diagnostics; Reverse Transcription		9	0.0	9	1.0	12	0.0	12	1.0
83903	Molecular Mutation Scanning		17	0.0	17	1.0	21	0.1	21	1.0
83904	Molecular Mutation Identification by Sequencing		22	0.1	33	1.5	16	0.0	17	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.0	3	1.0	6	0.0	6	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		10	0.0	10	1.0	15	0.0	16	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		36	0.1	78	2.2	40	0.1	60	1.5
83912	Genetic Examination		162	0.4	179	1.1	162	0.4	168	1.0
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	3	0.0	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		17	0.0	22	1.3	20	0.1	21	1.1

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		8	0.0	8	1.0	10	0.0	10	1.0
	Any of the above codes		197	0.5	1,054	5.4	205	0.6	956	4.7
<b>Unknown</b>		<b>16</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---
<b>Clopidogrel</b>		<b>589,702</b>								
<b>Female</b>		<b>226,083</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	8	0.0	8	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period			Post-Index Period				
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		366	0.2	374	1.0	374	0.2	388	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,467	0.6	1,545	1.1	1,846	0.8	1,968	1.1
83892	Molecular diagnostics; enzymatic digestion		872	0.4	893	1.0	1,099	0.5	1,124	1.0
83893	Molecular diagnostics; dot/slot blot production		33	0.0	33	1.0	37	0.0	38	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		476	0.2	486	1.0	556	0.2	573	1.0
83896	Molecular diagnostics; nucleic acid probe, each		1,066	0.5	1,101	1.0	1,221	0.5	1,267	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	4	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		1,272	0.6	1,311	1.0	1,422	0.6	1,491	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		306	0.1	329	1.1	466	0.2	492	1.1
83901	Molecular Amplification of Each Additional Sequence		158	0.1	177	1.1	342	0.2	360	1.1
83902	Molecular Diagnostics; Reverse Transcription		84	0.0	92	1.1	99	0.0	105	1.1
83903	Molecular Mutation Scanning		488	0.2	500	1.0	563	0.2	573	1.0
83904	Molecular Mutation Identification by Sequencing		113	0.0	117	1.0	170	0.1	171	1.0
83905	Molecular Mutation Identification by Transcription		17	0.0	19	1.1	20	0.0	20	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		57	0.0	60	1.1	62	0.0	64	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		380	0.2	390	1.0	463	0.2	475	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		237	0.1	249	1.1	362	0.2	371	1.0
83912	Genetic Examination		1,905	0.8	1,999	1.0	2,107	0.9	2,258	1.1
83913	Molecular diagnostics; RNA stabilization		4	0.0	4	1.0	4	0.0	6	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		302	0.1	324	1.1	478	0.2	505	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		5	0.0	5	1.0	8	0.0	8	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	3	0.0	3	1.0
	Any of the above codes		2,312	1.0	10,017	4.3	2,397	1.1	12,273	5.1
<b>Male</b>		<b>363,555</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	19	0.0	20	1.1
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		416	0.1	434	1.0	382	0.1	393	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,753	0.5	1,828	1.0	2,435	0.7	2,579	1.1
83892	Molecular diagnostics; enzymatic digestion		1,063	0.3	1,081	1.0	1,497	0.4	1,537	1.0
83893	Molecular diagnostics; dot/slot blot production		49	0.0	50	1.0	37	0.0	37	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		462	0.1	475	1.0	526	0.1	546	1.0
83896	Molecular diagnostics; nucleic acid probe, each		1,372	0.4	1,412	1.0	1,680	0.5	1,723	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		1,404	0.4	1,453	1.0	1,702	0.5	1,771	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		431	0.1	468	1.1	699	0.2	755	1.1
83901	Molecular Amplification of Each Additional Sequence		254	0.1	280	1.1	485	0.1	535	1.1
83902	Molecular Diagnostics; Reverse Transcription		155	0.0	168	1.1	184	0.1	192	1.0
83903	Molecular Mutation Scanning		663	0.2	669	1.0	913	0.3	922	1.0
83904	Molecular Mutation Identification by Sequencing		178	0.0	181	1.0	257	0.1	262	1.0
83905	Molecular Mutation Identification by Transcription		21	0.0	21	1.0	8	0.0	8	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		91	0.0	94	1.0	93	0.0	96	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		441	0.1	450	1.0	568	0.2	577	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		274	0.1	285	1.0	434	0.1	449	1.0
83912	Genetic Examination		2,247	0.6	2,380	1.1	2,708	0.7	2,882	1.1
83913	Molecular diagnostics; RNA stabilization		43	0.0	46	1.1	45	0.0	47	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		386	0.1	408	1.1	669	0.2	721	1.1

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.0	3	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	4	1.0	7	0.0	7	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	7	0.0	7	1.0
	Any of the above codes		2,657	0.7	12,199	4.6	3,062	0.8	16,071	5.2
<b>Unknown</b>		<b>63</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---
<b>Phenytoin</b>		<b>63,799</b>								
<b>Female</b>		<b>30,203</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---



**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		61	0.2	78	1.3	72	0.2	83	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		177	0.6	212	1.2	223	0.7	243	1.1
83892	Molecular diagnostics; enzymatic digestion		73	0.2	81	1.1	91	0.3	96	1.1
83893	Molecular diagnostics; dot/slot blot production		9	0.0	9	1.0	10	0.0	10	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		60	0.2	90	1.5	78	0.3	83	1.1
83896	Molecular diagnostics; nucleic acid probe, each		108	0.4	120	1.1	124	0.4	129	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		172	0.6	215	1.3	197	0.7	215	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		71	0.2	98	1.4	83	0.3	100	1.2
83901	Molecular Amplification of Each Additional Sequence		56	0.2	64	1.1	76	0.3	91	1.2
83902	Molecular Diagnostics; Reverse Transcription		19	0.1	26	1.4	16	0.1	16	1.0
83903	Molecular Mutation Scanning		21	0.1	23	1.1	32	0.1	33	1.0
83904	Molecular Mutation Identification by Sequencing		38	0.1	52	1.4	37	0.1	44	1.2
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		45	0.1	46	1.0	57	0.2	59	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		25	0.1	26	1.0	22	0.1	24	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		74	0.2	82	1.1	92	0.3	112	1.2
83912	Genetic Examination		257	0.9	331	1.3	279	0.9	326	1.2
83913	Molecular diagnostics; RNA stabilization		3	0.0	4	1.3	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		37	0.1	40	1.1	48	0.2	49	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		10	0.0	15	1.5	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	6	1.5	5	0.0	6	1.2
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	4	0.0	4	1.0
	Any of the above codes		317	1.0	1,624	5.1	345	1.1	1,727	5.0
<b>Male</b>		<b>33,588</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		90	0.3	120	1.3	98	0.3	112	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		197	0.6	279	1.4	241	0.7	284	1.2
83892	Molecular diagnostics; enzymatic digestion		70	0.2	73	1.0	108	0.3	109	1.0
83893	Molecular diagnostics; dot/slot blot production		8	0.0	10	1.3	7	0.0	7	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		75	0.2	117	1.6	87	0.3	95	1.1
83896	Molecular diagnostics; nucleic acid probe, each		137	0.4	175	1.3	148	0.4	153	1.0

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	6	1.2	7	0.0	7	1.0
83898	Molecular Amplification of Each Sequence		189	0.6	249	1.3	216	0.6	239	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		80	0.2	112	1.4	98	0.3	118	1.2
83901	Molecular Amplification of Each Additional Sequence		58	0.2	73	1.3	69	0.2	84	1.2
83902	Molecular Diagnostics; Reverse Transcription		33	0.1	51	1.5	24	0.1	27	1.1
83903	Molecular Mutation Scanning		23	0.1	23	1.0	32	0.1	33	1.0
83904	Molecular Mutation Identification by Sequencing		43	0.1	59	1.4	42	0.1	43	1.0
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		57	0.2	70	1.2	61	0.2	62	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.0	16	1.0	31	0.1	32	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		90	0.3	126	1.4	96	0.3	125	1.3
83912	Genetic Examination		295	0.9	402	1.4	355	1.1	448	1.3
83913	Molecular diagnostics; RNA stabilization		4	0.0	7	1.8	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		32	0.1	39	1.2	19	0.1	20	1.1

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		11	0.0	16	1.5	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		7	0.0	11	1.6	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	9	1.8	4	0.0	4	1.0
	Any of the above codes		364	1.1	2,046	5.6	424	1.3	2,008	4.7
<b>Unknown</b>		<b>8</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---

**Table 4a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---

"---" represent missing information

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,285</b>								
<b>Female</b>		<b>1,279</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.2	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		141	11.0	144	1.0	22	1.7	27	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		115	9.0	120	1.0	22	1.7	23	1.0
83892	Molecular diagnostics; enzymatic digestion		9	0.7	9	1.0	3	0.2	3	1.0
83893	Molecular diagnostics; dot/slot blot production		136	10.6	136	1.0	22	1.7	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		12	0.9	12	1.0	7	0.5	12	1.7
83896	Molecular diagnostics; nucleic acid probe, each		245	19.2	251	1.0	34	2.7	35	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.2	2	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		145	11.3	147	1.0	25	2.0	31	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		105	8.2	109	1.0	14	1.1	15	1.1
83901	Molecular Amplification of Each Additional Sequence		12	0.9	12	1.0	5	0.4	5	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	1	0.1	1	1.0
83903	Molecular Mutation Scanning		3	0.2	3	1.0	1	0.1	1	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	2	0.2	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.2	2	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	0.5	6	1.0	5	0.4	5	1.0
83912	Genetic Examination		234	18.3	248	1.1	43	3.4	58	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		7	0.5	7	1.0	4	0.3	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		267	20.9	1,210	4.5	51	4.0	245	4.8
<b>Male</b>		<b>5,006</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		8	0.2	8	1.0	3	0.1	3	1.0
83890	Molecular Isolation/Extraction		509	10.2	525	1.0	82	1.6	93	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		453	9.0	474	1.0	83	1.7	85	1.0

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		23	0.5	30	1.3	16	0.3	26	1.6
83893	Molecular diagnostics; dot/slot blot production		446	8.9	453	1.0	69	1.4	70	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		82	1.6	90	1.1	17	0.3	22	1.3
83896	Molecular diagnostics; nucleic acid probe, each		865	17.3	898	1.0	137	2.7	150	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	2	2.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		528	10.5	546	1.0	112	2.2	120	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		416	8.3	427	1.0	57	1.1	58	1.0
83901	Molecular Amplification of Each Additional Sequence		42	0.8	43	1.0	8	0.2	8	1.0
83902	Molecular Diagnostics; Reverse Transcription		10	0.2	14	1.4	9	0.2	16	1.8
83903	Molecular Mutation Scanning		11	0.2	11	1.0	3	0.1	3	1.0
83904	Molecular Mutation Identification by Sequencing		16	0.3	16	1.0	4	0.1	4	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.1	3	1.0	3	0.1	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.2	8	1.0	4	0.1	4	1.0



**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		13	0.3	13	1.0	4	0.1	4	1.0
83912	Genetic Examination		898	17.9	959	1.1	189	3.8	219	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.1	3	1.0	4	0.1	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		7	0.1	7	1.0	3	0.1	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		1,009	20.2	4,530	4.5	226	4.5	898	4.0
<b>Unknown</b>		<b>0</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	---	0	---	0	---	0	---
81381	HLA Class I Typing		0	---	0	---	0	---	0	---
83890	Molecular Isolation/Extraction		0	---	0	---	0	---	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	---	0	---	0	---	0	---
83892	Molecular diagnostics; enzymatic digestion		0	---	0	---	0	---	0	---
83893	Molecular diagnostics; dot/slot blot production		0	---	0	---	0	---	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	---	0	---	0	---	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	---	0	---	0	---	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	---	0	---	0	---	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		0	---	0	---	0	---	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	---	0	---	0	---	0	---
83901	Molecular Amplification of Each Additional Sequence		0	---	0	---	0	---	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	---	0	---	0	---	0	---
83903	Molecular Mutation Scanning		0	---	0	---	0	---	0	---
83904	Molecular Mutation Identification by Sequencing		0	---	0	---	0	---	0	---
83905	Molecular Mutation Identification by Transcription		0	---	0	---	0	---	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	---	0	---	0	---	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	---	0	---	0	---	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	---	0	---	0	---	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	---	0	---	0	---	0	---
83912	Genetic Examination		0	---	0	---	0	---	0	---
83913	Molecular diagnostics; RNA stabilization		0	---	0	---	0	---	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	---	0	---	0	---	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	---	0	---	0	---	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	---	0	---	0	---	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	---	0	---	0	---	0	---
	Any of the above codes		0	---	0	---	0	---	0	---
<b>Carbamazepine</b>		<b>86,529</b>								
<b>Female</b>		<b>53,168</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		4	0.0	4	1.0	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		105	0.2	108	1.0	102	0.2	106	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		366	0.7	389	1.1	393	0.7	423	1.1
83892	Molecular diagnostics; enzymatic digestion		146	0.3	152	1.0	173	0.3	183	1.1
83893	Molecular diagnostics; dot/slot blot production		54	0.1	54	1.0	39	0.1	39	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		99	0.2	108	1.1	112	0.2	132	1.2
83896	Molecular diagnostics; nucleic acid probe, each		275	0.5	284	1.0	248	0.5	264	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.0	10	1.1	14	0.0	17	1.2
83898	Molecular Amplification of Each Sequence		242	0.5	262	1.1	243	0.5	275	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		173	0.3	176	1.0	203	0.4	208	1.0
83901	Molecular Amplification of Each Additional Sequence		93	0.2	94	1.0	156	0.3	159	1.0
83902	Molecular Diagnostics; Reverse Transcription		14	0.0	18	1.3	18	0.0	22	1.2
83903	Molecular Mutation Scanning		50	0.1	51	1.0	57	0.1	59	1.0

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		42	0.1	45	1.1	50	0.1	60	1.2
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	1	0.0	1	1.0
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		10	0.0	10	1.0	21	0.0	22	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		54	0.1	54	1.0	53	0.1	55	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		103	0.2	107	1.0	137	0.3	138	1.0
83912	Genetic Examination		446	0.8	476	1.1	464	0.9	509	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		78	0.1	79	1.0	144	0.3	147	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	3	0.0	3	1.0
	Any of the above codes		506	1.0	2,491	4.9	540	1.0	2,832	5.2
<b>Male</b>		<b>33,347</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	4	0.0	4	1.0

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		4	0.0	4	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		56	0.2	67	1.2	66	0.2	68	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		204	0.6	223	1.1	205	0.6	218	1.1
83892	Molecular diagnostics; enzymatic digestion		94	0.3	109	1.2	102	0.3	107	1.0
83893	Molecular diagnostics; dot/slot blot production		22	0.1	23	1.0	24	0.1	25	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		76	0.2	90	1.2	59	0.2	61	1.0
83896	Molecular diagnostics; nucleic acid probe, each		151	0.5	160	1.1	143	0.4	151	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		12	0.0	12	1.0	15	0.0	15	1.0
83898	Molecular Amplification of Each Sequence		157	0.5	185	1.2	155	0.5	164	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		94	0.3	95	1.0	70	0.2	72	1.0
83901	Molecular Amplification of Each Additional Sequence		39	0.1	40	1.0	34	0.1	35	1.0
83902	Molecular Diagnostics; Reverse Transcription		15	0.0	17	1.1	16	0.0	19	1.2
83903	Molecular Mutation Scanning		31	0.1	33	1.1	31	0.1	31	1.0
83904	Molecular Mutation Identification by Sequencing		32	0.1	47	1.5	32	0.1	33	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		11	0.0	11	1.0	9	0.0	9	1.0

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		23	0.1	24	1.0	24	0.1	26	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		60	0.2	106	1.8	63	0.2	84	1.3
83912	Genetic Examination		242	0.7	276	1.1	232	0.7	245	1.1
83913	Molecular diagnostics; RNA stabilization		5	0.0	5	1.0	4	0.0	4	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		24	0.1	27	1.1	33	0.1	34	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	3	0.0	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		14	0.0	14	1.0	14	0.0	14	1.0
	Any of the above codes		290	0.9	1,571	5.4	291	0.9	1,423	4.9
<b>Unknown</b>		<b>14</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---
<b>Clopidogrel</b>		<b>548,842</b>								
<b>Female</b>		<b>210,536</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	26	0.0	26	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		454	0.2	476	1.0	486	0.2	515	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,811	0.9	1,941	1.1	2,331	1.1	2,548	1.1
83892	Molecular diagnostics; enzymatic digestion		1,081	0.5	1,122	1.0	1,385	0.7	1,442	1.0
83893	Molecular diagnostics; dot/slot blot production		57	0.0	57	1.0	69	0.0	70	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		565	0.3	592	1.0	684	0.3	717	1.0
83896	Molecular diagnostics; nucleic acid probe, each		1,329	0.6	1,396	1.1	1,587	0.8	1,681	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.0	9	1.0	9	0.0	9	1.0
83898	Molecular Amplification of Each Sequence		1,540	0.7	1,613	1.0	1,761	0.8	1,890	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		402	0.2	437	1.1	630	0.3	676	1.1
83901	Molecular Amplification of Each Additional Sequence		200	0.1	220	1.1	443	0.2	476	1.1
83902	Molecular Diagnostics; Reverse Transcription		116	0.1	141	1.2	142	0.1	160	1.1



**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		598	0.3	613	1.0	735	0.3	756	1.0
83904	Molecular Mutation Identification by Sequencing		187	0.1	192	1.0	252	0.1	260	1.0
83905	Molecular Mutation Identification by Transcription		17	0.0	19	1.1	19	0.0	19	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		2	0.0	2	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		71	0.0	75	1.1	79	0.0	83	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		461	0.2	474	1.0	599	0.3	622	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		320	0.2	342	1.1	477	0.2	496	1.0
83912	Genetic Examination		2,322	1.1	2,497	1.1	2,676	1.3	2,955	1.1
83913	Molecular diagnostics; RNA stabilization		6	0.0	7	1.2	8	0.0	14	1.8
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		361	0.2	388	1.1	622	0.3	666	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	3	0.0	3	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		8	0.0	9	1.1	13	0.0	13	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	3	1.0	7	0.0	7	1.0
	Any of the above codes		2,761	1.3	12,626	4.6	3,039	1.4	16,104	5.3
<b>Male</b>		<b>338,245</b>								

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	46	0.0	48	1.0
81381	HLA Class I Typing		0	0.0	0	---	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		543	0.2	580	1.1	519	0.2	549	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		2,305	0.7	2,457	1.1	3,161	0.9	3,446	1.1
83892	Molecular diagnostics; enzymatic digestion		1,401	0.4	1,439	1.0	1,943	0.6	2,032	1.0
83893	Molecular diagnostics; dot/slot blot production		86	0.0	90	1.0	62	0.0	62	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		587	0.2	617	1.1	659	0.2	706	1.1
83896	Molecular diagnostics; nucleic acid probe, each		1,816	0.5	1,917	1.1	2,234	0.7	2,368	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	5	1.0	11	0.0	11	1.0
83898	Molecular Amplification of Each Sequence		1,826	0.5	1,945	1.1	2,206	0.7	2,363	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		579	0.2	624	1.1	937	0.3	1,029	1.1
83901	Molecular Amplification of Each Additional Sequence		325	0.1	357	1.1	653	0.2	730	1.1
83902	Molecular Diagnostics; Reverse Transcription		254	0.1	294	1.2	268	0.1	324	1.2
83903	Molecular Mutation Scanning		858	0.3	873	1.0	1,184	0.4	1,210	1.0
83904	Molecular Mutation Identification by Sequencing		268	0.1	276	1.0	366	0.1	386	1.1
83905	Molecular Mutation Identification by Transcription		20	0.0	20	1.0	11	0.0	11	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		125	0.0	132	1.1	164	0.0	176	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		546	0.2	562	1.0	746	0.2	761	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		395	0.1	414	1.0	577	0.2	614	1.1
83912	Genetic Examination		2,893	0.9	3,149	1.1	3,524	1.0	3,897	1.1
83913	Molecular diagnostics; RNA stabilization		73	0.0	82	1.1	71	0.0	80	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		475	0.1	501	1.1	840	0.2	930	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.0	3	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		6	0.0	6	1.0	15	0.0	15	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		9	0.0	9	1.0	8	0.0	9	1.1
	Any of the above codes		3,390	1.0	16,352	4.8	4,007	1.2	21,760	5.4
<b>Unknown</b>		<b>60</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---
<b>Phenytoin</b>		<b>57,309</b>								
<b>Female</b>		<b>27,127</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		86	0.3	119	1.4	94	0.3	115	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		259	1.0	329	1.3	285	1.1	320	1.1
83892	Molecular diagnostics; enzymatic digestion		128	0.5	146	1.1	127	0.5	135	1.1
83893	Molecular diagnostics; dot/slot blot production		20	0.1	20	1.0	13	0.0	13	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		92	0.3	145	1.6	106	0.4	120	1.1
83896	Molecular diagnostics; nucleic acid probe, each		177	0.7	204	1.2	166	0.6	180	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		6	0.0	6	1.0	6	0.0	6	1.0
83898	Molecular Amplification of Each Sequence		225	0.8	294	1.3	245	0.9	280	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		103	0.4	141	1.4	117	0.4	143	1.2

