

**Teva Pharmaceuticals USA, Inc., Teva Pharmaceutical Industries Ltd.,
Cephalon, Inc., and Actavis Generic Defendants'**

Cross Examination of Lacey Keller
June 1, 2022

IQVIA Data: Dr. Barry Zevin



Dr. Barry Zevin

SF Public Health
Facebook
(April 4, 2019)

Q. And have you ever prescribed Actiq to your knowledge, Dr. Zevin?

A. If I have, it would have been relatively rarely. I'm not sure it was on the formularies that were accessible to my patients.

May 10, 2022 Trial Tr. 660:23-661:2

drug_description	prescriber_ last_name	prescriber_ first_name	prescriber_ middle_initial	prescriber_ state	prescriber_ zipcode	month_ presc	month_ doses	data_date
ACTIQ LOZ 1600MCG, TEVA CNS	ZEVIN	BARRY	D	CA	94102	1.242	149.04	31Jul2006

drug_description	prescriber_ last_name	prescriber_ first_name	prescriber_ middle_initial	prescriber_ state	prescriber_ zipcode	month_ presc	month_ doses	data_date
OXYCODONE HCL ER TAB SA FC 12HR 40MG, ENDO GENERIC PROD	ZEVIN	BARRY	D	CA	94102	4.093	337.64	31May2006

IQVIA data, DEF-MDL-00028 (reproduced at Keller-Court-Exhibit-1)

Declaration of Craig McCann, M.D.

Case 3:18-cv-07591-CRB Document 1328 Filed 05/16/22 Page 25 of 44

58. **P-29838** and **P-29839** are summaries of the ARCOS Data and Walgreens Dispensing Data and compare the total dosage units of opioid shipments into Walgreens pharmacies (from January 2007 to December 2014) to the total dosage units of opioid prescriptions dispensed by Walgreens pharmacies (from January 2007 to June 2020) in a rolling 365-day window.

X. Red Flags on Walgreens Dispensing Data

A. 14 Red Flags

59. I was asked to implement various approaches to identify prescriptions meeting specified criteria, defined by Carmen Catizone, using the Walgreens Dispensing Data. The following criteria were used to identify prescriptions:

- **Red Flag 1:** An opioid was dispensed to a patient who traveled more than 25 miles to visit the pharmacy. The distance here is calculated from the center of the patient's zip code to the center of the pharmacy's zip code.

• R
n
th
• R
o
• R
o
• R
re
• R
re
pl
• R
di
• R
di
• R
o
• R
pl
D

- **Red Flag 1:** An opioid was dispensed to a patient who traveled more than 25 miles to visit the pharmacy. The distance here is calculated from the center of the patient's zip code to the center of the pharmacy's zip code.
- **Red Flag 2:** An opioid was dispensed to a patient who traveled more than 25 miles to visit their prescriber. The distance here is calculated from the center of the patient's zip code to the center of the prescriber's zip code.
- **Red Flag 3:** Patient was dispensed opioid prescriptions with overlapping days of supply that were written by two or more prescribers.
- **Red Flag 4:** Patient was dispensed opioid prescriptions with overlapping days of supply at two or more pharmacies.
- **Red Flag 5:** Patient was dispensed an opioid, a benzodiazepine, and a muscle relaxer for overlapping days of supply.
- **Red Flag 6:** Patient was dispensed an opioid, a benzodiazepine, and a muscle relaxer on the same day, and all the prescriptions were written by the same prescriber.
- **Red Flag 7:** Patient was dispensed an opioid and a benzodiazepine within 30 days of one another.

59. I was asked to implement various approaches to identify prescriptions meeting specified criteria, defined by Carmen Catizone, using the Walgreens Dispensing Data. The following criteria were used to identify prescriptions:

- **Red Flag 8:** Patient was dispensed an opioid and a benzodiazepine on the same day, and both prescriptions were written by the same prescriber.
- **Red Flag 9:** Patient was dispensed two short-acting (or immediate release) opioid drugs on the same day.
- **Red Flag 11:** Patient was dispensed an opioid prescription of over 200 MME per day on or before December 31, 2018, or over 90 MME per day after December 31, 2018.
- **Red Flag 12:** An opioid was dispensed to at least 4 different patients on the same day, and the opioid prescriptions were for the same base drug, strength, and dosage form and were written by the same prescriber.
- **Red Flag 14:** An opioid prescription was refilled more than 5 days before the patient's previous prescription should have run out.
- **Red Flag 15:** A patient was dispensed more than 210 "days of supply" of all opioids combined in a 6-month period.
- **Red Flag 16:** A patient was dispensed an opioid and paid in cash.