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83901	Molecular Amplification of Each Additional Sequence		82	0.3	98	1.2	94	0.3	115	1.2
83902	Molecular Diagnostics; Reverse Transcription		26	0.1	38	1.5	21	0.1	26	1.2
83903	Molecular Mutation Scanning		46	0.2	49	1.1	43	0.2	46	1.1
83904	Molecular Mutation Identification by Sequencing		56	0.2	80	1.4	49	0.2	58	1.2
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		42	0.2	43	1.0	52	0.2	57	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		48	0.2	50	1.0	33	0.1	36	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		105	0.4	127	1.2	122	0.4	155	1.3
83912	Genetic Examination		360	1.3	502	1.4	369	1.4	458	1.2
83913	Molecular diagnostics; RNA stabilization		4	0.0	6	1.5	3	0.0	4	1.3
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		61	0.2	63	1.0	70	0.3	72	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		11	0.0	17	1.5	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	7	1.8	5	0.0	6	1.2

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	7	0.0	7	1.0
	Any of the above codes		428	1.6	2,490	5.8	440	1.6	2,356	5.4
<b>Male</b>		<b>30,175</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		108	0.4	171	1.6	126	0.4	181	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		246	0.8	378	1.5	305	1.0	403	1.3
83892	Molecular diagnostics; enzymatic digestion		108	0.4	113	1.0	137	0.5	140	1.0
83893	Molecular diagnostics; dot/slot blot production		13	0.0	15	1.2	12	0.0	12	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		103	0.3	175	1.7	108	0.4	138	1.3
83896	Molecular diagnostics; nucleic acid probe, each		170	0.6	240	1.4	195	0.6	216	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.0	8	1.1	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		239	0.8	344	1.4	271	0.9	345	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		106	0.4	165	1.6	128	0.4	198	1.5
83901	Molecular Amplification of Each Additional Sequence		76	0.3	104	1.4	86	0.3	138	1.6
83902	Molecular Diagnostics; Reverse Transcription		45	0.1	74	1.6	31	0.1	45	1.5
83903	Molecular Mutation Scanning		31	0.1	31	1.0	45	0.1	46	1.0
83904	Molecular Mutation Identification by Sequencing		56	0.2	90	1.6	52	0.2	67	1.3
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	2	0.0	2	1.0

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		57	0.2	79	1.4	65	0.2	72	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		24	0.1	25	1.0	44	0.1	45	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		116	0.4	176	1.5	130	0.4	219	1.7
83912	Genetic Examination		351	1.2	559	1.6	428	1.4	641	1.5
83913	Molecular diagnostics; RNA stabilization		8	0.0	11	1.4	4	0.0	5	1.3
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		43	0.1	56	1.3	32	0.1	34	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		13	0.0	18	1.4	4	0.0	4	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		8	0.0	16	2.0	3	0.0	4	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		8	0.0	15	1.9	3	0.0	3	1.0
	Any of the above codes		432	1.4	2,867	6.6	513	1.7	2,963	5.8
<b>Unknown</b>		<b>7</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---



**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---

**Table 4b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---

"---" represent missing information

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>4,209</b>								
<b>Female</b>		<b>860</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		109	12.7	112	1.0	21	2.4	23	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	10.1	91	1.0	23	2.7	25	1.1
83892	Molecular diagnostics; enzymatic digestion		11	1.3	12	1.1	4	0.5	4	1.0
83893	Molecular diagnostics; dot/slot blot production		105	12.2	107	1.0	17	2.0	18	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		11	1.3	11	1.0	5	0.6	6	1.2
83896	Molecular diagnostics; nucleic acid probe, each		186	21.6	193	1.0	35	4.1	38	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.2	2	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		116	13.5	120	1.0	26	3.0	30	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		74	8.6	77	1.0	15	1.7	16	1.1
83901	Molecular Amplification of Each Additional Sequence		9	1.0	9	1.0	6	0.7	7	1.2
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	1	0.1	1	1.0
83903	Molecular Mutation Scanning		3	0.3	3	1.0	1	0.1	1	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.3	3	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		7	0.8	7	1.0	4	0.5	4	1.0
83912	Genetic Examination		179	20.8	194	1.1	41	4.8	49	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		7	0.8	7	1.0	4	0.5	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		203	23.6	949	4.7	53	6.2	227	4.3
<b>Male</b>		<b>3,349</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		7	0.2	7	1.0	2	0.1	2	1.0
83890	Molecular Isolation/Extraction		376	11.2	395	1.1	70	2.1	91	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		344	10.3	369	1.1	77	2.3	89	1.2
83892	Molecular diagnostics; enzymatic digestion		19	0.6	30	1.6	20	0.6	50	2.5

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83893	Molecular diagnostics; dot/slot blot production		335	10.0	342	1.0	52	1.6	54	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		61	1.8	67	1.1	26	0.8	39	1.5
83896	Molecular diagnostics; nucleic acid probe, each		645	19.3	684	1.1	112	3.3	140	1.3
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		406	12.1	434	1.1	97	2.9	119	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		306	9.1	322	1.1	52	1.6	56	1.1
83901	Molecular Amplification of Each Additional Sequence		35	1.0	36	1.0	13	0.4	14	1.1
83902	Molecular Diagnostics; Reverse Transcription		10	0.3	18	1.8	11	0.3	25	2.3
83903	Molecular Mutation Scanning		8	0.2	8	1.0	7	0.2	7	1.0
83904	Molecular Mutation Identification by Sequencing		14	0.4	14	1.0	5	0.1	5	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.1	2	1.0	2	0.1	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		5	0.1	5	1.0	3	0.1	3	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		17	0.5	18	1.1	8	0.2	8	1.0

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83912	Genetic Examination		664	19.8	748	1.1	164	4.9	212	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	3	0.1	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.1	3	1.0	2	0.1	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		6	0.2	6	1.0	3	0.1	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		758	22.6	3,509	4.6	201	6.0	924	4.6
<b>Unknown</b>		<b>0</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	---	0	---	0	---	0	---
81381	HLA Class I Typing		0	---	0	---	0	---	0	---
83890	Molecular Isolation/Extraction		0	---	0	---	0	---	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	---	0	---	0	---	0	---
83892	Molecular diagnostics; enzymatic digestion		0	---	0	---	0	---	0	---
83893	Molecular diagnostics; dot/slot blot production		0	---	0	---	0	---	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	---	0	---	0	---	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	---	0	---	0	---	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	---	0	---	0	---	0	---
83898	Molecular Amplification of Each Sequence		0	---	0	---	0	---	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	---	0	---	0	---	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83901	Molecular Amplification of Each Additional Sequence		0	---	0	---	0	---	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	---	0	---	0	---	0	---
83903	Molecular Mutation Scanning		0	---	0	---	0	---	0	---
83904	Molecular Mutation Identification by Sequencing		0	---	0	---	0	---	0	---
83905	Molecular Mutation Identification by Transcription		0	---	0	---	0	---	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	---	0	---	0	---	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	---	0	---	0	---	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	---	0	---	0	---	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	---	0	---	0	---	0	---
83912	Genetic Examination		0	---	0	---	0	---	0	---
83913	Molecular diagnostics; RNA stabilization		0	---	0	---	0	---	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	---	0	---	0	---	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	---	0	---	0	---	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	---	0	---	0	---	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	---	0	---	0	---	0	---
	Any of the above codes		0	---	0	---	0	---	0	---
<b>Carbamazepine</b>		<b>59,897</b>								
<b>Female</b>		<b>37,106</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	2	0.0	2	1.0
81381	HLA Class I Typing		3	0.0	3	1.0	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		126	0.3	130	1.0	137	0.4	141	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		479	1.3	527	1.1	501	1.4	546	1.1
83892	Molecular diagnostics; enzymatic digestion		212	0.6	222	1.0	244	0.7	257	1.1
83893	Molecular diagnostics; dot/slot blot production		68	0.2	68	1.0	55	0.1	55	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		137	0.4	150	1.1	135	0.4	159	1.2
83896	Molecular diagnostics; nucleic acid probe, each		336	0.9	361	1.1	309	0.8	334	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		17	0.0	18	1.1	15	0.0	17	1.1
83898	Molecular Amplification of Each Sequence		296	0.8	333	1.1	320	0.9	362	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		216	0.6	229	1.1	248	0.7	260	1.0
83901	Molecular Amplification of Each Additional Sequence		154	0.4	162	1.1	205	0.6	215	1.0
83902	Molecular Diagnostics; Reverse Transcription		23	0.1	34	1.5	20	0.1	34	1.7
83903	Molecular Mutation Scanning		78	0.2	80	1.0	87	0.2	91	1.0
83904	Molecular Mutation Identification by Sequencing		45	0.1	49	1.1	68	0.2	82	1.2



**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		12	0.0	12	1.0	25	0.1	26	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		68	0.2	71	1.0	84	0.2	86	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		153	0.4	165	1.1	186	0.5	195	1.0
83912	Genetic Examination		567	1.5	625	1.1	595	1.6	670	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	2	0.0	4	2.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		118	0.3	122	1.0	189	0.5	197	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.0	4	1.0	7	0.0	7	1.0
	Any of the above codes		653	1.8	3,370	5.2	693	1.9	3,744	5.4
<b>Male</b>		<b>22,777</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		4	0.0	4	1.0	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		56	0.2	57	1.0	78	0.3	86	1.1

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		221	1.0	241	1.1	221	1.0	260	1.2
83892	Molecular diagnostics; enzymatic digestion		109	0.5	125	1.1	118	0.5	135	1.1
83893	Molecular diagnostics; dot/slot blot production		22	0.1	22	1.0	26	0.1	27	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		75	0.3	77	1.0	78	0.3	90	1.2
83896	Molecular diagnostics; nucleic acid probe, each		160	0.7	176	1.1	146	0.6	160	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		19	0.1	19	1.0	19	0.1	19	1.0
83898	Molecular Amplification of Each Sequence		157	0.7	169	1.1	168	0.7	196	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		98	0.4	104	1.1	73	0.3	76	1.0
83901	Molecular Amplification of Each Additional Sequence		41	0.2	43	1.0	44	0.2	47	1.1
83902	Molecular Diagnostics; Reverse Transcription		18	0.1	25	1.4	14	0.1	22	1.6
83903	Molecular Mutation Scanning		36	0.2	39	1.1	36	0.2	38	1.1
83904	Molecular Mutation Identification by Sequencing		27	0.1	30	1.1	36	0.2	45	1.3
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		10	0.0	11	1.1	6	0.0	6	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		28	0.1	31	1.1	30	0.1	33	1.1

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		62	0.3	65	1.0	69	0.3	96	1.4
83912	Genetic Examination		251	1.1	279	1.1	252	1.1	289	1.1
83913	Molecular diagnostics; RNA stabilization		6	0.0	7	1.2	3	0.0	3	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		30	0.1	31	1.0	40	0.2	75	1.9
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		12	0.1	12	1.0	8	0.0	8	1.0
	Any of the above codes		305	1.3	1,571	5.2	319	1.4	1,715	5.4
<b>Unknown</b>		<b>14</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---
<b>Clopidogrel</b>		<b>384,132</b>								
<b>Female</b>		<b>148,678</b>								
81225	CYP2C19 Gene Analysis Common Variants		1	0.0	1	1.0	21	0.0	21	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		451	0.3	479	1.1	523	0.4	548	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		1,722	1.2	1,912	1.1	2,223	1.5	2,504	1.1
83892	Molecular diagnostics; enzymatic digestion		1,034	0.7	1,097	1.1	1,343	0.9	1,427	1.1
83893	Molecular diagnostics; dot/slot blot production		85	0.1	86	1.0	87	0.1	87	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		572	0.4	595	1.0	633	0.4	661	1.0
83896	Molecular diagnostics; nucleic acid probe, each		1,241	0.8	1,360	1.1	1,550	1.0	1,679	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		8	0.0	8	1.0	13	0.0	14	1.1
83898	Molecular Amplification of Each Sequence		1,471	1.0	1,590	1.1	1,651	1.1	1,818	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		428	0.3	473	1.1	678	0.5	744	1.1
83901	Molecular Amplification of Each Additional Sequence		213	0.1	232	1.1	497	0.3	546	1.1
83902	Molecular Diagnostics; Reverse Transcription		120	0.1	177	1.5	137	0.1	181	1.3
83903	Molecular Mutation Scanning		543	0.4	566	1.0	732	0.5	765	1.0

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		160	0.1	166	1.0	291	0.2	298	1.0
83905	Molecular Mutation Identification by Transcription		11	0.0	14	1.3	14	0.0	14	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		51	0.0	58	1.1	96	0.1	100	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		431	0.3	448	1.0	599	0.4	625	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		332	0.2	352	1.1	452	0.3	480	1.1
83912	Genetic Examination		2,186	1.5	2,428	1.1	2,586	1.7	2,939	1.1
83913	Molecular diagnostics; RNA stabilization		7	0.0	7	1.0	6	0.0	7	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		318	0.2	339	1.1	646	0.4	701	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	3	0.0	3	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		10	0.0	11	1.1	14	0.0	14	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	7	1.4	9	0.0	9	1.0
	Any of the above codes		2,567	1.7	12,408	4.8	2,934	2.0	16,185	5.5
<b>Male</b>		<b>235,408</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	40	0.0	41	1.0

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		529	0.2	578	1.1	602	0.3	646	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		2,148	0.9	2,389	1.1	3,110	1.3	3,500	1.1
83892	Molecular diagnostics; enzymatic digestion		1,298	0.6	1,357	1.0	1,923	0.8	2,024	1.1
83893	Molecular diagnostics; dot/slot blot production		104	0.0	106	1.0	97	0.0	100	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		559	0.2	620	1.1	657	0.3	709	1.1
83896	Molecular diagnostics; nucleic acid probe, each		1,716	0.7	1,866	1.1	2,237	1.0	2,446	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		16	0.0	19	1.2	9	0.0	9	1.0
83898	Molecular Amplification of Each Sequence		1,743	0.7	1,940	1.1	2,195	0.9	2,423	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		552	0.2	617	1.1	1,025	0.4	1,162	1.1
83901	Molecular Amplification of Each Additional Sequence		288	0.1	332	1.2	728	0.3	834	1.1
83902	Molecular Diagnostics; Reverse Transcription		279	0.1	370	1.3	307	0.1	410	1.3
83903	Molecular Mutation Scanning		803	0.3	825	1.0	1,169	0.5	1,209	1.0
83904	Molecular Mutation Identification by Sequencing		200	0.1	215	1.1	399	0.2	422	1.1
83905	Molecular Mutation Identification by Transcription		17	0.0	17	1.0	10	0.0	11	1.1
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		115	0.0	133	1.2	215	0.1	239	1.1

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		475	0.2	494	1.0	792	0.3	819	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		388	0.2	420	1.1	585	0.2	625	1.1
83912	Genetic Examination		2,659	1.1	3,022	1.1	3,507	1.5	4,046	1.2
83913	Molecular diagnostics; RNA stabilization		79	0.0	95	1.2	95	0.0	109	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		352	0.1	371	1.1	859	0.4	958	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		9	0.0	9	1.0	23	0.0	31	1.3
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		7	0.0	7	1.0	15	0.0	21	1.4
	Any of the above codes		3,130	1.3	15,805	5.0	4,016	1.7	22,798	5.7
<b>Unknown</b>		<b>45</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	1	2.2	1	1.0
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	1	2.2	1	1.0
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	1	2.2	1	1.0



**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	1	2.2	1	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	1	2.2	1	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	1	2.2	1	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	1	2.2	6	6.0
<b>Phenytoin</b>		<b>38,856</b>								
<b>Female</b>		<b>18,644</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		73	0.4	103	1.4	93	0.5	122	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		244	1.3	306	1.3	303	1.6	345	1.1
83892	Molecular diagnostics; enzymatic digestion		119	0.6	144	1.2	141	0.8	151	1.1
83893	Molecular diagnostics; dot/slot blot production		21	0.1	22	1.0	21	0.1	21	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		75	0.4	105	1.4	111	0.6	131	1.2
83896	Molecular diagnostics; nucleic acid probe, each		158	0.8	193	1.2	166	0.9	186	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	5	1.0	8	0.0	8	1.0
83898	Molecular Amplification of Each Sequence		198	1.1	254	1.3	247	1.3	294	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		113	0.6	142	1.3	114	0.6	150	1.3
83901	Molecular Amplification of Each Additional Sequence		99	0.5	121	1.2	97	0.5	117	1.2
83902	Molecular Diagnostics; Reverse Transcription		25	0.1	46	1.8	24	0.1	39	1.6

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		38	0.2	40	1.1	45	0.2	46	1.0
83904	Molecular Mutation Identification by Sequencing		38	0.2	48	1.3	53	0.3	59	1.1
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		37	0.2	37	1.0	41	0.2	48	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		37	0.2	41	1.1	37	0.2	38	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		95	0.5	114	1.2	121	0.6	153	1.3
83912	Genetic Examination		318	1.7	446	1.4	370	2.0	482	1.3
83913	Molecular diagnostics; RNA stabilization		3	0.0	7	2.3	3	0.0	6	2.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		66	0.4	68	1.0	78	0.4	81	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		9	0.0	12	1.3	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	7	1.8	7	0.0	8	1.1
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	6	0.0	6	1.0
	Any of the above codes		386	2.1	2,265	5.9	445	2.4	2,495	5.6
<b>Male</b>		<b>20,208</b>								

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.0	1	1.0	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		75	0.4	128	1.7	107	0.5	183	1.7
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		224	1.1	362	1.6	307	1.5	441	1.4
83892	Molecular diagnostics; enzymatic digestion		111	0.5	118	1.1	143	0.7	153	1.1
83893	Molecular diagnostics; dot/slot blot production		8	0.0	11	1.4	16	0.1	16	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		89	0.4	153	1.7	88	0.4	122	1.4
83896	Molecular diagnostics; nucleic acid probe, each		150	0.7	236	1.6	197	1.0	234	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.0	10	1.1	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		203	1.0	303	1.5	241	1.2	335	1.4
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		89	0.4	154	1.7	122	0.6	205	1.7
83901	Molecular Amplification of Each Additional Sequence		58	0.3	96	1.7	79	0.4	154	1.9
83902	Molecular Diagnostics; Reverse Transcription		35	0.2	74	2.1	39	0.2	69	1.8
83903	Molecular Mutation Scanning		34	0.2	35	1.0	53	0.3	56	1.1
83904	Molecular Mutation Identification by Sequencing		45	0.2	78	1.7	50	0.2	69	1.4
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		42	0.2	64	1.5	50	0.2	61	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		23	0.1	25	1.1	56	0.3	58	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		94	0.5	146	1.6	111	0.5	226	2.0
83912	Genetic Examination		288	1.4	461	1.6	381	1.9	607	1.6
83913	Molecular diagnostics; RNA stabilization		8	0.0	13	1.6	7	0.0	9	1.3
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		34	0.2	49	1.4	46	0.2	49	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		7	0.0	9	1.3	2	0.0	3	1.5
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		9	0.0	17	1.9	3	0.0	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		10	0.0	17	1.7	8	0.0	9	1.1
	Any of the above codes		360	1.8	2,563	7.1	460	2.3	3,070	6.7
<b>Unknown</b>		<b>4</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		0	0.0	0	---	0	0.0	0	---
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		0	0.0	0	---	0	0.0	0	---
83892	Molecular diagnostics; enzymatic digestion		0	0.0	0	---	0	0.0	0	---
83893	Molecular diagnostics; dot/slot blot production		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		0	0.0	0	---	0	0.0	0	---
83896	Molecular diagnostics; nucleic acid probe, each		0	0.0	0	---	0	0.0	0	---
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		0	0.0	0	---	0	0.0	0	---
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		0	0.0	0	---	0	0.0	0	---
83901	Molecular Amplification of Each Additional Sequence		0	0.0	0	---	0	0.0	0	---
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		0	0.0	0	---	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83912	Genetic Examination		0	0.0	0	---	0	0.0	0	---