Figure 1: Monthly Prescribed Dosage Units and MMEs in San Francisco

Case 3:18-cv-07591-CRB Document 1392 Filed 05/27/22 Page 1 of 15

Word Count: 2446

1 DAVID CHIU, State Bar #189542
City Attorney
2 YVONNE R. MERE, State Bar #173594
Chief Deputy City Attorney
3 SARA J. EISENBERG, State Bar #269303
Chief of Complex & Affirmative Litigation
4 OWEN J. CLEMENTS, State Bar #141805
JAIME M. HULING DELAYE, State Bar #270784
5 JOHN H. GEORGE, State Bar #292332
Deputy City Attorneys
6 Fox Plaza
1390 Market Street, Sixth Floor
7 San Francisco, CA 94102
Telephone: 415/554-3957
8 jaime.hulingdelaye@sfcityatt.org

9 *Attorneys for Plaintiff The People of the State of California,
acting by and through San Francisco City Attorney David Chiu*
10 [Additional counsel appear on signature page.]

11 UNITED STATES DISTRICT COURT
12 NORTHERN DISTRICT OF CALIFORNIA

13 THE CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA and THE
14 PEOPLE OF THE STATE OF CALIFORNIA,
15 Acting by and through San Francisco City
16 Attorney DAVID CHIU,
17 Plaintiff,
18 vs.
19 PURDUE PHARMA L.P., et al.,
20 Defendants.

21
22
23
24
25
26
27
28

DECLARATION OF EXPERT WITNESS
LACEY R. KELLER
CASE NO. 3:18-cv-07591-CRB

Case 3:18-cv-07591-CRB Document 1392 Filed 05/27/22 Page 4 of 15

1 at the end of the IQVIA period in 2017 was approximately equal to the volume in 1997,