**Table 4c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Sex (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		0	0.0	0	---	0	0.0	0	---

"---" represent missing information

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,851</b>								
<b>2007</b>		<b>970</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		37	3.8	41	1.1	9	0.9	14	1.6
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		18	1.9	18	1.0	8	0.8	8	1.0
83892	Molecular diagnostics; enzymatic digestion		3	0.3	7	2.3	3	0.3	5	1.7
83893	Molecular diagnostics; dot/slot blot production		30	3.1	30	1.0	5	0.5	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		11	1.1	15	1.4	5	0.5	10	2.0
83896	Molecular diagnostics; nucleic acid probe, each		46	4.7	50	1.1	10	1.0	12	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		42	4.3	42	1.0	14	1.4	18	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		16	1.6	16	1.0	4	0.4	4	1.0
83901	Molecular Amplification of Each Additional Sequence		6	0.6	6	1.0	1	0.1	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		1	0.1	1	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		3	0.3	3	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---



**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	0.3	3	1.0	0	0.0	0	---
83912	Genetic Examination		61	6.3	63	1.0	21	2.2	27	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	0.2	2	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		72	7.4	299	4.2	27	2.8	105	3.9
<b>2008</b>		<b>1,234</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.2	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		110	8.9	114	1.0	34	2.8	35	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		76	6.2	78	1.0	17	1.4	17	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		3	0.2	3	1.0	2	0.2	2	1.0
83893	Molecular diagnostics; dot/slot blot production		103	8.3	105	1.0	32	2.6	33	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		9	0.7	9	1.0	1	0.1	1	1.0
83896	Molecular diagnostics; nucleic acid probe, each		181	14.7	186	1.0	45	3.6	46	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		109	8.8	112	1.0	35	2.8	35	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		75	6.1	76	1.0	13	1.1	13	1.0
83901	Molecular Amplification of Each Additional Sequence		1	0.1	1	1.0	1	0.1	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.2	3	1.0	2	0.2	2	1.0
83903	Molecular Mutation Scanning		1	0.1	1	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		2	0.2	2	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.1	1	1.0	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		1	0.1	1	1.0	1	0.1	1	1.0
83912	Genetic Examination		183	14.8	189	1.0	49	4.0	53	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	1	0.1	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.1	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		204	16.5	884	4.3	61	4.9	242	4.0
<b>2009</b>		<b>1,443</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.1	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		145	10.0	146	1.0	17	1.2	18	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		122	8.5	129	1.1	22	1.5	22	1.0
83892	Molecular diagnostics; enzymatic digestion		7	0.5	8	1.1	2	0.1	3	1.5
83893	Molecular diagnostics; dot/slot blot production		127	8.8	127	1.0	14	1.0	14	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		17	1.2	17	1.0	3	0.2	3	1.0
83896	Molecular diagnostics; nucleic acid probe, each		244	16.9	250	1.0	35	2.4	36	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		146	10.1	148	1.0	19	1.3	20	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		116	8.0	120	1.0	20	1.4	20	1.0
83901	Molecular Amplification of Each Additional Sequence		7	0.5	7	1.0	2	0.1	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.2	5	1.7	2	0.1	3	1.5
83903	Molecular Mutation Scanning		2	0.1	2	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		5	0.3	5	1.0	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.1	2	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		6	0.4	6	1.0	2	0.1	2	1.0
83912	Genetic Examination		259	17.9	268	1.0	47	3.3	51	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		4	0.3	4	1.0	2	0.1	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.1	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		278	19.3	1,247	4.5	50	3.5	197	3.9
<b>2010</b>		<b>1,133</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		113	10.0	114	1.0	12	1.1	12	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		102	9.0	104	1.0	17	1.5	18	1.1
83892	Molecular diagnostics; enzymatic digestion		2	0.2	2	1.0	2	0.2	2	1.0
83893	Molecular diagnostics; dot/slot blot production		105	9.3	105	1.0	13	1.1	13	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		14	1.2	15	1.1	3	0.3	3	1.0
83896	Molecular diagnostics; nucleic acid probe, each		199	17.6	201	1.0	25	2.2	26	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	1	0.1	1	1.0
83898	Molecular Amplification of Each Sequence		114	10.1	116	1.0	18	1.6	18	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		96	8.5	98	1.0	14	1.2	15	1.1
83901	Molecular Amplification of Each Additional Sequence		5	0.4	5	1.0	5	0.4	5	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	1	0.1	1	1.0
83903	Molecular Mutation Scanning		1	0.1	1	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		2	0.2	2	1.0	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.1	1	1.0	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.2	2	1.0	3	0.3	3	1.0
83912	Genetic Examination		202	17.8	208	1.0	32	2.8	33	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.1	1	1.0	4	0.4	4	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	1	0.1	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		216	19.1	978	4.5	35	3.1	156	4.5
<b>2011</b>		<b>1,131</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		106	9.4	106	1.0	8	0.7	8	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	7.7	88	1.0	15	1.3	15	1.0
83892	Molecular diagnostics; enzymatic digestion		4	0.4	4	1.0	1	0.1	1	1.0
83893	Molecular diagnostics; dot/slot blot production		97	8.6	97	1.0	8	0.7	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		13	1.1	13	1.0	3	0.3	3	1.0
83896	Molecular diagnostics; nucleic acid probe, each		173	15.3	176	1.0	20	1.8	20	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		110	9.7	111	1.0	11	1.0	11	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		80	7.1	80	1.0	11	1.0	11	1.0
83901	Molecular Amplification of Each Additional Sequence		10	0.9	10	1.0	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		3	0.3	3	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.2	2	1.0	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83912	Genetic Examination		173	15.3	182	1.1	23	2.0	23	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.1	1	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		196	17.3	876	4.5	28	2.5	102	3.6
<b>2012</b>		<b>940</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		6	0.6	6	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		89	9.5	94	1.1	13	1.4	13	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		118	12.6	122	1.0	13	1.4	13	1.0
83892	Molecular diagnostics; enzymatic digestion		2	0.2	2	1.0	3	0.3	3	1.0
83893	Molecular diagnostics; dot/slot blot production		77	8.2	80	1.0	11	1.2	11	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		12	1.3	13	1.1	2	0.2	2	1.0
83896	Molecular diagnostics; nucleic acid probe, each		190	20.2	197	1.0	21	2.2	21	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---



**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		91	9.7	96	1.1	15	1.6	15	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		107	11.4	108	1.0	9	1.0	9	1.0
83901	Molecular Amplification of Each Additional Sequence		11	1.2	11	1.0	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	1	0.1	1	1.0
83903	Molecular Mutation Scanning		1	0.1	1	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		1	0.1	1	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.1	1	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.2	2	1.0	2	0.2	2	1.0
83912	Genetic Examination		173	18.4	184	1.1	30	3.2	30	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.3	3	1.0	3	0.3	3	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		212	22.6	922	4.3	31	3.3	128	4.1
<b>Carbamazepine</b>		<b>93,879</b>								
<b>2007</b>		<b>11,625</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		13	0.1	14	1.1	11	0.1	11	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		30	0.3	31	1.0	36	0.3	37	1.0
83892	Molecular diagnostics; enzymatic digestion		13	0.1	14	1.1	11	0.1	11	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.1	7	1.0	8	0.1	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		16	0.1	16	1.0	11	0.1	11	1.0
83896	Molecular diagnostics; nucleic acid probe, each		23	0.2	24	1.0	23	0.2	23	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	6	1.2	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		27	0.2	28	1.0	20	0.2	21	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		4	0.0	4	1.0	10	0.1	10	1.0
83901	Molecular Amplification of Each Additional Sequence		11	0.1	11	1.0	18	0.2	18	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83903	Molecular Mutation Scanning		1	0.0	1	1.0	1	0.0	1	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		5	0.0	5	1.0	4	0.0	5	1.3
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.0	2	1.0	2	0.0	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		7	0.1	7	1.0	10	0.1	10	1.0
83912	Genetic Examination		34	0.3	34	1.0	35	0.3	36	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.0	1	1.0	7	0.1	7	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		49	0.4	207	4.2	47	0.4	219	4.7
<b>2008</b>		<b>15,901</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		11	0.1	11	1.0	14	0.1	14	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		33	0.2	33	1.0	43	0.3	44	1.0
83892	Molecular diagnostics; enzymatic digestion		17	0.1	17	1.0	23	0.1	24	1.0
83893	Molecular diagnostics; dot/slot blot production		6	0.0	6	1.0	5	0.0	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		15	0.1	15	1.0	12	0.1	12	1.0
83896	Molecular diagnostics; nucleic acid probe, each		26	0.2	26	1.0	32	0.2	32	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		27	0.2	27	1.0	29	0.2	29	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		16	0.1	16	1.0	17	0.1	18	1.1
83901	Molecular Amplification of Each Additional Sequence		8	0.1	8	1.0	12	0.1	12	1.0
83902	Molecular Diagnostics; Reverse Transcription		2	0.0	2	1.0	2	0.0	2	1.0
83903	Molecular Mutation Scanning		3	0.0	3	1.0	9	0.1	9	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.0	3	1.0	4	0.0	4	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.0	2	1.0	6	0.0	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		11	0.1	11	1.0	12	0.1	12	1.0
83912	Genetic Examination		47	0.3	47	1.0	51	0.3	52	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.0	6	1.0	9	0.1	10	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	2	0.0	2	1.0
	Any of the above codes		57	0.4	239	4.2	60	0.4	289	4.8
<b>2009</b>		<b>18,325</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.0	3	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		17	0.1	18	1.1	21	0.1	23	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		48	0.3	52	1.1	58	0.3	60	1.0
83892	Molecular diagnostics; enzymatic digestion		21	0.1	21	1.0	21	0.1	21	1.0
83893	Molecular diagnostics; dot/slot blot production		9	0.0	9	1.0	4	0.0	4	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		18	0.1	19	1.1	14	0.1	15	1.1
83896	Molecular diagnostics; nucleic acid probe, each		37	0.2	38	1.0	42	0.2	44	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		43	0.2	46	1.1	42	0.2	43	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		22	0.1	24	1.1	34	0.2	35	1.0
83901	Molecular Amplification of Each Additional Sequence		14	0.1	15	1.1	12	0.1	12	1.0
83902	Molecular Diagnostics; Reverse Transcription		2	0.0	2	1.0	3	0.0	3	1.0
83903	Molecular Mutation Scanning		6	0.0	6	1.0	7	0.0	8	1.1
83904	Molecular Mutation Identification by Sequencing		5	0.0	7	1.4	5	0.0	5	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	2	1.0	3	0.0	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.0	2	1.0	2	0.0	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		14	0.1	15	1.1	19	0.1	19	1.0
83912	Genetic Examination		60	0.3	63	1.1	76	0.4	80	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		11	0.1	13	1.2	10	0.1	10	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	3	0.0	3	1.0
	Any of the above codes		75	0.4	360	4.8	87	0.5	395	4.5
<b>2010</b>		<b>17,049</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.0	3	1.0	3	0.0	3	1.0
83890	Molecular Isolation/Extraction		20	0.1	30	1.5	22	0.1	22	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	0.5	93	1.1	77	0.5	77	1.0
83892	Molecular diagnostics; enzymatic digestion		24	0.1	29	1.2	39	0.2	39	1.0
83893	Molecular diagnostics; dot/slot blot production		13	0.1	13	1.0	15	0.1	15	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		20	0.1	26	1.3	25	0.1	25	1.0
83896	Molecular diagnostics; nucleic acid probe, each		65	0.4	68	1.0	58	0.3	58	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	5	0.0	5	1.0
83898	Molecular Amplification of Each Sequence		57	0.3	73	1.3	63	0.4	63	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		44	0.3	44	1.0	31	0.2	31	1.0
83901	Molecular Amplification of Each Additional Sequence		16	0.1	16	1.0	20	0.1	20	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.0	3	1.0	7	0.0	7	1.0
83903	Molecular Mutation Scanning		6	0.0	6	1.0	11	0.1	11	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		12	0.1	21	1.8	8	0.0	8	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	2	1.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		7	0.0	7	1.0	8	0.0	8	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		25	0.1	67	2.7	27	0.2	46	1.7
83912	Genetic Examination		104	0.6	117	1.1	97	0.6	97	1.0
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		11	0.1	14	1.3	16	0.1	16	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	5	1.0	0	0.0	0	---
	Any of the above codes		114	0.7	643	5.6	115	0.7	554	4.8
<b>2011</b>		<b>15,863</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---



**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		24	0.2	24	1.0	16	0.1	17	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		81	0.5	87	1.1	81	0.5	86	1.1
83892	Molecular diagnostics; enzymatic digestion		34	0.2	39	1.1	30	0.2	33	1.1
83893	Molecular diagnostics; dot/slot blot production		8	0.1	8	1.0	7	0.0	8	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		22	0.1	24	1.1	22	0.1	24	1.1
83896	Molecular diagnostics; nucleic acid probe, each		64	0.4	68	1.1	50	0.3	54	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	2	2.0	2	0.0	3	1.5
83898	Molecular Amplification of Each Sequence		57	0.4	61	1.1	49	0.3	54	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		39	0.2	40	1.0	32	0.2	33	1.0
83901	Molecular Amplification of Each Additional Sequence		11	0.1	12	1.1	17	0.1	18	1.1
83902	Molecular Diagnostics; Reverse Transcription		4	0.0	6	1.5	6	0.0	7	1.2
83903	Molecular Mutation Scanning		16	0.1	16	1.0	9	0.1	9	1.0
83904	Molecular Mutation Identification by Sequencing		8	0.1	9	1.1	9	0.1	10	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	2	1.0	6	0.0	6	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		12	0.1	12	1.0	13	0.1	14	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		15	0.1	16	1.1	20	0.1	21	1.1
83912	Genetic Examination		97	0.6	103	1.1	90	0.6	96	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.1	10	1.0	17	0.1	18	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.0	4	1.0	3	0.0	3	1.0
	Any of the above codes		114	0.7	544	4.8	102	0.6	516	5.1
<b>2012</b>		<b>15,116</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	4	0.0	4	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		18	0.1	18	1.0	15	0.1	15	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		101	0.7	103	1.0	81	0.5	83	1.0
83892	Molecular diagnostics; enzymatic digestion		34	0.2	34	1.0	40	0.3	40	1.0
83893	Molecular diagnostics; dot/slot blot production		9	0.1	9	1.0	4	0.0	4	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		21	0.1	23	1.1	20	0.1	20	1.0
83896	Molecular diagnostics; nucleic acid probe, each		86	0.6	86	1.0	62	0.4	63	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		57	0.4	58	1.0	44	0.3	45	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		61	0.4	61	1.0	43	0.3	43	1.0
83901	Molecular Amplification of Each Additional Sequence		13	0.1	14	1.1	23	0.2	23	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.0	5	1.0	5	0.0	5	1.0
83903	Molecular Mutation Scanning		10	0.1	10	1.0	21	0.1	21	1.0
83904	Molecular Mutation Identification by Sequencing		13	0.1	14	1.1	14	0.1	14	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		5	0.0	5	1.0	5	0.0	5	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.1	16	1.0	19	0.1	19	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		19	0.1	19	1.0	15	0.1	15	1.0
83912	Genetic Examination		114	0.8	117	1.0	94	0.6	96	1.0
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		18	0.1	18	1.0	29	0.2	29	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	2	0.0	2	1.0
	Any of the above codes		124	0.8	614	5.0	112	0.7	551	4.9
<b>Clopidogrel</b>		<b>589,702</b>								
<b>2007</b>		<b>58,064</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		71	0.1	73	1.0	86	0.1	86	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		160	0.3	166	1.0	209	0.4	214	1.0
83892	Molecular diagnostics; enzymatic digestion		107	0.2	111	1.0	133	0.2	136	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.0	7	1.0	7	0.0	7	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		65	0.1	67	1.0	78	0.1	79	1.0
83896	Molecular diagnostics; nucleic acid probe, each		143	0.2	149	1.0	178	0.3	183	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		150	0.3	159	1.1	195	0.3	199	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		28	0.0	28	1.0	39	0.1	39	1.0
83901	Molecular Amplification of Each Additional Sequence		11	0.0	11	1.0	18	0.0	18	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.0	8	1.0	16	0.0	17	1.1

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		57	0.1	60	1.1	72	0.1	73	1.0
83904	Molecular Mutation Identification by Sequencing		5	0.0	5	1.0	8	0.0	8	1.0
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		4	0.0	4	1.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		30	0.1	31	1.0	50	0.1	51	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		17	0.0	17	1.0	31	0.1	31	1.0
83912	Genetic Examination		228	0.4	239	1.0	272	0.5	280	1.0
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		18	0.0	18	1.0	19	0.0	19	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		297	0.5	1,158	3.9	337	0.6	1,446	4.3
<b>2008</b>		<b>105,138</b>								

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		155	0.1	160	1.0	108	0.1	112	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		460	0.4	480	1.0	568	0.5	597	1.1
83892	Molecular diagnostics; enzymatic digestion		302	0.3	311	1.0	373	0.4	381	1.0
83893	Molecular diagnostics; dot/slot blot production		15	0.0	15	1.0	8	0.0	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		172	0.2	177	1.0	182	0.2	187	1.0
83896	Molecular diagnostics; nucleic acid probe, each		377	0.4	392	1.0	420	0.4	432	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		409	0.4	423	1.0	436	0.4	452	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		80	0.1	83	1.0	90	0.1	92	1.0
83901	Molecular Amplification of Each Additional Sequence		25	0.0	27	1.1	39	0.0	40	1.0
83902	Molecular Diagnostics; Reverse Transcription		28	0.0	32	1.1	36	0.0	37	1.0
83903	Molecular Mutation Scanning		170	0.2	172	1.0	227	0.2	231	1.0
83904	Molecular Mutation Identification by Sequencing		32	0.0	32	1.0	33	0.0	33	1.0
83905	Molecular Mutation Identification by Transcription		15	0.0	15	1.0	5	0.0	5	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		9	0.0	9	1.0	9	0.0	9	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		102	0.1	107	1.0	115	0.1	117	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		72	0.1	74	1.0	95	0.1	97	1.0
83912	Genetic Examination		625	0.6	655	1.0	658	0.6	690	1.0
83913	Molecular diagnostics; RNA stabilization		4	0.0	7	1.8	2	0.0	3	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		47	0.0	49	1.0	68	0.1	68	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		750	0.7	3,224	4.3	737	0.7	3,592	4.9
<b>2009</b>		<b>123,989</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		156	0.1	158	1.0	153	0.1	160	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		571	0.5	596	1.0	816	0.7	869	1.1
83892	Molecular diagnostics; enzymatic digestion		354	0.3	359	1.0	509	0.4	527	1.0
83893	Molecular diagnostics; dot/slot blot production		18	0.0	18	1.0	18	0.0	19	1.1

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		188	0.2	194	1.0	237	0.2	256	1.1
83896	Molecular diagnostics; nucleic acid probe, each		441	0.4	454	1.0	596	0.5	619	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		544	0.4	558	1.0	708	0.6	751	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		94	0.1	101	1.1	108	0.1	111	1.0
83901	Molecular Amplification of Each Additional Sequence		41	0.0	45	1.1	49	0.0	49	1.0
83902	Molecular Diagnostics; Reverse Transcription		45	0.0	50	1.1	63	0.1	67	1.1
83903	Molecular Mutation Scanning		217	0.2	221	1.0	281	0.2	286	1.0
83904	Molecular Mutation Identification by Sequencing		29	0.0	31	1.1	54	0.0	57	1.1
83905	Molecular Mutation Identification by Transcription		7	0.0	7	1.0	9	0.0	9	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		18	0.0	18	1.0	29	0.0	29	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		116	0.1	118	1.0	183	0.1	188	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		87	0.1	92	1.1	156	0.1	164	1.1



**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83912	Genetic Examination		763	0.6	800	1.0	920	0.7	992	1.1
83913	Molecular diagnostics; RNA stabilization		11	0.0	11	1.0	14	0.0	14	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		77	0.1	81	1.1	123	0.1	127	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		916	0.7	3,915	4.3	1,031	0.8	5,300	5.1
<b>2010</b>		<b>106,699</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		136	0.1	143	1.1	153	0.1	155	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		656	0.6	674	1.0	888	0.8	932	1.0
83892	Molecular diagnostics; enzymatic digestion		412	0.4	418	1.0	616	0.6	629	1.0
83893	Molecular diagnostics; dot/slot blot production		17	0.0	17	1.0	14	0.0	14	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		178	0.2	183	1.0	240	0.2	245	1.0
83896	Molecular diagnostics; nucleic acid probe, each		487	0.5	498	1.0	572	0.5	588	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		578	0.5	588	1.0	654	0.6	676	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		135	0.1	142	1.1	298	0.3	305	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83901	Molecular Amplification of Each Additional Sequence		62	0.1	67	1.1	208	0.2	209	1.0
83902	Molecular Diagnostics; Reverse Transcription		55	0.1	58	1.1	50	0.0	52	1.0
83903	Molecular Mutation Scanning		260	0.2	264	1.0	321	0.3	326	1.0
83904	Molecular Mutation Identification by Sequencing		27	0.0	28	1.0	50	0.0	51	1.0
83905	Molecular Mutation Identification by Transcription		5	0.0	7	1.4	6	0.0	6	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		20	0.0	24	1.2	26	0.0	28	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		141	0.1	144	1.0	172	0.2	177	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		110	0.1	116	1.1	189	0.2	198	1.0
83912	Genetic Examination		852	0.8	895	1.1	1,005	0.9	1,056	1.1
83913	Molecular diagnostics; RNA stabilization		12	0.0	12	1.0	10	0.0	10	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		119	0.1	120	1.0	227	0.2	233	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	7	0.0	7	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		1,008	0.9	4,402	4.4	1,128	1.1	5,899	5.2
<b>2011</b>		<b>93,351</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		134	0.1	139	1.0	137	0.1	142	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		643	0.7	671	1.0	868	0.9	940	1.1
83892	Molecular diagnostics; enzymatic digestion		380	0.4	385	1.0	531	0.6	543	1.0
83893	Molecular diagnostics; dot/slot blot production		10	0.0	10	1.0	15	0.0	15	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		169	0.2	170	1.0	191	0.2	195	1.0
83896	Molecular diagnostics; nucleic acid probe, each		473	0.5	489	1.0	582	0.6	598	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		478	0.5	493	1.0	601	0.6	628	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		174	0.2	184	1.1	272	0.3	307	1.1
83901	Molecular Amplification of Each Additional Sequence		98	0.1	102	1.0	204	0.2	237	1.2
83902	Molecular Diagnostics; Reverse Transcription		52	0.1	56	1.1	69	0.1	72	1.0
83903	Molecular Mutation Scanning		216	0.2	219	1.0	301	0.3	302	1.0
83904	Molecular Mutation Identification by Sequencing		40	0.0	42	1.1	88	0.1	88	1.0
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	5	0.0	5	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		41	0.0	42	1.0	50	0.1	52	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		199	0.2	202	1.0	240	0.3	244	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		105	0.1	111	1.1	156	0.2	158	1.0
83912	Genetic Examination		807	0.9	839	1.0	964	1.0	1,041	1.1
83913	Molecular diagnostics; RNA stabilization		9	0.0	9	1.0	11	0.0	12	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		132	0.1	135	1.0	261	0.3	296	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	5	0.0	5	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	5	1.0	5	0.0	5	1.0
	Any of the above codes		966	1.0	4,313	4.5	1,073	1.1	5,887	5.5
<b>2012</b>		<b>100,461</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	27	0.0	28	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		130	0.1	135	1.0	119	0.1	126	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		730	0.7	786	1.1	932	0.9	995	1.1

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		380	0.4	390	1.0	434	0.4	445	1.0
83893	Molecular diagnostics; dot/slot blot production		15	0.0	16	1.1	12	0.0	12	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		166	0.2	170	1.0	154	0.2	157	1.0
83896	Molecular diagnostics; nucleic acid probe, each		517	0.5	531	1.0	553	0.6	570	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		517	0.5	543	1.1	530	0.5	556	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		226	0.2	259	1.1	358	0.4	393	1.1
83901	Molecular Amplification of Each Additional Sequence		175	0.2	205	1.2	309	0.3	342	1.1
83902	Molecular Diagnostics; Reverse Transcription		51	0.1	56	1.1	49	0.0	52	1.1
83903	Molecular Mutation Scanning		231	0.2	233	1.0	274	0.3	277	1.0
83904	Molecular Mutation Identification by Sequencing		158	0.2	160	1.0	194	0.2	196	1.0
83905	Molecular Mutation Identification by Transcription		5	0.0	5	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		56	0.1	57	1.0	39	0.0	40	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		233	0.2	238	1.0	271	0.3	275	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		120	0.1	124	1.0	169	0.2	172	1.0
83912	Genetic Examination		877	0.9	951	1.1	996	1.0	1,081	1.1
83913	Molecular diagnostics; RNA stabilization		10	0.0	10	1.0	11	0.0	13	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		295	0.3	329	1.1	449	0.4	483	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	3	1.0	3	0.0	3	1.0
	Any of the above codes		1,032	1.0	5,204	5.0	1,153	1.1	6,220	5.4
<b>Phenytoin</b>		<b>63,799</b>								
<b>2007</b>		<b>9,698</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		20	0.2	24	1.2	20	0.2	24	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		35	0.4	45	1.3	52	0.5	65	1.3
83892	Molecular diagnostics; enzymatic digestion		18	0.2	18	1.0	20	0.2	21	1.1
83893	Molecular diagnostics; dot/slot blot production		2	0.0	2	1.0	1	0.0	1	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		22	0.2	22	1.0	25	0.3	25	1.0
83896	Molecular diagnostics; nucleic acid probe, each		23	0.2	31	1.3	34	0.4	36	1.1

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		42	0.4	56	1.3	52	0.5	55	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		9	0.1	12	1.3	11	0.1	12	1.1
83901	Molecular Amplification of Each Additional Sequence		9	0.1	11	1.2	12	0.1	13	1.1
83902	Molecular Diagnostics; Reverse Transcription		6	0.1	11	1.8	2	0.0	2	1.0
83903	Molecular Mutation Scanning		6	0.1	6	1.0	10	0.1	11	1.1
83904	Molecular Mutation Identification by Sequencing		1	0.0	1	1.0	5	0.1	6	1.2
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	2	2.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		7	0.1	7	1.0	10	0.1	11	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		7	0.1	8	1.1	12	0.1	14	1.2
83912	Genetic Examination		52	0.5	60	1.2	66	0.7	75	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	0.0	2	1.0	2	0.0	2	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		75	0.8	321	4.3	83	0.9	376	4.5
<b>2008</b>		<b>12,895</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		23	0.2	28	1.2	25	0.2	25	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		46	0.4	66	1.4	64	0.5	69	1.1
83892	Molecular diagnostics; enzymatic digestion		18	0.1	20	1.1	28	0.2	28	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.0	5	1.3	2	0.0	2	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		23	0.2	42	1.8	31	0.2	31	1.0
83896	Molecular diagnostics; nucleic acid probe, each		31	0.2	39	1.3	21	0.2	21	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	3	1.5	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		50	0.4	76	1.5	51	0.4	56	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		20	0.2	26	1.3	31	0.2	37	1.2
83901	Molecular Amplification of Each Additional Sequence		13	0.1	14	1.1	20	0.2	26	1.3
83902	Molecular Diagnostics; Reverse Transcription		8	0.1	16	2.0	3	0.0	3	1.0
83903	Molecular Mutation Scanning		7	0.1	7	1.0	9	0.1	9	1.0



**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		7	0.1	12	1.7	15	0.1	18	1.2
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.0	6	1.0	5	0.0	5	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.0	7	1.2	7	0.1	7	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		15	0.1	17	1.1	32	0.2	39	1.2
83912	Genetic Examination		74	0.6	101	1.4	88	0.7	109	1.2
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.0	3	1.0	8	0.1	8	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	4	2.0	1	0.0	2	2.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		101	0.8	497	4.9	115	0.9	497	4.3
<b>2009</b>		<b>13,288</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		2	0.0	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		26	0.2	29	1.1	34	0.3	37	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		67	0.5	105	1.6	96	0.7	116	1.2
83892	Molecular diagnostics; enzymatic digestion		29	0.2	31	1.1	44	0.3	45	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.0	4	1.0	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		25	0.2	31	1.2	30	0.2	32	1.1
83896	Molecular diagnostics; nucleic acid probe, each		40	0.3	48	1.2	57	0.4	60	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		59	0.4	79	1.3	81	0.6	93	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		30	0.2	34	1.1	39	0.3	46	1.2
83901	Molecular Amplification of Each Additional Sequence		21	0.2	25	1.2	28	0.2	36	1.3
83902	Molecular Diagnostics; Reverse Transcription		8	0.1	13	1.6	11	0.1	11	1.0
83903	Molecular Mutation Scanning		9	0.1	9	1.0	13	0.1	14	1.1
83904	Molecular Mutation Identification by Sequencing		9	0.1	11	1.2	12	0.1	12	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		16	0.1	19	1.2	25	0.2	25	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.1	8	1.0	13	0.1	14	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		36	0.3	47	1.3	42	0.3	59	1.4
83912	Genetic Examination		104	0.8	121	1.2	127	1.0	155	1.2
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		11	0.1	11	1.0	14	0.1	14	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		124	0.9	630	5.1	152	1.1	779	5.1
<b>2010</b>		<b>10,595</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		26	0.2	33	1.3	31	0.3	40	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		66	0.6	80	1.2	76	0.7	81	1.1
83892	Molecular diagnostics; enzymatic digestion		30	0.3	32	1.1	40	0.4	42	1.1
83893	Molecular diagnostics; dot/slot blot production		3	0.0	4	1.3	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		19	0.2	34	1.8	22	0.2	28	1.3
83896	Molecular diagnostics; nucleic acid probe, each		50	0.5	57	1.1	45	0.4	46	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		67	0.6	79	1.2	73	0.7	81	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		30	0.3	43	1.4	29	0.3	33	1.1
83901	Molecular Amplification of Each Additional Sequence		21	0.2	22	1.0	23	0.2	27	1.2
83902	Molecular Diagnostics; Reverse Transcription		6	0.1	8	1.3	8	0.1	8	1.0
83903	Molecular Mutation Scanning		8	0.1	9	1.1	11	0.1	11	1.0
83904	Molecular Mutation Identification by Sequencing		17	0.2	23	1.4	21	0.2	22	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		26	0.2	29	1.1	24	0.2	24	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.1	6	1.0	6	0.1	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		34	0.3	40	1.2	41	0.4	45	1.1
83912	Genetic Examination		106	1.0	139	1.3	109	1.0	135	1.2
83913	Molecular diagnostics; RNA stabilization		2	0.0	4	2.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		22	0.2	24	1.1	13	0.1	13	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		3	0.0	4	1.3	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	2	2.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	2	0.0	2	1.0
	Any of the above codes		122	1.2	674	5.5	134	1.3	652	4.9
<b>2011</b>		<b>9,371</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		29	0.3	50	1.7	35	0.4	42	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		83	0.9	104	1.3	102	1.1	114	1.1
83892	Molecular diagnostics; enzymatic digestion		25	0.3	28	1.1	40	0.4	42	1.1
83893	Molecular diagnostics; dot/slot blot production		1	0.0	1	1.0	5	0.1	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		26	0.3	50	1.9	32	0.3	37	1.2
83896	Molecular diagnostics; nucleic acid probe, each		47	0.5	62	1.3	67	0.7	71	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		73	0.8	89	1.2	83	0.9	91	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		37	0.4	60	1.6	41	0.4	55	1.3
83901	Molecular Amplification of Each Additional Sequence		31	0.3	42	1.4	33	0.4	40	1.2
83902	Molecular Diagnostics; Reverse Transcription		14	0.1	19	1.4	8	0.1	11	1.4
83903	Molecular Mutation Scanning		5	0.1	6	1.2	14	0.1	14	1.0

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		26	0.3	36	1.4	18	0.2	21	1.2
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		29	0.3	36	1.2	37	0.4	38	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.1	8	1.0	13	0.1	14	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		43	0.5	59	1.4	35	0.4	45	1.3
83912	Genetic Examination		112	1.2	172	1.5	133	1.4	168	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		20	0.2	27	1.4	12	0.1	12	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		10	0.1	14	1.4	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	4	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		132	1.4	870	6.6	153	1.6	824	5.4
<b>2012</b>		<b>7,952</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		27	0.3	34	1.3	25	0.3	27	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		77	1.0	91	1.2	74	0.9	82	1.1
83892	Molecular diagnostics; enzymatic digestion		23	0.3	25	1.1	27	0.3	27	1.0
83893	Molecular diagnostics; dot/slot blot production		3	0.0	3	1.0	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		20	0.3	28	1.4	25	0.3	25	1.0
83896	Molecular diagnostics; nucleic acid probe, each		54	0.7	58	1.1	48	0.6	48	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		70	0.9	85	1.2	73	0.9	78	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		25	0.3	35	1.4	30	0.4	35	1.2
83901	Molecular Amplification of Each Additional Sequence		19	0.2	23	1.2	29	0.4	33	1.1
83902	Molecular Diagnostics; Reverse Transcription		10	0.1	10	1.0	8	0.1	8	1.0
83903	Molecular Mutation Scanning		9	0.1	9	1.0	7	0.1	7	1.0
83904	Molecular Mutation Identification by Sequencing		21	0.3	28	1.3	8	0.1	8	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		24	0.3	24	1.0	25	0.3	27	1.1

**Table 5a. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 90 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.1	6	1.0	4	0.1	4	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		29	0.4	37	1.3	26	0.3	35	1.3
83912	Genetic Examination		104	1.3	140	1.3	111	1.4	132	1.2
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		11	0.1	12	1.1	18	0.2	20	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		7	0.1	12	1.7	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.1	7	1.8	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.1	8	2.0	3	0.0	3	1.0
	Any of the above codes		127	1.6	678	5.3	132	1.7	607	4.6

"---" represent missing information



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>6,285</b>								
<b>2007</b>		<b>917</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		42	4.6	46	1.1	10	1.1	19	1.9
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		21	2.3	21	1.0	10	1.1	10	1.0
83892	Molecular diagnostics; enzymatic digestion		3	0.3	7	2.3	4	0.4	9	2.3
83893	Molecular diagnostics; dot/slot blot production		33	3.6	33	1.0	5	0.5	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		15	1.6	20	1.3	8	0.9	17	2.1
83896	Molecular diagnostics; nucleic acid probe, each		50	5.5	54	1.1	11	1.2	16	1.5
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		51	5.6	54	1.1	18	2.0	24	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		18	2.0	18	1.0	6	0.7	6	1.0
83901	Molecular Amplification of Each Additional Sequence		7	0.8	7	1.0	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		1	0.1	1	1.0	1	0.1	1	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.3	3	1.0	2	0.2	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.2	2	1.0	0	0.0	0	---
83912	Genetic Examination		68	7.4	75	1.1	26	2.8	41	1.6
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.1	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.1	1	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		78	8.5	344	4.4	35	3.8	153	4.4
<b>2008</b>		<b>1,126</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.2	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		112	9.9	116	1.0	34	3.0	36	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	7.7	91	1.0	19	1.7	20	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		4	0.4	4	1.0	2	0.2	3	1.5
83893	Molecular diagnostics; dot/slot blot production		106	9.4	108	1.0	32	2.8	33	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		13	1.2	13	1.0	3	0.3	3	1.0
83896	Molecular diagnostics; nucleic acid probe, each		190	16.9	196	1.0	44	3.9	47	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		114	10.1	117	1.0	38	3.4	40	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		83	7.4	86	1.0	13	1.2	14	1.1
83901	Molecular Amplification of Each Additional Sequence		4	0.4	4	1.0	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.3	3	1.0	4	0.4	6	1.5
83903	Molecular Mutation Scanning		2	0.2	2	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		3	0.3	3	1.0	2	0.2	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.1	1	1.0	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		1	0.1	1	1.0	2	0.2	2	1.0
83912	Genetic Examination		197	17.5	211	1.1	56	5.0	70	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	1	0.1	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.1	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		220	19.5	959	4.4	68	6.0	280	4.1
<b>2009</b>		<b>1,305</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.2	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		168	12.9	172	1.0	20	1.5	24	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		134	10.3	142	1.1	20	1.5	21	1.1
83892	Molecular diagnostics; enzymatic digestion		9	0.7	12	1.3	3	0.2	7	2.3
83893	Molecular diagnostics; dot/slot blot production		148	11.3	148	1.0	16	1.2	16	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		18	1.4	18	1.0	4	0.3	4	1.0
83896	Molecular diagnostics; nucleic acid probe, each		276	21.1	286	1.0	36	2.8	41	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		172	13.2	176	1.0	24	1.8	29	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		126	9.7	131	1.0	16	1.2	16	1.0
83901	Molecular Amplification of Each Additional Sequence		10	0.8	10	1.0	1	0.1	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.4	9	1.8	4	0.3	9	2.3
83903	Molecular Mutation Scanning		2	0.2	2	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		6	0.5	6	1.0	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.2	2	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.2	3	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		9	0.7	9	1.0	2	0.2	2	1.0
83912	Genetic Examination		290	22.2	308	1.1	47	3.6	58	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.1	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.2	3	1.0	1	0.1	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		314	24.1	1,441	4.6	51	3.9	231	4.5
<b>2010</b>		<b>1,031</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		117	11.3	119	1.0	17	1.6	17	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		113	11.0	117	1.0	21	2.0	22	1.0
83892	Molecular diagnostics; enzymatic digestion		4	0.4	4	1.0	3	0.3	3	1.0
83893	Molecular diagnostics; dot/slot blot production		107	10.4	108	1.0	16	1.6	16	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		15	1.5	16	1.1	2	0.2	2	1.0
83896	Molecular diagnostics; nucleic acid probe, each		213	20.7	216	1.0	33	3.2	34	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		117	11.3	120	1.0	24	2.3	24	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		104	10.1	107	1.0	16	1.6	17	1.1
83901	Molecular Amplification of Each Additional Sequence		9	0.9	9	1.0	4	0.4	4	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	1	0.1	1	1.0
83903	Molecular Mutation Scanning		1	0.1	1	1.0	1	0.1	1	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.3	3	1.0	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	2	0.2	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.1	1	1.0	2	0.2	2	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	0.3	3	1.0	2	0.2	2	1.0
83912	Genetic Examination		213	20.7	221	1.0	41	4.0	42	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	0.2	2	1.0	2	0.2	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	2	0.2	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		232	22.5	1,051	4.5	47	4.6	193	4.1
<b>2011</b>		<b>1,052</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		114	10.8	114	1.0	9	0.9	10	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		94	8.9	98	1.0	18	1.7	18	1.0
83892	Molecular diagnostics; enzymatic digestion		7	0.7	7	1.0	3	0.3	3	1.0
83893	Molecular diagnostics; dot/slot blot production		104	9.9	105	1.0	9	0.9	9	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		17	1.6	17	1.0	4	0.4	5	1.3
83896	Molecular diagnostics; nucleic acid probe, each		186	17.7	193	1.0	23	2.2	23	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		121	11.5	123	1.0	15	1.4	16	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		84	8.0	87	1.0	10	1.0	10	1.0
83901	Molecular Amplification of Each Additional Sequence		12	1.1	12	1.0	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		4	0.4	4	1.0	2	0.2	2	1.0
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.3	3	1.0	1	0.1	1	1.0



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.2	2	1.0	0	0.0	0	---
83912	Genetic Examination		186	17.7	201	1.1	29	2.8	33	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	0.2	2	1.0	1	0.1	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		212	20.2	970	4.6	34	3.2	134	3.9
<b>2012</b>		<b>854</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.1	1	1.0
81381	HLA Class I Typing		6	0.7	6	1.0	3	0.4	3	1.0
83890	Molecular Isolation/Extraction		97	11.4	102	1.1	14	1.6	14	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		119	13.9	125	1.1	17	2.0	17	1.0
83892	Molecular diagnostics; enzymatic digestion		5	0.6	5	1.0	4	0.5	4	1.0
83893	Molecular diagnostics; dot/slot blot production		84	9.8	87	1.0	13	1.5	13	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		16	1.9	18	1.1	3	0.4	3	1.0
83896	Molecular diagnostics; nucleic acid probe, each		195	22.8	204	1.0	24	2.8	24	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	2	2.0	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		98	11.5	103	1.1	18	2.1	18	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		106	12.4	107	1.0	10	1.2	10	1.0
83901	Molecular Amplification of Each Additional Sequence		12	1.4	13	1.1	2	0.2	2	1.0
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	1	0.1	1	1.0
83903	Molecular Mutation Scanning		4	0.5	4	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		1	0.1	1	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.2	2	1.0	1	0.1	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.2	2	1.0	3	0.4	3	1.0
83912	Genetic Examination		178	20.8	191	1.1	33	3.9	33	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		2	0.2	2	1.0	3	0.4	3	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.1	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		220	25.8	975	4.4	42	4.9	152	3.6
<b>Carbamazepine</b>		<b>86,529</b>								
<b>2007</b>		<b>10,974</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		17	0.2	17	1.0	17	0.2	17	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		45	0.4	48	1.1	55	0.5	56	1.0
83892	Molecular diagnostics; enzymatic digestion		26	0.2	28	1.1	22	0.2	22	1.0
83893	Molecular diagnostics; dot/slot blot production		8	0.1	8	1.0	10	0.1	10	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		28	0.3	29	1.0	19	0.2	19	1.0
83896	Molecular diagnostics; nucleic acid probe, each		30	0.3	31	1.0	32	0.3	32	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.1	8	1.1	7	0.1	7	1.0
83898	Molecular Amplification of Each Sequence		35	0.3	37	1.1	30	0.3	31	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		8	0.1	8	1.0	13	0.1	13	1.0
83901	Molecular Amplification of Each Additional Sequence		16	0.1	16	1.0	20	0.2	20	1.0
83902	Molecular Diagnostics; Reverse Transcription		2	0.0	2	1.0	1	0.0	1	1.0
83903	Molecular Mutation Scanning		3	0.0	3	1.0	4	0.0	4	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		6	0.1	7	1.2	6	0.1	7	1.2
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		2	0.0	2	1.0	3	0.0	3	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		10	0.1	10	1.0	14	0.1	14	1.0
83912	Genetic Examination		54	0.5	56	1.0	53	0.5	55	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		3	0.0	3	1.0	10	0.1	10	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	2	0.0	2	1.0
	Any of the above codes		74	0.7	314	4.2	70	0.6	326	4.7
<b>2008</b>		<b>14,723</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		28	0.2	29	1.0	26	0.2	26	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		63	0.4	65	1.0	61	0.4	63	1.0
83892	Molecular diagnostics; enzymatic digestion		26	0.2	28	1.1	35	0.2	37	1.1
83893	Molecular diagnostics; dot/slot blot production		15	0.1	15	1.0	8	0.1	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		26	0.2	28	1.1	21	0.1	22	1.0
83896	Molecular diagnostics; nucleic acid probe, each		50	0.3	52	1.0	45	0.3	45	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	5	1.0	6	0.0	6	1.0
83898	Molecular Amplification of Each Sequence		54	0.4	56	1.0	49	0.3	51	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		33	0.2	33	1.0	26	0.2	27	1.0
83901	Molecular Amplification of Each Additional Sequence		22	0.1	22	1.0	17	0.1	17	1.0
83902	Molecular Diagnostics; Reverse Transcription		2	0.0	2	1.0	3	0.0	3	1.0
83903	Molecular Mutation Scanning		7	0.0	8	1.1	9	0.1	9	1.0
83904	Molecular Mutation Identification by Sequencing		7	0.0	7	1.0	7	0.0	7	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	1	0.0	1	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		6	0.0	6	1.0	7	0.0	7	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		26	0.2	26	1.0	20	0.1	20	1.0
83912	Genetic Examination		89	0.6	96	1.1	81	0.6	83	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		17	0.1	17	1.0	14	0.1	15	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	3	0.0	3	1.0
	Any of the above codes		107	0.7	499	4.7	99	0.7	450	4.5
<b>2009</b>		<b>16,819</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.0	3	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		26	0.2	27	1.0	36	0.2	38	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		81	0.5	85	1.0	97	0.6	110	1.1
83892	Molecular diagnostics; enzymatic digestion		36	0.2	36	1.0	41	0.2	44	1.1
83893	Molecular diagnostics; dot/slot blot production		14	0.1	14	1.0	10	0.1	10	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		27	0.2	27	1.0	30	0.2	36	1.2
83896	Molecular diagnostics; nucleic acid probe, each		59	0.4	60	1.0	63	0.4	71	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	4	0.0	6	1.5
83898	Molecular Amplification of Each Sequence		62	0.4	65	1.0	70	0.4	79	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		37	0.2	38	1.0	53	0.3	54	1.0
83901	Molecular Amplification of Each Additional Sequence		23	0.1	23	1.0	32	0.2	33	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.0	3	1.0	7	0.0	7	1.0
83903	Molecular Mutation Scanning		16	0.1	16	1.0	12	0.1	14	1.2
83904	Molecular Mutation Identification by Sequencing		12	0.1	13	1.1	12	0.1	12	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.0	3	1.0	5	0.0	5	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		10	0.1	10	1.0	7	0.0	7	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		28	0.2	30	1.1	42	0.2	42	1.0
83912	Genetic Examination		100	0.6	104	1.0	121	0.7	135	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		16	0.1	17	1.1	27	0.2	27	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	4	0.0	4	1.0
	Any of the above codes		118	0.7	580	4.9	141	0.8	738	5.2
<b>2010</b>		<b>15,730</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.0	3	1.0	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		30	0.2	41	1.4	38	0.2	41	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		128	0.8	138	1.1	128	0.8	136	1.1
83892	Molecular diagnostics; enzymatic digestion		47	0.3	55	1.2	64	0.4	66	1.0
83893	Molecular diagnostics; dot/slot blot production		15	0.1	15	1.0	18	0.1	18	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		29	0.2	37	1.3	39	0.2	41	1.1
83896	Molecular diagnostics; nucleic acid probe, each		93	0.6	97	1.0	90	0.6	94	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	4	1.0	6	0.0	6	1.0
83898	Molecular Amplification of Each Sequence		87	0.6	107	1.2	103	0.7	110	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		60	0.4	60	1.0	55	0.3	57	1.0
83901	Molecular Amplification of Each Additional Sequence		25	0.2	25	1.0	39	0.2	41	1.1
83902	Molecular Diagnostics; Reverse Transcription		7	0.0	7	1.0	8	0.1	10	1.3
83903	Molecular Mutation Scanning		16	0.1	16	1.0	20	0.1	20	1.0



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		19	0.1	28	1.5	14	0.1	14	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		4	0.0	4	1.0	6	0.0	7	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		18	0.1	18	1.0	15	0.1	16	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		39	0.2	83	2.1	49	0.3	69	1.4
83912	Genetic Examination		148	0.9	167	1.1	156	1.0	167	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		17	0.1	20	1.2	33	0.2	34	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		7	0.0	7	1.0	1	0.0	1	1.0
	Any of the above codes		164	1.0	937	5.7	187	1.2	951	5.1
<b>2011</b>		<b>14,581</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		29	0.2	30	1.0	26	0.2	27	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		116	0.8	131	1.1	135	0.9	148	1.1
83892	Molecular diagnostics; enzymatic digestion		52	0.4	59	1.1	58	0.4	65	1.1
83893	Molecular diagnostics; dot/slot blot production		8	0.1	9	1.1	12	0.1	13	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		30	0.2	37	1.2	30	0.2	42	1.4
83896	Molecular diagnostics; nucleic acid probe, each		79	0.5	88	1.1	82	0.6	89	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	4	1.3
83898	Molecular Amplification of Each Sequence		71	0.5	87	1.2	77	0.5	93	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		57	0.4	59	1.0	56	0.4	59	1.1
83901	Molecular Amplification of Each Additional Sequence		25	0.2	26	1.0	37	0.3	38	1.0
83902	Molecular Diagnostics; Reverse Transcription		10	0.1	15	1.5	8	0.1	10	1.3
83903	Molecular Mutation Scanning		19	0.1	21	1.1	20	0.1	20	1.0
83904	Molecular Mutation Identification by Sequencing		8	0.1	14	1.8	19	0.1	28	1.5
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	1	0.0	1	1.0
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		5	0.0	5	1.0	10	0.1	10	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		17	0.1	18	1.1	24	0.2	26	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		30	0.2	33	1.1	41	0.3	43	1.0
83912	Genetic Examination		131	0.9	154	1.2	145	1.0	167	1.2
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		19	0.1	19	1.0	44	0.3	45	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	5	0.0	5	1.0
	Any of the above codes		152	1.0	816	5.4	167	1.1	936	5.6
<b>2012</b>		<b>13,702</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	7	0.1	7	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		31	0.2	31	1.0	25	0.2	25	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		137	1.0	145	1.1	122	0.9	128	1.0
83892	Molecular diagnostics; enzymatic digestion		53	0.4	55	1.0	55	0.4	56	1.0
83893	Molecular diagnostics; dot/slot blot production		16	0.1	16	1.0	5	0.0	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		35	0.3	40	1.1	32	0.2	33	1.0
83896	Molecular diagnostics; nucleic acid probe, each		115	0.8	116	1.0	79	0.6	84	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		90	0.7	95	1.1	69	0.5	75	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		72	0.5	73	1.0	70	0.5	70	1.0
83901	Molecular Amplification of Each Additional Sequence		21	0.2	22	1.0	45	0.3	45	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.0	6	1.2	7	0.1	10	1.4
83903	Molecular Mutation Scanning		20	0.1	20	1.0	23	0.2	23	1.0
83904	Molecular Mutation Identification by Sequencing		22	0.2	23	1.0	24	0.2	25	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		7	0.1	7	1.0	8	0.1	8	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		24	0.2	24	1.0	21	0.2	22	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		30	0.2	31	1.0	34	0.2	34	1.0
83912	Genetic Examination		166	1.2	175	1.1	140	1.0	147	1.1
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		30	0.2	30	1.0	49	0.4	50	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.0	4	1.0	2	0.0	2	1.0
	Any of the above codes		181	1.3	916	5.1	167	1.2	854	5.1
<b>Clopidogrel</b>		<b>548,842</b>								
<b>2007</b>		<b>55,329</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		94	0.2	101	1.1	120	0.2	122	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		209	0.4	221	1.1	290	0.5	307	1.1
83892	Molecular diagnostics; enzymatic digestion		139	0.3	148	1.1	180	0.3	188	1.0
83893	Molecular diagnostics; dot/slot blot production		12	0.0	12	1.0	18	0.0	18	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		86	0.2	92	1.1	113	0.2	116	1.0
83896	Molecular diagnostics; nucleic acid probe, each		184	0.3	194	1.1	235	0.4	245	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		192	0.3	207	1.1	261	0.5	275	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		46	0.1	48	1.0	55	0.1	56	1.0
83901	Molecular Amplification of Each Additional Sequence		14	0.0	15	1.1	29	0.1	30	1.0
83902	Molecular Diagnostics; Reverse Transcription		12	0.0	13	1.1	21	0.0	23	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		66	0.1	70	1.1	92	0.2	93	1.0
83904	Molecular Mutation Identification by Sequencing		8	0.0	8	1.0	19	0.0	20	1.1
83905	Molecular Mutation Identification by Transcription		4	0.0	4	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		7	0.0	8	1.1	3	0.0	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		40	0.1	41	1.0	60	0.1	63	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		27	0.0	29	1.1	45	0.1	46	1.0
83912	Genetic Examination		296	0.5	317	1.1	378	0.7	410	1.1
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		19	0.0	20	1.1	21	0.0	21	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		378	0.7	1,552	4.1	462	0.8	2,044	4.4
<b>2008</b>		<b>97,929</b>								

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		183	0.2	193	1.1	146	0.1	151	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		545	0.6	587	1.1	732	0.7	786	1.1
83892	Molecular diagnostics; enzymatic digestion		363	0.4	376	1.0	483	0.5	501	1.0
83893	Molecular diagnostics; dot/slot blot production		22	0.0	23	1.0	15	0.0	15	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		184	0.2	194	1.1	225	0.2	235	1.0
83896	Molecular diagnostics; nucleic acid probe, each		446	0.5	477	1.1	548	0.6	578	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		462	0.5	490	1.1	576	0.6	610	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		107	0.1	112	1.0	121	0.1	123	1.0
83901	Molecular Amplification of Each Additional Sequence		35	0.0	38	1.1	45	0.0	46	1.0
83902	Molecular Diagnostics; Reverse Transcription		43	0.0	56	1.3	59	0.1	67	1.1
83903	Molecular Mutation Scanning		201	0.2	205	1.0	287	0.3	297	1.0
83904	Molecular Mutation Identification by Sequencing		48	0.0	49	1.0	47	0.0	49	1.0
83905	Molecular Mutation Identification by Transcription		14	0.0	14	1.0	6	0.0	6	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		12	0.0	12	1.0	17	0.0	17	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		110	0.1	119	1.1	139	0.1	143	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		93	0.1	97	1.0	133	0.1	137	1.0
83912	Genetic Examination		734	0.7	795	1.1	854	0.9	919	1.1
83913	Molecular diagnostics; RNA stabilization		4	0.0	10	2.5	9	0.0	11	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		54	0.1	56	1.0	91	0.1	93	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		873	0.9	3,906	4.5	958	1.0	4,788	5.0
<b>2009</b>		<b>114,783</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		200	0.2	208	1.0	213	0.2	233	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		753	0.7	805	1.1	1,058	0.9	1,158	1.1
83892	Molecular diagnostics; enzymatic digestion		471	0.4	485	1.0	669	0.6	706	1.1
83893	Molecular diagnostics; dot/slot blot production		35	0.0	36	1.0	31	0.0	32	1.0



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		237	0.2	248	1.0	306	0.3	338	1.1
83896	Molecular diagnostics; nucleic acid probe, each		592	0.5	621	1.0	783	0.7	844	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	6	0.0	6	1.0
83898	Molecular Amplification of Each Sequence		688	0.6	724	1.1	910	0.8	994	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		143	0.1	153	1.1	178	0.2	189	1.1
83901	Molecular Amplification of Each Additional Sequence		57	0.0	61	1.1	77	0.1	80	1.0
83902	Molecular Diagnostics; Reverse Transcription		73	0.1	87	1.2	98	0.1	116	1.2
83903	Molecular Mutation Scanning		271	0.2	275	1.0	376	0.3	390	1.0
83904	Molecular Mutation Identification by Sequencing		48	0.0	50	1.0	70	0.1	78	1.1
83905	Molecular Mutation Identification by Transcription		8	0.0	8	1.0	8	0.0	8	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		22	0.0	23	1.0	38	0.0	41	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		136	0.1	140	1.0	219	0.2	229	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		131	0.1	138	1.1	196	0.2	212	1.1
83912	Genetic Examination		978	0.9	1,050	1.1	1,201	1.0	1,341	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83913	Molecular diagnostics; RNA stabilization		16	0.0	18	1.1	27	0.0	31	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		85	0.1	91	1.1	145	0.1	149	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	5	0.0	5	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	2	0.0	2	1.0
	Any of the above codes		1,159	1.0	5,227	4.5	1,340	1.2	7,185	5.4
<b>2010</b>		<b>99,194</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		169	0.2	183	1.1	186	0.2	194	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		813	0.8	861	1.1	1,150	1.2	1,245	1.1
83892	Molecular diagnostics; enzymatic digestion		504	0.5	519	1.0	802	0.8	834	1.0
83893	Molecular diagnostics; dot/slot blot production		28	0.0	28	1.0	27	0.0	27	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		222	0.2	237	1.1	294	0.3	316	1.1
83896	Molecular diagnostics; nucleic acid probe, each		596	0.6	632	1.1	761	0.8	802	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		731	0.7	767	1.0	837	0.8	890	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		179	0.2	196	1.1	393	0.4	416	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83901	Molecular Amplification of Each Additional Sequence		79	0.1	88	1.1	276	0.3	288	1.0
83902	Molecular Diagnostics; Reverse Transcription		90	0.1	108	1.2	82	0.1	97	1.2
83903	Molecular Mutation Scanning		305	0.3	314	1.0	410	0.4	422	1.0
83904	Molecular Mutation Identification by Sequencing		45	0.0	48	1.1	69	0.1	78	1.1
83905	Molecular Mutation Identification by Transcription		4	0.0	6	1.5	8	0.0	8	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		36	0.0	42	1.2	45	0.0	51	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		159	0.2	163	1.0	240	0.2	250	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		155	0.2	167	1.1	255	0.3	273	1.1
83912	Genetic Examination		1,031	1.0	1,118	1.1	1,292	1.3	1,420	1.1
83913	Molecular diagnostics; RNA stabilization		23	0.0	23	1.0	16	0.0	16	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		145	0.1	147	1.0	282	0.3	291	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	12	0.0	12	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	2	0.0	2	1.0
	Any of the above codes		1,214	1.2	5,653	4.7	1,450	1.5	7,935	5.5
<b>2011</b>		<b>88,764</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		181	0.2	189	1.0	180	0.2	189	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		835	0.9	887	1.1	1,157	1.3	1,295	1.1
83892	Molecular diagnostics; enzymatic digestion		497	0.6	509	1.0	692	0.8	723	1.0
83893	Molecular diagnostics; dot/slot blot production		22	0.0	22	1.0	23	0.0	23	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		219	0.2	222	1.0	227	0.3	236	1.0
83896	Molecular diagnostics; nucleic acid probe, each		618	0.7	652	1.1	807	0.9	856	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	4	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		630	0.7	664	1.1	757	0.9	812	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		230	0.3	240	1.0	376	0.4	429	1.1
83901	Molecular Amplification of Each Additional Sequence		130	0.1	134	1.0	282	0.3	329	1.2
83902	Molecular Diagnostics; Reverse Transcription		76	0.1	86	1.1	93	0.1	110	1.2
83903	Molecular Mutation Scanning		275	0.3	282	1.0	419	0.5	424	1.0
83904	Molecular Mutation Identification by Sequencing		61	0.1	63	1.0	159	0.2	164	1.0
83905	Molecular Mutation Identification by Transcription		4	0.0	4	1.0	5	0.0	5	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		46	0.1	48	1.0	79	0.1	83	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		238	0.3	244	1.0	350	0.4	355	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		150	0.2	159	1.1	220	0.2	226	1.0
83912	Genetic Examination		1,030	1.2	1,102	1.1	1,279	1.4	1,429	1.1
83913	Molecular diagnostics; RNA stabilization		15	0.0	16	1.1	13	0.0	15	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		163	0.2	167	1.0	363	0.4	430	1.2
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		7	0.0	8	1.1	7	0.0	7	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.0	6	1.0	6	0.0	7	1.2
	Any of the above codes		1,213	1.4	5,710	4.7	1,407	1.6	8,152	5.8
<b>2012</b>		<b>92,843</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	71	0.1	73	1.0
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		170	0.2	182	1.1	160	0.2	175	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		961	1.0	1,037	1.1	1,105	1.2	1,203	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		508	0.5	524	1.0	502	0.5	522	1.0
83893	Molecular diagnostics; dot/slot blot production		24	0.0	26	1.1	17	0.0	17	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		204	0.2	216	1.1	178	0.2	182	1.0
83896	Molecular diagnostics; nucleic acid probe, each		709	0.8	737	1.0	687	0.7	724	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		663	0.7	706	1.1	626	0.7	672	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		276	0.3	312	1.1	444	0.5	492	1.1
83901	Molecular Amplification of Each Additional Sequence		210	0.2	241	1.1	387	0.4	433	1.1
83902	Molecular Diagnostics; Reverse Transcription		76	0.1	85	1.1	57	0.1	71	1.2
83903	Molecular Mutation Scanning		338	0.4	340	1.0	335	0.4	340	1.0
83904	Molecular Mutation Identification by Sequencing		245	0.3	250	1.0	254	0.3	257	1.0
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		73	0.1	74	1.0	61	0.1	64	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		324	0.3	329	1.0	337	0.4	343	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		159	0.2	166	1.0	205	0.2	216	1.1
83912	Genetic Examination		1,146	1.2	1,264	1.1	1,196	1.3	1,333	1.1
83913	Molecular diagnostics; RNA stabilization		18	0.0	19	1.1	12	0.0	19	1.6
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		370	0.4	408	1.1	560	0.6	612	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	3	0.0	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		5	0.0	5	1.0	5	0.0	5	1.0
	Any of the above codes		1,314	1.4	6,930	5.3	1,429	1.5	7,760	5.4
<b>Phenytoin</b>		<b>57,309</b>								
<b>2007</b>		<b>8,935</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		29	0.3	38	1.3	31	0.3	40	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		52	0.6	67	1.3	79	0.9	99	1.3
83892	Molecular diagnostics; enzymatic digestion		33	0.4	33	1.0	37	0.4	38	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.0	4	1.0	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		35	0.4	37	1.1	43	0.5	49	1.1
83896	Molecular diagnostics; nucleic acid probe, each		35	0.4	45	1.3	57	0.6	62	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		58	0.6	69	1.2	76	0.9	92	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		13	0.1	17	1.3	22	0.2	25	1.1
83901	Molecular Amplification of Each Additional Sequence		13	0.1	16	1.2	17	0.2	20	1.2
83902	Molecular Diagnostics; Reverse Transcription		8	0.1	13	1.6	3	0.0	5	1.7
83903	Molecular Mutation Scanning		9	0.1	9	1.0	20	0.2	21	1.1
83904	Molecular Mutation Identification by Sequencing		5	0.1	6	1.2	8	0.1	11	1.4
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	3	1.5	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		9	0.1	9	1.0	18	0.2	19	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		15	0.2	17	1.1	21	0.2	25	1.2
83912	Genetic Examination		78	0.9	92	1.2	100	1.1	118	1.2
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.1	6	1.0	8	0.1	8	1.0



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		100	1.1	486	4.9	123	1.4	642	5.2
<b>2008</b>		<b>11,629</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		34	0.3	43	1.3	37	0.3	40	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		73	0.6	108	1.5	100	0.9	114	1.1
83892	Molecular diagnostics; enzymatic digestion		37	0.3	41	1.1	48	0.4	49	1.0
83893	Molecular diagnostics; dot/slot blot production		7	0.1	8	1.1	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		36	0.3	62	1.7	46	0.4	48	1.0
83896	Molecular diagnostics; nucleic acid probe, each		48	0.4	64	1.3	46	0.4	50	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	4	1.3	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		65	0.6	101	1.6	78	0.7	88	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		33	0.3	42	1.3	44	0.4	62	1.4
83901	Molecular Amplification of Each Additional Sequence		22	0.2	25	1.1	29	0.2	44	1.5
83902	Molecular Diagnostics; Reverse Transcription		14	0.1	27	1.9	7	0.1	10	1.4
83903	Molecular Mutation Scanning		11	0.1	11	1.0	18	0.2	19	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		13	0.1	19	1.5	22	0.2	26	1.2
83905	Molecular Mutation Identification by Transcription		4	0.0	4	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		5	0.0	5	1.0	9	0.1	10	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.1	10	1.3	14	0.1	15	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		29	0.2	31	1.1	43	0.4	62	1.4
83912	Genetic Examination		102	0.9	147	1.4	133	1.1	168	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		6	0.1	6	1.0	12	0.1	13	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	5	2.5	1	0.0	2	2.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	1	0.0	1	1.0
	Any of the above codes		132	1.1	766	5.8	164	1.4	827	5.0
<b>2009</b>		<b>11,891</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		2	0.0	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		42	0.4	66	1.6	40	0.3	60	1.5
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	0.7	138	1.6	115	1.0	159	1.4
83892	Molecular diagnostics; enzymatic digestion		37	0.3	41	1.1	50	0.4	51	1.0
83893	Molecular diagnostics; dot/slot blot production		9	0.1	9	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		30	0.3	47	1.6	35	0.3	42	1.2
83896	Molecular diagnostics; nucleic acid probe, each		62	0.5	84	1.4	63	0.5	71	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		82	0.7	121	1.5	99	0.8	137	1.4
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		44	0.4	54	1.2	45	0.4	68	1.5
83901	Molecular Amplification of Each Additional Sequence		34	0.3	43	1.3	30	0.3	54	1.8
83902	Molecular Diagnostics; Reverse Transcription		15	0.1	25	1.7	14	0.1	16	1.1
83903	Molecular Mutation Scanning		13	0.1	15	1.2	15	0.1	17	1.1
83904	Molecular Mutation Identification by Sequencing		13	0.1	17	1.3	19	0.2	20	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		20	0.2	24	1.2	21	0.2	24	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		12	0.1	12	1.0	15	0.1	16	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		46	0.4	66	1.4	54	0.5	100	1.9
83912	Genetic Examination		131	1.1	173	1.3	154	1.3	213	1.4
83913	Molecular diagnostics; RNA stabilization		4	0.0	4	1.0	3	0.0	4	1.3
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		18	0.2	18	1.0	22	0.2	22	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	2	0.0	3	1.5
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	1	0.0	1	1.0
	Any of the above codes		161	1.4	962	6.0	180	1.5	1,085	6.0
<b>2010</b>		<b>9,460</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		28	0.3	41	1.5	45	0.5	61	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		87	0.9	115	1.3	108	1.1	126	1.2
83892	Molecular diagnostics; enzymatic digestion		41	0.4	45	1.1	55	0.6	60	1.1
83893	Molecular diagnostics; dot/slot blot production		4	0.0	5	1.3	4	0.0	4	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		30	0.3	54	1.8	34	0.4	46	1.4
83896	Molecular diagnostics; nucleic acid probe, each		62	0.7	74	1.2	67	0.7	71	1.1

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		84	0.9	105	1.3	100	1.1	115	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		41	0.4	61	1.5	45	0.5	55	1.2
83901	Molecular Amplification of Each Additional Sequence		30	0.3	33	1.1	35	0.4	42	1.2
83902	Molecular Diagnostics; Reverse Transcription		7	0.1	10	1.4	11	0.1	13	1.2
83903	Molecular Mutation Scanning		14	0.1	14	1.0	14	0.1	14	1.0
83904	Molecular Mutation Identification by Sequencing		23	0.2	37	1.6	24	0.3	27	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		29	0.3	38	1.3	26	0.3	29	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		9	0.1	10	1.1	11	0.1	11	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		44	0.5	57	1.3	59	0.6	70	1.2
83912	Genetic Examination		130	1.4	192	1.5	148	1.6	205	1.4
83913	Molecular diagnostics; RNA stabilization		2	0.0	4	2.0	2	0.0	3	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		26	0.3	32	1.2	24	0.3	24	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		4	0.0	5	1.3	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	5	2.5	3	0.0	3	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	3	1.0	3	0.0	3	1.0
	Any of the above codes		152	1.6	941	6.2	177	1.9	985	5.6
<b>2011</b>		<b>8,390</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		32	0.4	61	1.9	45	0.5	67	1.5
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		107	1.3	143	1.3	111	1.3	134	1.2
83892	Molecular diagnostics; enzymatic digestion		47	0.6	54	1.1	47	0.6	50	1.1
83893	Molecular diagnostics; dot/slot blot production		4	0.0	4	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		37	0.4	73	2.0	39	0.5	55	1.4
83896	Molecular diagnostics; nucleic acid probe, each		66	0.8	91	1.4	78	0.9	88	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.0	4	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		92	1.1	123	1.3	98	1.2	122	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		43	0.5	74	1.7	51	0.6	79	1.5
83901	Molecular Amplification of Each Additional Sequence		35	0.4	51	1.5	38	0.5	52	1.4
83902	Molecular Diagnostics; Reverse Transcription		15	0.2	24	1.6	11	0.1	19	1.7
83903	Molecular Mutation Scanning		12	0.1	13	1.1	13	0.2	13	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		28	0.3	44	1.6	19	0.2	32	1.7
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		23	0.3	31	1.3	38	0.5	42	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.2	16	1.0	13	0.2	14	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		51	0.6	75	1.5	43	0.5	69	1.6
83912	Genetic Examination		140	1.7	243	1.7	155	1.8	241	1.6
83913	Molecular diagnostics; RNA stabilization		3	0.0	5	1.7	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		26	0.3	33	1.3	14	0.2	15	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		11	0.1	15	1.4	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	2	0.0	2	1.0
	Any of the above codes		160	1.9	1,183	7.4	180	2.1	1,107	6.2
<b>2012</b>		<b>7,004</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0

**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		29	0.4	41	1.4	22	0.3	28	1.3
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		99	1.4	136	1.4	77	1.1	91	1.2
83892	Molecular diagnostics; enzymatic digestion		41	0.6	45	1.1	27	0.4	27	1.0
83893	Molecular diagnostics; dot/slot blot production		5	0.1	5	1.0	3	0.0	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		27	0.4	47	1.7	17	0.2	18	1.1
83896	Molecular diagnostics; nucleic acid probe, each		74	1.1	86	1.2	50	0.7	54	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		83	1.2	119	1.4	65	0.9	71	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		35	0.5	58	1.7	38	0.5	52	1.4
83901	Molecular Amplification of Each Additional Sequence		24	0.3	34	1.4	31	0.4	41	1.3
83902	Molecular Diagnostics; Reverse Transcription		12	0.2	13	1.1	6	0.1	8	1.3
83903	Molecular Mutation Scanning		18	0.3	18	1.0	8	0.1	8	1.0
83904	Molecular Mutation Identification by Sequencing		30	0.4	47	1.6	9	0.1	9	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		20	0.3	21	1.1	21	0.3	22	1.0



**Table 5b. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 183 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		18	0.3	18	1.0	6	0.1	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		36	0.5	57	1.6	32	0.5	48	1.5
83912	Genetic Examination		130	1.9	214	1.6	107	1.5	154	1.4
83913	Molecular diagnostics; RNA stabilization		1	0.0	1	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		22	0.3	24	1.1	22	0.3	24	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		7	0.1	13	1.9	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.1	9	2.3	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.1	11	2.8	2	0.0	2	1.0
	Any of the above codes		155	2.2	1,019	6.6	129	1.8	673	5.2

"---" represent missing information

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
<b>Abacavir</b>		<b>4,209</b>								
<b>2007</b>		<b>731</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		38	5.2	42	1.1	11	1.5	23	2.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		18	2.5	18	1.0	11	1.5	13	1.2
83892	Molecular diagnostics; enzymatic digestion		3	0.4	7	2.3	5	0.7	17	3.4
83893	Molecular diagnostics; dot/slot blot production		30	4.1	30	1.0	6	0.8	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		12	1.6	17	1.4	9	1.2	21	2.3
83896	Molecular diagnostics; nucleic acid probe, each		44	6.0	48	1.1	12	1.6	23	1.9
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		45	6.2	53	1.2	22	3.0	29	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		15	2.1	15	1.0	8	1.1	9	1.1
83901	Molecular Amplification of Each Additional Sequence		6	0.8	6	1.0	4	0.5	5	1.3
83902	Molecular Diagnostics; Reverse Transcription		0	0.0	0	---	0	0.0	0	---
83903	Molecular Mutation Scanning		1	0.1	1	1.0	2	0.3	2	1.0
83904	Molecular Mutation Identification by Sequencing		3	0.4	3	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	1	0.1	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		2	0.3	2	1.0	3	0.4	3	1.0
83912	Genetic Examination		56	7.7	66	1.2	29	4.0	41	1.4
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.1	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.1	1	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		68	9.3	310	4.6	41	5.6	195	4.8
<b>2008</b>		<b>532</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.4	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		59	11.1	62	1.1	15	2.8	16	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		39	7.3	45	1.2	12	2.3	15	1.3

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		4	0.8	4	1.0	3	0.6	3	1.0
83893	Molecular diagnostics; dot/slot blot production		56	10.5	58	1.0	13	2.4	14	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		12	2.3	12	1.0	4	0.8	4	1.0
83896	Molecular diagnostics; nucleic acid probe, each		92	17.3	97	1.1	20	3.8	23	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.2	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		61	11.5	64	1.0	15	2.8	16	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		36	6.8	41	1.1	7	1.3	9	1.3
83901	Molecular Amplification of Each Additional Sequence		6	1.1	7	1.2	1	0.2	1	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.2	1	1.0	2	0.4	3	1.5
83903	Molecular Mutation Scanning		2	0.4	2	1.0	2	0.4	2	1.0
83904	Molecular Mutation Identification by Sequencing		1	0.2	1	1.0	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.2	1	1.0	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	0.6	4	1.3	0	0.0	0	---
83912	Genetic Examination		95	17.9	112	1.2	27	5.1	36	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.2	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.2	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		109	20.5	514	4.7	36	6.8	144	4.0
<b>2009</b>		<b>974</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.1	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		140	14.4	148	1.1	25	2.6	34	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		124	12.7	131	1.1	24	2.5	29	1.2
83892	Molecular diagnostics; enzymatic digestion		10	1.0	17	1.7	4	0.4	12	3.0
83893	Molecular diagnostics; dot/slot blot production		127	13.0	127	1.0	19	2.0	20	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		12	1.2	12	1.0	4	0.4	4	1.0
83896	Molecular diagnostics; nucleic acid probe, each		241	24.7	254	1.1	44	4.5	57	1.3
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		150	15.4	158	1.1	31	3.2	45	1.5
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		110	11.3	114	1.0	17	1.7	17	1.0
83901	Molecular Amplification of Each Additional Sequence		10	1.0	10	1.0	4	0.4	4	1.0
83902	Molecular Diagnostics; Reverse Transcription		7	0.7	15	2.1	7	0.7	20	2.9
83903	Molecular Mutation Scanning		2	0.2	2	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		5	0.5	5	1.0	1	0.1	1	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.1	1	1.0	0	0.0	0	#DIV/0!
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.3	3	1.0	0	0.0	0	---
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		11	1.1	11	1.0	4	0.4	4	1.0
83912	Genetic Examination		252	25.9	275	1.1	53	5.4	70	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.1	1	1.0	1	0.1	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		4	0.4	4	1.0	2	0.2	2	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.2	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		275	28.2	1,291	4.7	59	6.1	320	5.4
<b>2010</b>		<b>796</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		1	0.1	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		96	12.1	99	1.0	17	2.1	17	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		101	12.7	107	1.1	27	3.4	29	1.1
83892	Molecular diagnostics; enzymatic digestion		4	0.5	4	1.0	6	0.8	6	1.0
83893	Molecular diagnostics; dot/slot blot production		89	11.2	91	1.0	12	1.5	12	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		11	1.4	12	1.1	5	0.6	5	1.0
83896	Molecular diagnostics; nucleic acid probe, each		185	23.2	192	1.0	35	4.4	37	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.1	1	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		102	12.8	105	1.0	24	3.0	26	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		91	11.4	96	1.1	19	2.4	21	1.1
83901	Molecular Amplification of Each Additional Sequence		6	0.8	6	1.0	4	0.5	4	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	3	0.4	3	1.0
83903	Molecular Mutation Scanning		1	0.1	1	1.0	3	0.4	3	1.0
83904	Molecular Mutation Identification by Sequencing		4	0.5	4	1.0	1	0.1	1	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		0	0.0	0	---	3	0.4	3	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		3	0.4	3	1.0	1	0.1	1	1.0
83912	Genetic Examination		185	23.2	197	1.1	45	5.7	52	1.2
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		1	0.1	1	1.0	0	0.0	0	---
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.3	2	1.0	2	0.3	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		203	25.5	923	4.5	54	6.8	222	4.1
<b>2011</b>		<b>790</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		107	13.5	108	1.0	14	1.8	15	1.1



**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		83	10.5	89	1.1	20	2.5	22	1.1
83892	Molecular diagnostics; enzymatic digestion		8	1.0	9	1.1	4	0.5	4	1.0
83893	Molecular diagnostics; dot/slot blot production		95	12.0	98	1.0	12	1.5	13	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		19	2.4	19	1.0	8	1.0	10	1.3
83896	Molecular diagnostics; nucleic acid probe, each		164	20.8	175	1.1	24	3.0	26	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		116	14.7	121	1.0	22	2.8	24	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		71	9.0	75	1.1	10	1.3	10	1.0
83901	Molecular Amplification of Each Additional Sequence		15	1.9	15	1.0	3	0.4	4	1.3
83902	Molecular Diagnostics; Reverse Transcription		1	0.1	1	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		4	0.5	4	1.0	1	0.1	1	1.0
83904	Molecular Mutation Identification by Sequencing		1	0.1	1	1.0	0	0.0	0	---
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		3	0.4	3	1.0	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		4	0.5	4	1.0	2	0.3	2	1.0
83912	Genetic Examination		168	21.3	196	1.2	33	4.2	44	1.3
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		4	0.5	4	1.0	1	0.1	1	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.3	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		192	24.3	924	4.8	41	5.2	176	4.3
<b>2012</b>		<b>386</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.8	3	1.0	2	0.5	2	1.0
83890	Molecular Isolation/Extraction		45	11.7	48	1.1	9	2.3	9	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		66	17.1	70	1.1	6	1.6	6	1.0
83892	Molecular diagnostics; enzymatic digestion		1	0.3	1	1.0	2	0.5	12	6.0
83893	Molecular diagnostics; dot/slot blot production		43	11.1	45	1.0	7	1.8	7	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		6	1.6	6	1.0	1	0.3	1	1.0
83896	Molecular diagnostics; nucleic acid probe, each		105	27.2	111	1.1	12	3.1	12	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83898	Molecular Amplification of Each Sequence		48	12.4	53	1.1	9	2.3	9	1.0
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		57	14.8	58	1.0	6	1.6	6	1.0
83901	Molecular Amplification of Each Additional Sequence		1	0.3	1	1.0	3	0.8	3	1.0
83902	Molecular Diagnostics; Reverse Transcription		1	0.3	1	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		1	0.3	1	1.0	0	0.0	0	---
83904	Molecular Mutation Identification by Sequencing		0	0.0	0	---	2	0.5	2	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	1	0.3	1	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		1	0.3	1	1.0	1	0.3	1	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		1	0.3	1	1.0	2	0.5	2	1.0
83912	Genetic Examination		87	22.5	96	1.1	18	4.7	18	1.0
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		0	0.0	0	---	3	0.8	3	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		114	29.5	496	4.4	23	6.0	94	4.1
<b>Carbamazepine</b>		<b>59,897</b>								
<b>2007</b>		<b>8,987</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		26	0.3	26	1.0	27	0.3	32	1.2
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		70	0.8	76	1.1	74	0.8	96	1.3
83892	Molecular diagnostics; enzymatic digestion		32	0.4	34	1.1	35	0.4	46	1.3
83893	Molecular diagnostics; dot/slot blot production		11	0.1	11	1.0	12	0.1	12	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		35	0.4	37	1.1	34	0.4	36	1.1
83896	Molecular diagnostics; nucleic acid probe, each		53	0.6	55	1.0	47	0.5	50	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		9	0.1	10	1.1	11	0.1	11	1.0
83898	Molecular Amplification of Each Sequence		48	0.5	53	1.1	50	0.6	56	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		19	0.2	19	1.0	23	0.3	24	1.0
83901	Molecular Amplification of Each Additional Sequence		26	0.3	26	1.0	31	0.3	32	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.0	3	1.0	0	0.0	0	---
83903	Molecular Mutation Scanning		6	0.1	6	1.0	8	0.1	10	1.3

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		8	0.1	10	1.3	6	0.1	6	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		1	0.0	1	1.0	0	0.0	0	---
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		4	0.0	4	1.0	6	0.1	6	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		19	0.2	19	1.0	23	0.3	47	2.0
83912	Genetic Examination		83	0.9	91	1.1	77	0.9	86	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		9	0.1	9	1.0	19	0.2	54	2.8
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	3	0.0	3	1.0
	Any of the above codes		116	1.3	490	4.2	112	1.2	610	5.4
<b>2008</b>		<b>8,608</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		21	0.2	22	1.0	27	0.3	27	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		73	0.8	78	1.1	77	0.9	81	1.1
83892	Molecular diagnostics; enzymatic digestion		35	0.4	36	1.0	44	0.5	46	1.0
83893	Molecular diagnostics; dot/slot blot production		11	0.1	11	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		23	0.3	25	1.1	30	0.3	34	1.1
83896	Molecular diagnostics; nucleic acid probe, each		58	0.7	62	1.1	53	0.6	54	1.0
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		8	0.1	8	1.0	9	0.1	9	1.0
83898	Molecular Amplification of Each Sequence		48	0.6	50	1.0	58	0.7	64	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		29	0.3	31	1.1	27	0.3	28	1.0
83901	Molecular Amplification of Each Additional Sequence		26	0.3	26	1.0	29	0.3	29	1.0
83902	Molecular Diagnostics; Reverse Transcription		3	0.0	3	1.0	3	0.0	3	1.0
83903	Molecular Mutation Scanning		14	0.2	15	1.1	14	0.2	16	1.1
83904	Molecular Mutation Identification by Sequencing		9	0.1	9	1.0	9	0.1	12	1.3
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		0	0.0	0	---	1	0.0	1	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		13	0.2	13	1.0	10	0.1	11	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		23	0.3	24	1.0	23	0.3	23	1.0
83912	Genetic Examination		91	1.1	102	1.1	98	1.1	108	1.1
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		15	0.2	16	1.1	20	0.2	21	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	0	0.0	0	---
	Any of the above codes		111	1.3	534	4.8	119	1.4	573	4.8
<b>2009</b>		<b>12,819</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		2	0.0	2	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		36	0.3	37	1.0	55	0.4	58	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		124	1.0	136	1.1	140	1.1	151	1.1
83892	Molecular diagnostics; enzymatic digestion		61	0.5	64	1.0	73	0.6	78	1.1
83893	Molecular diagnostics; dot/slot blot production		22	0.2	22	1.0	20	0.2	20	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		42	0.3	45	1.1	38	0.3	44	1.2
83896	Molecular diagnostics; nucleic acid probe, each		86	0.7	88	1.0	82	0.6	86	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.1	7	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		93	0.7	101	1.1	103	0.8	110	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		53	0.4	57	1.1	74	0.6	76	1.0
83901	Molecular Amplification of Each Additional Sequence		36	0.3	37	1.0	53	0.4	55	1.0
83902	Molecular Diagnostics; Reverse Transcription		5	0.0	5	1.0	7	0.1	9	1.3
83903	Molecular Mutation Scanning		22	0.2	22	1.0	18	0.1	20	1.1
83904	Molecular Mutation Identification by Sequencing		15	0.1	17	1.1	20	0.2	20	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.0	3	1.0	8	0.1	8	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		14	0.1	14	1.0	15	0.1	15	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		47	0.4	53	1.1	69	0.5	69	1.0
83912	Genetic Examination		147	1.1	161	1.1	175	1.4	189	1.1
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	3	0.0	5	1.7
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		30	0.2	33	1.1	41	0.3	41	1.0



**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	1	0.0	1	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	3	0.0	3	1.0
	Any of the above codes		173	1.3	908	5.2	202	1.6	1,061	5.3
<b>2010</b>		<b>12,203</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		3	0.0	3	1.0	2	0.0	2	1.0
83890	Molecular Isolation/Extraction		43	0.4	46	1.1	55	0.5	57	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		167	1.4	181	1.1	175	1.4	190	1.1
83892	Molecular diagnostics; enzymatic digestion		67	0.5	72	1.1	89	0.7	93	1.0
83893	Molecular diagnostics; dot/slot blot production		23	0.2	23	1.0	25	0.2	25	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		43	0.4	47	1.1	48	0.4	59	1.2
83896	Molecular diagnostics; nucleic acid probe, each		113	0.9	125	1.1	119	1.0	129	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		6	0.0	6	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		115	0.9	131	1.1	124	1.0	143	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		84	0.7	85	1.0	80	0.7	86	1.1
83901	Molecular Amplification of Each Additional Sequence		47	0.4	48	1.0	52	0.4	57	1.1
83902	Molecular Diagnostics; Reverse Transcription		9	0.1	13	1.4	11	0.1	17	1.5
83903	Molecular Mutation Scanning		19	0.2	20	1.1	35	0.3	35	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		22	0.2	22	1.0	20	0.2	28	1.4
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.0	7	1.2	6	0.0	7	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		20	0.2	23	1.2	33	0.3	34	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		62	0.5	64	1.0	62	0.5	67	1.1
83912	Genetic Examination		202	1.7	221	1.1	211	1.7	245	1.2
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		39	0.3	39	1.0	43	0.4	47	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.0	4	1.0	4	0.0	4	1.0
	Any of the above codes		222	1.8	1,186	5.3	245	2.0	1,328	5.4
<b>2011</b>		<b>11,076</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		35	0.3	35	1.0	38	0.3	40	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		172	1.6	191	1.1	179	1.6	200	1.1
83892	Molecular diagnostics; enzymatic digestion		84	0.8	98	1.2	85	0.8	92	1.1
83893	Molecular diagnostics; dot/slot blot production		12	0.1	12	1.0	16	0.1	17	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		49	0.4	51	1.0	44	0.4	57	1.3
83896	Molecular diagnostics; nucleic acid probe, each		111	1.0	128	1.2	114	1.0	126	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	6	0.1	8	1.3
83898	Molecular Amplification of Each Sequence		97	0.9	109	1.1	112	1.0	135	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		80	0.7	86	1.1	76	0.7	80	1.1
83901	Molecular Amplification of Each Additional Sequence		39	0.4	42	1.1	58	0.5	62	1.1
83902	Molecular Diagnostics; Reverse Transcription		13	0.1	24	1.8	8	0.1	14	1.8
83903	Molecular Mutation Scanning		36	0.3	39	1.1	34	0.3	34	1.0
83904	Molecular Mutation Identification by Sequencing		6	0.1	8	1.3	32	0.3	44	1.4
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.1	6	1.0	13	0.1	13	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		29	0.3	32	1.1	36	0.3	38	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		43	0.4	45	1.0	54	0.5	60	1.1
83912	Genetic Examination		186	1.7	209	1.1	203	1.8	235	1.2
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		31	0.3	32	1.0	69	0.6	71	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		6	0.1	6	1.0	3	0.0	3	1.0
	Any of the above codes		216	2.0	1,161	5.4	231	2.1	1,331	5.8
<b>2012</b>		<b>6,204</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	3	0.0	3	1.0
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		21	0.3	21	1.0	13	0.2	13	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		94	1.5	106	1.1	77	1.2	88	1.1
83892	Molecular diagnostics; enzymatic digestion		42	0.7	43	1.0	36	0.6	37	1.0
83893	Molecular diagnostics; dot/slot blot production		11	0.2	11	1.0	2	0.0	2	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		20	0.3	22	1.1	19	0.3	19	1.0
83896	Molecular diagnostics; nucleic acid probe, each		75	1.2	79	1.1	40	0.6	49	1.2

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		52	0.8	58	1.1	41	0.7	50	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		49	0.8	55	1.1	41	0.7	42	1.0
83901	Molecular Amplification of Each Additional Sequence		21	0.3	26	1.2	26	0.4	27	1.0
83902	Molecular Diagnostics; Reverse Transcription		8	0.1	11	1.4	5	0.1	13	2.6
83903	Molecular Mutation Scanning		17	0.3	17	1.0	14	0.2	14	1.0
83904	Molecular Mutation Identification by Sequencing		12	0.2	13	1.1	17	0.3	17	1.0
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.1	6	1.0	3	0.0	3	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.3	16	1.0	14	0.2	15	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		21	0.3	25	1.2	24	0.4	25	1.0
83912	Genetic Examination		109	1.8	120	1.1	83	1.3	96	1.2
83913	Molecular diagnostics; RNA stabilization		2	0.0	2	1.0	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		24	0.4	24	1.0	37	0.6	38	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	3	1.0	2	0.0	2	1.0
	Any of the above codes		120	1.9	662	5.5	103	1.7	556	5.4
<b>Clopidogrel</b>		<b>384,132</b>								
<b>2007</b>		<b>45,189</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		120	0.3	128	1.1	130	0.3	136	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		244	0.5	265	1.1	318	0.7	352	1.1
83892	Molecular diagnostics; enzymatic digestion		146	0.3	164	1.1	188	0.4	202	1.1
83893	Molecular diagnostics; dot/slot blot production		18	0.0	18	1.0	22	0.0	22	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		112	0.2	117	1.0	107	0.2	115	1.1
83896	Molecular diagnostics; nucleic acid probe, each		201	0.4	218	1.1	263	0.6	284	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	3	1.0	2	0.0	3	1.5
83898	Molecular Amplification of Each Sequence		224	0.5	251	1.1	283	0.6	320	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		56	0.1	60	1.1	71	0.2	79	1.1
83901	Molecular Amplification of Each Additional Sequence		28	0.1	30	1.1	36	0.1	42	1.2
83902	Molecular Diagnostics; Reverse Transcription		19	0.0	25	1.3	23	0.1	29	1.3

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83903	Molecular Mutation Scanning		70	0.2	74	1.1	102	0.2	105	1.0
83904	Molecular Mutation Identification by Sequencing		15	0.0	16	1.1	20	0.0	25	1.3
83905	Molecular Mutation Identification by Transcription		6	0.0	6	1.0	2	0.0	2	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		6	0.0	7	1.2	5	0.0	5	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		38	0.1	39	1.0	63	0.1	65	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		36	0.1	38	1.1	56	0.1	63	1.1
83912	Genetic Examination		329	0.7	368	1.1	405	0.9	451	1.1
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	2	0.0	2	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		26	0.1	28	1.1	28	0.1	29	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		2	0.0	2	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		427	0.9	1,860	4.4	499	1.1	2,332	4.7
<b>2008</b>		<b>52,570</b>								

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		122	0.2	135	1.1	132	0.3	138	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		328	0.6	359	1.1	445	0.8	491	1.1
83892	Molecular diagnostics; enzymatic digestion		204	0.4	212	1.0	289	0.5	301	1.0
83893	Molecular diagnostics; dot/slot blot production		15	0.0	15	1.0	16	0.0	16	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		132	0.3	140	1.1	170	0.3	179	1.1
83896	Molecular diagnostics; nucleic acid probe, each		262	0.5	285	1.1	334	0.6	364	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	5	1.0	2	0.0	2	1.0
83898	Molecular Amplification of Each Sequence		318	0.6	343	1.1	405	0.8	438	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		74	0.1	79	1.1	97	0.2	101	1.0
83901	Molecular Amplification of Each Additional Sequence		23	0.0	27	1.2	37	0.1	39	1.1
83902	Molecular Diagnostics; Reverse Transcription		27	0.1	36	1.3	40	0.1	55	1.4
83903	Molecular Mutation Scanning		100	0.2	105	1.1	157	0.3	162	1.0
83904	Molecular Mutation Identification by Sequencing		32	0.1	32	1.0	24	0.0	25	1.0
83905	Molecular Mutation Identification by Transcription		3	0.0	4	1.3	4	0.0	4	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---



**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		4	0.0	4	1.0	16	0.0	16	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		66	0.1	70	1.1	77	0.1	82	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		58	0.1	62	1.1	75	0.1	79	1.1
83912	Genetic Examination		448	0.9	495	1.1	543	1.0	605	1.1
83913	Molecular diagnostics; RNA stabilization		3	0.0	9	3.0	11	0.0	13	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		36	0.1	36	1.0	51	0.1	52	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	0	0.0	0	---
	Any of the above codes		552	1.1	2,453	4.4	648	1.2	3,163	4.9
<b>2009</b>		<b>90,905</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	1	0.0	1	1.0
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		232	0.3	243	1.0	265	0.3	282	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		843	0.9	932	1.1	1,162	1.3	1,291	1.1
83892	Molecular diagnostics; enzymatic digestion		535	0.6	559	1.0	758	0.8	809	1.1
83893	Molecular diagnostics; dot/slot blot production		54	0.1	56	1.0	51	0.1	51	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83894	Molecular diagnostics; separation by gel electrophoresis		274	0.3	289	1.1	328	0.4	349	1.1
83896	Molecular diagnostics; nucleic acid probe, each		664	0.7	715	1.1	855	0.9	934	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		5	0.0	8	1.6	7	0.0	7	1.0
83898	Molecular Amplification of Each Sequence		741	0.8	800	1.1	967	1.1	1,070	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		188	0.2	207	1.1	267	0.3	286	1.1
83901	Molecular Amplification of Each Additional Sequence		83	0.1	90	1.1	153	0.2	161	1.1
83902	Molecular Diagnostics; Reverse Transcription		92	0.1	118	1.3	111	0.1	141	1.3
83903	Molecular Mutation Scanning		309	0.3	315	1.0	403	0.4	427	1.1
83904	Molecular Mutation Identification by Sequencing		51	0.1	53	1.0	79	0.1	80	1.0
83905	Molecular Mutation Identification by Transcription		9	0.0	9	1.0	6	0.0	7	1.2
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		23	0.0	25	1.1	54	0.1	59	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		131	0.1	139	1.1	234	0.3	250	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		152	0.2	161	1.1	229	0.3	242	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83912	Genetic Examination		1,088	1.2	1,215	1.1	1,340	1.5	1,529	1.1
83913	Molecular diagnostics; RNA stabilization		19	0.0	22	1.2	35	0.0	41	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		93	0.1	101	1.1	187	0.2	191	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	2	0.0	2	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		0	0.0	0	---	12	0.0	12	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	4	0.0	4	1.0
	Any of the above codes		1,268	1.4	6,060	4.8	1,511	1.7	8,226	5.4
<b>2010</b>		<b>80,050</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		194	0.2	220	1.1	241	0.3	261	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		877	1.1	975	1.1	1,263	1.6	1,413	1.1
83892	Molecular diagnostics; enzymatic digestion		536	0.7	568	1.1	864	1.1	917	1.1
83893	Molecular diagnostics; dot/slot blot production		45	0.1	45	1.0	42	0.1	43	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		232	0.3	260	1.1	306	0.4	327	1.1
83896	Molecular diagnostics; nucleic acid probe, each		652	0.8	723	1.1	874	1.1	959	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		794	1.0	880	1.1	893	1.1	970	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		211	0.3	242	1.1	461	0.6	508	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83901	Molecular Amplification of Each Additional Sequence		94	0.1	108	1.1	337	0.4	361	1.1
83902	Molecular Diagnostics; Reverse Transcription		96	0.1	151	1.6	106	0.1	149	1.4
83903	Molecular Mutation Scanning		309	0.4	326	1.1	481	0.6	510	1.1
83904	Molecular Mutation Identification by Sequencing		48	0.1	57	1.2	92	0.1	103	1.1
83905	Molecular Mutation Identification by Transcription		6	0.0	8	1.3	7	0.0	7	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		41	0.1	53	1.3	84	0.1	94	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		182	0.2	187	1.0	324	0.4	336	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		188	0.2	209	1.1	275	0.3	304	1.1
83912	Genetic Examination		1,106	1.4	1,259	1.1	1,445	1.8	1,651	1.1
83913	Molecular diagnostics; RNA stabilization		26	0.0	28	1.1	18	0.0	19	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		146	0.2	146	1.0	319	0.4	332	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	4	1.0	13	0.0	15	1.2

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		0	0.0	0	---	7	0.0	12	1.7
	Any of the above codes		1,271	1.6	6,453	5.1	1,616	2.0	9,296	5.8
<b>2011</b>		<b>70,937</b>								
81225	CYP2C19 Gene Analysis Common Variants		1	0.0	1	1.0	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		192	0.3	201	1.0	235	0.3	249	1.1
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		950	1.3	1,068	1.1	1,417	2.0	1,642	1.2
83892	Molecular diagnostics; enzymatic digestion		556	0.8	583	1.0	830	1.2	875	1.1
83893	Molecular diagnostics; dot/slot blot production		36	0.1	37	1.0	37	0.1	39	1.1
83894	Molecular diagnostics; separation by gel electrophoresis		244	0.3	260	1.1	252	0.4	269	1.1
83896	Molecular diagnostics; nucleic acid probe, each		706	1.0	774	1.1	988	1.4	1,083	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		7	0.0	7	1.0	4	0.0	4	1.0
83898	Molecular Amplification of Each Sequence		721	1.0	796	1.1	892	1.3	1,001	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		273	0.4	296	1.1	506	0.7	587	1.2
83901	Molecular Amplification of Each Additional Sequence		147	0.2	161	1.1	394	0.6	467	1.2
83902	Molecular Diagnostics; Reverse Transcription		108	0.2	146	1.4	121	0.2	167	1.4
83903	Molecular Mutation Scanning		322	0.5	332	1.0	524	0.7	531	1.0
83904	Molecular Mutation Identification by Sequencing		91	0.1	95	1.0	286	0.4	296	1.0
83905	Molecular Mutation Identification by Transcription		3	0.0	3	1.0	4	0.0	4	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		44	0.1	50	1.1	100	0.1	107	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		258	0.4	267	1.0	459	0.6	472	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		175	0.2	187	1.1	267	0.4	277	1.0
83912	Genetic Examination		1,146	1.6	1,287	1.1	1,560	2.2	1,839	1.2
83913	Molecular diagnostics; RNA stabilization		26	0.0	31	1.2	27	0.0	32	1.2
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		181	0.3	186	1.0	546	0.8	636	1.2
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		9	0.0	10	1.1	10	0.0	16	1.6
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		7	0.0	7	1.0	10	0.0	11	1.1
	Any of the above codes		1,341	1.9	6,786	5.1	1,725	2.4	10,605	6.1
<b>2012</b>		<b>44,481</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	60	0.1	61	1.0
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		120	0.3	130	1.1	122	0.3	128	1.0
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		628	1.4	702	1.1	729	1.6	816	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83892	Molecular diagnostics; enzymatic digestion		355	0.8	368	1.0	338	0.8	348	1.0
83893	Molecular diagnostics; dot/slot blot production		21	0.0	21	1.0	16	0.0	16	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		137	0.3	149	1.1	127	0.3	131	1.0
83896	Molecular diagnostics; nucleic acid probe, each		472	1.1	511	1.1	474	1.1	502	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		2	0.0	2	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		416	0.9	460	1.1	407	0.9	443	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		178	0.4	206	1.2	301	0.7	345	1.1
83901	Molecular Amplification of Each Additional Sequence		126	0.3	148	1.2	268	0.6	310	1.2
83902	Molecular Diagnostics; Reverse Transcription		57	0.1	71	1.2	43	0.1	50	1.2
83903	Molecular Mutation Scanning		236	0.5	239	1.0	235	0.5	240	1.0
83904	Molecular Mutation Identification by Sequencing		123	0.3	128	1.0	189	0.4	191	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		48	0.1	52	1.1	52	0.1	58	1.1
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		231	0.5	240	1.0	234	0.5	239	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		111	0.2	115	1.0	135	0.3	140	1.0
83912	Genetic Examination		728	1.6	826	1.1	801	1.8	911	1.1
83913	Molecular diagnostics; RNA stabilization		9	0.0	9	1.0	8	0.0	9	1.1
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		188	0.4	213	1.1	374	0.8	419	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.0	4	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.0	6	1.5	3	0.0	3	1.0
	Any of the above codes		838	1.9	4,601	5.5	952	2.1	5,367	5.6
<b>Phenytoin</b>		<b>38,856</b>								
<b>2007</b>		<b>7,031</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	1	0.0	1	1.0
83890	Molecular Isolation/Extraction		34	0.5	46	1.4	33	0.5	52	1.6
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		56	0.8	81	1.4	86	1.2	112	1.3
83892	Molecular diagnostics; enzymatic digestion		33	0.5	34	1.0	37	0.5	38	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.1	5	1.3	8	0.1	8	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		37	0.5	47	1.3	43	0.6	55	1.3
83896	Molecular diagnostics; nucleic acid probe, each		40	0.6	59	1.5	60	0.9	74	1.2



**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.1	4	1.0	0	0.0	0	---
83898	Molecular Amplification of Each Sequence		60	0.9	81	1.4	79	1.1	104	1.3
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		15	0.2	20	1.3	24	0.3	33	1.4
83901	Molecular Amplification of Each Additional Sequence		18	0.3	23	1.3	23	0.3	29	1.3
83902	Molecular Diagnostics; Reverse Transcription		9	0.1	15	1.7	4	0.1	7	1.8
83903	Molecular Mutation Scanning		9	0.1	9	1.0	23	0.3	24	1.0
83904	Molecular Mutation Identification by Sequencing		5	0.1	6	1.2	11	0.2	14	1.3
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		2	0.0	4	2.0	2	0.0	2	1.0
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.1	9	1.1	18	0.3	19	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		14	0.2	16	1.1	23	0.3	29	1.3
83912	Genetic Examination		81	1.2	112	1.4	109	1.6	138	1.3
83913	Molecular diagnostics; RNA stabilization		1	0.0	2	2.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		10	0.1	10	1.0	10	0.1	10	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		0	0.0	0	---	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	0	0.0	0	---
	Any of the above codes		108	1.5	585	5.4	131	1.9	750	5.7
<b>2008</b>		<b>6,557</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		17	0.3	29	1.7	35	0.5	50	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		61	0.9	96	1.6	93	1.4	119	1.3
83892	Molecular diagnostics; enzymatic digestion		33	0.5	46	1.4	44	0.7	47	1.1
83893	Molecular diagnostics; dot/slot blot production		5	0.1	7	1.4	9	0.1	9	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		23	0.4	47	2.0	42	0.6	53	1.3
83896	Molecular diagnostics; nucleic acid probe, each		39	0.6	62	1.6	50	0.8	63	1.3
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		3	0.0	4	1.3	4	0.1	4	1.0
83898	Molecular Amplification of Each Sequence		49	0.7	92	1.9	73	1.1	102	1.4
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		26	0.4	32	1.2	37	0.6	58	1.6
83901	Molecular Amplification of Each Additional Sequence		19	0.3	24	1.3	26	0.4	41	1.6
83902	Molecular Diagnostics; Reverse Transcription		9	0.1	29	3.2	10	0.2	28	2.8
83903	Molecular Mutation Scanning		11	0.2	11	1.0	11	0.2	11	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		6	0.1	6	1.0	19	0.3	22	1.2
83905	Molecular Mutation Identification by Transcription		2	0.0	2	1.0	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		3	0.0	3	1.0	6	0.1	7	1.2
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		8	0.1	10	1.3	14	0.2	14	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		25	0.4	27	1.1	41	0.6	62	1.5
83912	Genetic Examination		76	1.2	131	1.7	114	1.7	170	1.5
83913	Molecular diagnostics; RNA stabilization		0	0.0	0	---	1	0.0	1	1.0
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		9	0.1	9	1.0	14	0.2	15	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	1	0.0	1	1.0
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		4	0.1	7	1.8	1	0.0	2	2.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	0	0.0	0	---
	Any of the above codes		100	1.5	677	6.8	141	2.2	879	6.2
<b>2009</b>		<b>8,819</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		1	0.0	1	1.0	0	0.0	0	---
83890	Molecular Isolation/Extraction		37	0.4	60	1.6	38	0.4	60	1.6
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		93	1.1	139	1.5	141	1.6	208	1.5
83892	Molecular diagnostics; enzymatic digestion		41	0.5	45	1.1	64	0.7	71	1.1
83893	Molecular diagnostics; dot/slot blot production		8	0.1	8	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		22	0.2	36	1.6	38	0.4	48	1.3
83896	Molecular diagnostics; nucleic acid probe, each		70	0.8	95	1.4	74	0.8	87	1.2
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		79	0.9	114	1.4	105	1.2	155	1.5
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		46	0.5	56	1.2	50	0.6	75	1.5
83901	Molecular Amplification of Each Additional Sequence		29	0.3	38	1.3	38	0.4	77	2.0
83902	Molecular Diagnostics; Reverse Transcription		12	0.1	25	2.1	15	0.2	23	1.5
83903	Molecular Mutation Scanning		17	0.2	19	1.1	22	0.2	23	1.0
83904	Molecular Mutation Identification by Sequencing		14	0.2	21	1.5	22	0.2	28	1.3
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		17	0.2	17	1.0	21	0.2	23	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		14	0.2	15	1.1	17	0.2	19	1.1
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		44	0.5	56	1.3	58	0.7	118	2.0
83912	Genetic Examination		125	1.4	168	1.3	171	1.9	252	1.5
83913	Molecular diagnostics; RNA stabilization		3	0.0	3	1.0	4	0.0	6	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		19	0.2	20	1.1	32	0.4	35	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		1	0.0	1	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	1	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		1	0.0	1	1.0	1	0.0	1	1.0
	Any of the above codes		152	1.7	940	6.2	198	2.2	1,319	6.7
<b>2010</b>		<b>7,099</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		20	0.3	28	1.4	44	0.6	61	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		99	1.4	130	1.3	123	1.7	147	1.2
83892	Molecular diagnostics; enzymatic digestion		43	0.6	46	1.1	64	0.9	70	1.1
83893	Molecular diagnostics; dot/slot blot production		6	0.1	7	1.2	5	0.1	5	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		31	0.4	47	1.5	32	0.5	43	1.3
83896	Molecular diagnostics; nucleic acid probe, each		56	0.8	70	1.3	73	1.0	81	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		84	1.2	101	1.2	105	1.5	123	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		45	0.6	62	1.4	51	0.7	67	1.3
83901	Molecular Amplification of Each Additional Sequence		32	0.5	35	1.1	29	0.4	42	1.4
83902	Molecular Diagnostics; Reverse Transcription		7	0.1	13	1.9	15	0.2	21	1.4
83903	Molecular Mutation Scanning		13	0.2	13	1.0	21	0.3	22	1.0
83904	Molecular Mutation Identification by Sequencing		22	0.3	33	1.5	22	0.3	24	1.1
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		22	0.3	33	1.5	26	0.4	33	1.3
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		5	0.1	6	1.2	19	0.3	19	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		46	0.6	62	1.3	53	0.7	67	1.3
83912	Genetic Examination		129	1.8	181	1.4	153	2.2	210	1.4
83913	Molecular diagnostics; RNA stabilization		2	0.0	6	3.0	3	0.0	5	1.7
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		25	0.4	31	1.2	27	0.4	27	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.0	2	1.0	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		1	0.0	4	4.0	5	0.1	5	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		2	0.0	2	1.0	5	0.1	5	1.0
	Any of the above codes		153	2.2	914	6.0	189	2.7	1,081	5.7
<b>2011</b>		<b>6,324</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---
81381	HLA Class I Typing		0	0.0	0	---	0	0.0	0	---
83890	Molecular Isolation/Extraction		27	0.4	54	2.0	40	0.6	68	1.7
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		109	1.7	149	1.4	126	2.0	149	1.2
83892	Molecular diagnostics; enzymatic digestion		57	0.9	65	1.1	55	0.9	56	1.0
83893	Molecular diagnostics; dot/slot blot production		4	0.1	4	1.0	6	0.1	6	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		42	0.7	69	1.6	36	0.6	45	1.3
83896	Molecular diagnostics; nucleic acid probe, each		67	1.1	97	1.4	77	1.2	82	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		4	0.1	4	1.0	3	0.0	3	1.0
83898	Molecular Amplification of Each Sequence		89	1.4	115	1.3	90	1.4	107	1.2
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		50	0.8	93	1.9	54	0.9	93	1.7
83901	Molecular Amplification of Each Additional Sequence		44	0.7	74	1.7	43	0.7	60	1.4
83902	Molecular Diagnostics; Reverse Transcription		15	0.2	27	1.8	15	0.2	21	1.4
83903	Molecular Mutation Scanning		13	0.2	14	1.1	17	0.3	18	1.1

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83904	Molecular Mutation Identification by Sequencing		26	0.4	42	1.6	24	0.4	35	1.5
83905	Molecular Mutation Identification by Transcription		0	0.0	0	---	0	0.0	0	---
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		1	0.0	1	1.0	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		22	0.3	30	1.4	26	0.4	34	1.3
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		16	0.3	16	1.0	20	0.3	20	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		46	0.7	75	1.6	45	0.7	84	1.9
83912	Genetic Examination		137	2.2	233	1.7	154	2.4	247	1.6
83913	Molecular diagnostics; RNA stabilization		3	0.0	7	2.3	2	0.0	3	1.5
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		25	0.4	34	1.4	26	0.4	27	1.0
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		9	0.1	13	1.4	2	0.0	3	1.5
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.0	3	1.0	2	0.0	2	1.0
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		3	0.0	3	1.0	6	0.1	7	1.2
	Any of the above codes		159	2.5	1,222	7.7	182	2.9	1,170	6.4
<b>2012</b>		<b>3,026</b>								
81225	CYP2C19 Gene Analysis Common Variants		0	0.0	0	---	0	0.0	0	---



**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
81381	HLA Class I Typing		0	0.0	0	---	2	0.1	2	1.0
83890	Molecular Isolation/Extraction		13	0.4	14	1.1	10	0.3	14	1.4
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid		50	1.7	73	1.5	41	1.4	51	1.2
83892	Molecular diagnostics; enzymatic digestion		23	0.8	26	1.1	20	0.7	22	1.1
83893	Molecular diagnostics; dot/slot blot production		2	0.1	2	1.0	3	0.1	3	1.0
83894	Molecular diagnostics; separation by gel electrophoresis		9	0.3	12	1.3	8	0.3	9	1.1
83896	Molecular diagnostics; nucleic acid probe, each		36	1.2	46	1.3	29	1.0	33	1.1
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation		1	0.0	1	1.0	1	0.0	1	1.0
83898	Molecular Amplification of Each Sequence		40	1.3	54	1.4	36	1.2	38	1.1
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences		20	0.7	33	1.7	20	0.7	29	1.5
83901	Molecular Amplification of Each Additional Sequence		15	0.5	23	1.5	17	0.6	22	1.3
83902	Molecular Diagnostics; Reverse Transcription		8	0.3	11	1.4	4	0.1	8	2.0
83903	Molecular Mutation Scanning		9	0.3	9	1.0	4	0.1	4	1.0
83904	Molecular Mutation Identification by Sequencing		10	0.3	18	1.8	5	0.2	5	1.0
83905	Molecular Mutation Identification by Transcription		1	0.0	1	1.0	1	0.0	1	1.0
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment		0	0.0	0	---	0	0.0	0	---
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen		13	0.4	14	1.1	10	0.3	10	1.0

**Table 5c. Total Number of Prevalent Pre/Post-Index Patients and Procedure Codes Among Incident Medical Product Users in the Mini-Sentinel Distributed Database (MSDD) between January 1, 2007 and December 31, 2012, by Medical Product, Procedure, and Year (Pre/Post-Index Codes Identified in the 365 Days Before and After Incident Medical Product Use)**

Code	Procedure Description	New Users	Pre-Index Period				Post-Index Period			
			Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient	Total Patient Count	Percent of Users with Code	Total Code Count	Codes per Patient
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence		9	0.3	10	1.1	5	0.2	5	1.0
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation		14	0.5	24	1.7	12	0.4	19	1.6
83912	Genetic Examination		58	1.9	82	1.4	50	1.7	72	1.4
83913	Molecular diagnostics; RNA stabilization		2	0.1	2	1.0	0	0.0	0	---
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment		12	0.4	13	1.1	15	0.5	16	1.1
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes		2	0.1	3	1.5	0	0.0	0	---
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes		3	0.1	8	2.7	0	0.0	0	---
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes		4	0.1	11	2.8	2	0.1	2	1.0
	Any of the above codes		74	2.4	490	6.6	64	2.1	366	5.7

"---" represent missing information

**Appendix A. Dates of Available Data for Each Data Partner (DP) as of Request Distribution Date (April 16, 2014)**

<b>Data Partner ID</b>	<b>Start Date*</b>	<b>End Date*</b>
DP001	1/1/2008	12/31/2012
DP002	1/1/2007	12/31/2012
DP003	1/1/2007	12/31/2012
DP004	1/1/2007	12/31/2012
DP005	1/1/2007	12/31/2011
DP006	1/1/2007	12/31/2012
DP007	1/1/2007	6/30/2012
DP008	1/1/2007	6/30/2012
DP009	6/1/2007	12/31/2012
DP010	1/1/2007	12/31/2012
DP011	1/1/2007	12/31/2012
DP012	1/1/2007	12/31/2012
DP013	1/1/2007	12/31/2012
DP014	1/1/2007	12/31/2012
DP015	1/1/2007	12/31/2012
DP016	1/1/2008	12/31/2012
DP017	1/1/2007	12/31/2012

\*MinDate and MaxDate are first calculated by individual table (enrollment, dispensing, etc). MaxDate is defined as the greatest year-month with a record count that is within 80% of the previous year-month. After MinDate and MaxDates are calculated by individual tables, the overall DPMaxDate is the minimum of all the table MaxDates.

**Appendix B. List of Generic and Brand Names of Medical Products Used to Define Exposures in this Request**

<b>Brand Name</b>	<b>Generic Name</b>
Ziagen	abacavir sulfate
Abacavir	abacavir sulfate
Epzicom	abacavir sulfate/lamivudine
Trizivir	abacavir/lamivudine/zidovudine
Abacavir-Lamivudine-Zidovudine	abacavir/lamivudine/zidovudine
Clopidogrel	clopidogrel bisulfate
Plavix	clopidogrel bisulfate
Clopidogrel Bisulfate	clopidogrel bisulfate
Tegretol	carbamazepine
Tegretol XR	carbamazepine
Epitol	carbamazepine
Carbamazepine	carbamazepine
Carbamazepine XR	carbamazepine
Equetro	carbamazepine
Carbatrol	carbamazepine
Cerebyx	fosphenytoin sodium
Fosphenytoin Sodium	fosphenytoin sodium
Dilantin	phenytoin
Dilantin-125	phenytoin
Phenytoin	phenytoin
Phenytoin Sodium	phenytoin sodium
Dilantin	phenytoin sodium extended
Phenytoin Sodium Extended	phenytoin sodium extended
Phenytek	phenytoin sodium extended

**Appendix C. List of Current Procedural Terminology, Fourth Edition (CPT-4) Procedure Codes Used to Define Genetic Testing Procedures in this Request**

<b>Code</b>	<b>Description</b>	<b>Code Type</b>	<b>Code Category</b>
81225	CYP2C19 Gene Analysis Common Variants	CPT-4	Procedure
81381	HLA Class I Typing	CPT-4	Procedure
83890	Molecular Isolation/Extraction	CPT-4	Procedure
83891	Molecular diagnostics; isolation/extraction of highly purified nucleic acid	CPT-4	Procedure
83892	Molecular diagnostics; enzymatic digestion	CPT-4	Procedure
83893	Molecular diagnostics; dot/slot blot production	CPT-4	Procedure
83894	Molecular diagnostics; separation by gel electrophoresis	CPT-4	Procedure
83896	Molecular diagnostics; nucleic acid probe, each	CPT-4	Procedure
83897	Molecular diagnostics; nucleic acid transfer, each nucleic acid preparation	CPT-4	Procedure
83898	Molecular Amplification of Each Sequence	CPT-4	Procedure
83900	Molecular diagnostics; amplification, target, multiplex, first 2 nucleic acid sequences	CPT-4	Procedure
83901	Molecular Amplification of Each Additional Sequence	CPT-4	Procedure
83902	Molecular Diagnostics; Reverse Transcription	CPT-4	Procedure
83903	Molecular Mutation Scanning	CPT-4	Procedure
83904	Molecular Mutation Identification by Sequencing	CPT-4	Procedure
83905	Molecular Mutation Identification by Transcription	CPT-4	Procedure
83906	Molecular diagnostics; mutation identification by allele specific translation, single segment, each segment	CPT-4	Procedure
83907	Molecular diagnostics; lysis of cells prior to nucleic acid extraction, each specimen	CPT-4	Procedure
83908	Molecular diagnostics; amplification, signal, each nucleic acid sequence	CPT-4	Procedure
83909	Molecular diagnostics; separation/identification by high resolution technique, each nucleic acid preparation	CPT-4	Procedure
83912	Genetic Examination	CPT-4	Procedure
83913	Molecular diagnostics; RNA stabilization	CPT-4	Procedure
83914	Mutation identification by enzymatic ligation or primer extension, single segment, each segment	CPT-4	Procedure
88384	Array-based evaluation of multiple molecular probes; 11 through 50 probes	CPT-4	Procedure
88385	Array-based evaluation of multiple molecular probes; 51 through 250 probes	CPT-4	Procedure
88386	Array-based evaluation of multiple molecular probes; 251 through 500 probes	CPT-4	Procedure

**Appendix D. Specifications for Parameters Used for this Request**

Modular Program #7 was used to investigate frequency of genetic tests performed before and after incident clopidogrel, phenytoin, carbamazepine, and abacavir use. In total, eight scenarios were examined in this request. See below for a description of each of these scenarios. See the glossary for definitions of selected terms and acronyms.

**Query Period:** January 1, 2007 to December 31, 2012  
**Enrollment Gap:** 45 days  
**Coverage Requirement:** Medical and Drug  
**Age Stratifications:** 0-21, 22-44, 45-64, 65+ years

Scenario	Index Date					Pre/Post-Index Date								
	Incident Exposure	Incident with Respect to:	Washout (days)	Incidence Type	Enrollment Days	Most Frequent Procedures	Pre/Post Index Incidence Type	Pre/Post Index Washout Period	Pre-Index Lookup Period	Post-Index Lookup Period	Pre-Index Period Enrollment Requirement	Post-Index Period Enrollment Requirement	Pre/Post-Index Care Setting	Post-Index Blackout Period
1	Clopidogrel	Clopidogrel	183	SING	183	23 specified*	MULT	0	183	183	183	183	ALL	0
2	Clopidogrel	Clopidogrel	183	SING	183	23 specified*	MULT	0	365	365	365	365	ALL	0
3	Clopidogrel	Clopidogrel	183	SING	183	23 specified*	MULT	0	90	90	90	90	ALL	0
4	Phenytoin	Phenytoin	183	SING	183	23 specified*	MULT	0	183	183	183	183	ALL	0
5	Phenytoin	Phenytoin	183	SING	183	23 specified*	MULT	0	365	365	365	365	ALL	0
6	Phenytoin	Phenytoin	183	SING	183	23 specified*	MULT	0	90	90	90	90	ALL	0
7	Carbamazepine	Carbamazepine	183	SING	183	23 specified*	MULT	0	183	183	183	183	ALL	0
8	Carbamazepine	Carbamazepine	183	SING	183	23 specified*	MULT	0	365	365	365	365	ALL	0
9	Carbamazepine	Carbamazepine	183	SING	183	23 specified*	MULT	0	90	90	90	90	ALL	0
10	Abacavir	Abacavir	183	SING	183	23 specified*	MULT	0	183	183	183	183	ALL	0
11	Abacavir	Abacavir	183	SING	183	23 specified*	MULT	0	365	365	365	365	ALL	0
12	Abacavir	Abacavir	183	SING	183	23 specified*	MULT	0	90	90	90	90	ALL	0

National Drug Codes (NDCs) checked against First Data Bank's "National Drug Data File (NDDF®) Plus"  
International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis and procedure codes checked against "Ingenix 2012 ICD-9-CM Data File" provided by OptumInsight  
Healthcare Common Procedure Coding System (HCPCS) codes checked against "Optum 2012 HCPCS Level II Data File" provided by OptumInsight  
Current Procedural Terminology, Fourth Edition (CPT-4) codes checked against "Optum 2012 Current Procedure Codes & Relative Values Data File" provided by OptumInsight