2 prescribed
3 of prescri
4 prescripti
5 approxim
6 prescripti
7 10
8 according

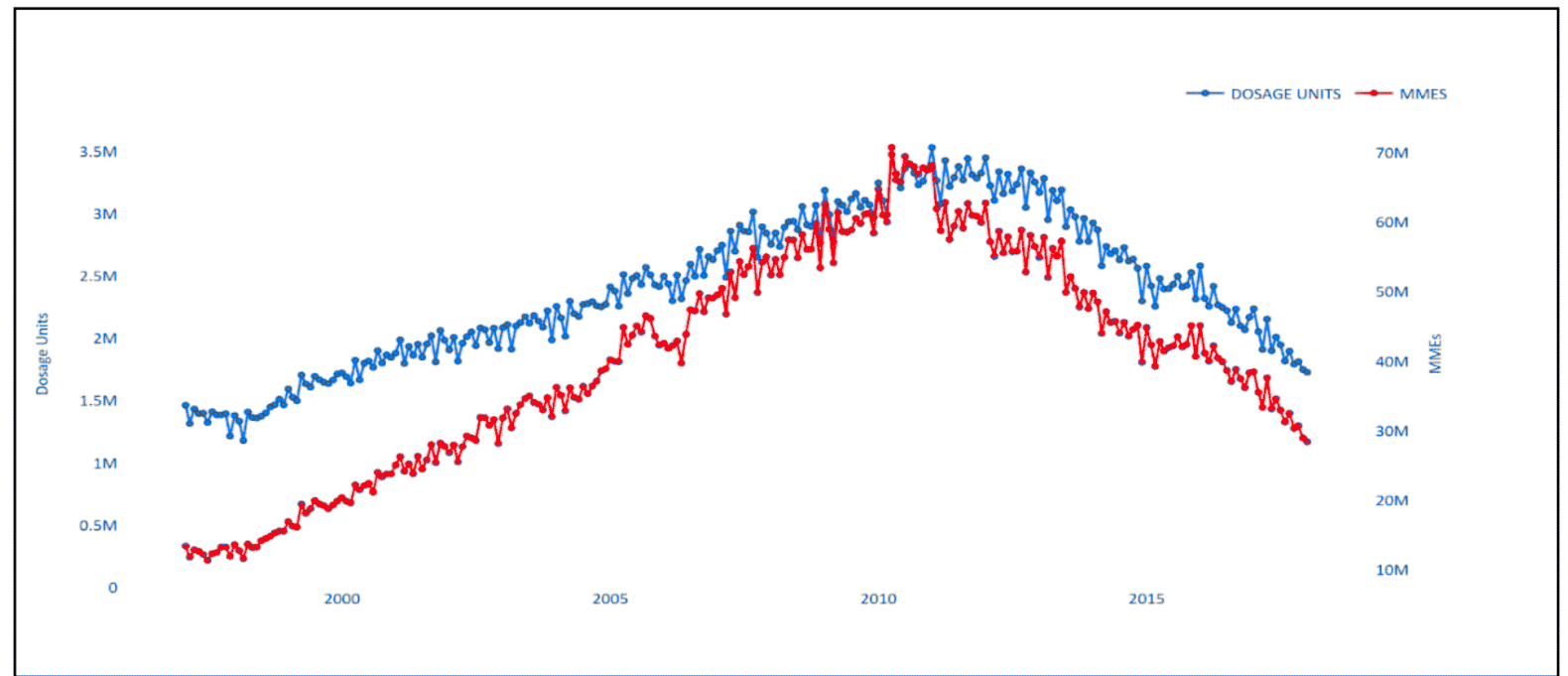


Figure 1: Monthly Prescribed Dosage Units and MMEs in San Francisco

Keller Opinion No. 1

Figure 1, Keller Decl., ECF No. 1392, at 4



	Year	Actiq® (oral transmucosal fentanyl citrate)	FENTORA fentanyl buccal tablet	Total (Actiq + Fentora)
Cephalon	2001	297	-	297
	2002	491	-	491
	2003	552	-	552
	2004	784	-	784
	2005	977	-	977
	2006	859	51	909
	2007	153	317	471
	2008	59	266	324
	2009	18	321	340
	2010	3	242	246
Teva USA	2011	-	286	286
	2012	13	131	143
	2013	14	74	88
	2014	-	72	72
	2015	-	54	54
	2016	-	46	46
	2017	-	34	34
	2018	-	2	2

Year	Opioid Prescriptions	Prescriptions Per 1,000 Capita	Cumulative Prescriptions	% Increase In Prescriptions	Opioid Dosage Units	Dosage Units Per Capita	Cumulative Dosage Units	% Increase In Dosage Units	Opioid MMEs	MMEs Per Capita	Cumulative MMEs	% Increase In MMEs
2009	523,024	652.2	5,643,593	45.5	36,665,406	45.7	338,790,759	122.5	716,093,629	893.0	5,413,459,978	373.7
2010	545,741	677.2	6,189,333	51.9	39,546,077	49.1	378,336,836	140.0	799,238,285	991.9	6,212,698,263	428.7
2011	552,833	677.2	6,742,166	53.8	39,726,689	48.7	418,063,524	141.1	727,960,912	891.8	6,940,659,175	381.6
2012	549,176	661.3	7,291,342	52.8	38,706,982	46.6	456,770,506	134.9	676,796,488	815.0	7,617,455,662	347.7

1997	359,354	484.9	359,354	0.0	16,476,040	22.2	16,476,040	0.0	151,170,320	204.0	151,170,320	0.0
1998	351,906	471.8	711,261	-2.1	16,885,321	22.6	33,361,361	2.5	171,320,581	229.7	322,490,900	13.3
1999	386,429	517.4	1,097,690	7.5	19,693,255	26.4	53,054,616	19.5	225,588,920	302.1	548,079,821	49.2
2000	399,086	513.0	1,496,776	11.1	21,478,779	27.6	74,533,395	30.4	268,701,067	345.4	816,780,888	77.7
2001	415,571	532.1	1,912,347	15.6	23,098,685	29.6	97,632,080	40.2	312,185,747	399.8	1,128,966,635	106.5
2002	415,324	537.4	2,327,671	15.6	23,967,927	31.0	121,600,007	45.5	354,000,148	458.1	1,482,966,784	134.2
2003	426,361	556.4	2,754,033	18.6	25,393,431	33.1	146,993,438	54.1	403,060,594	526.1	1,886,027,378	166.6
2004	437,172	574.2	3,191,205	21.6	26,867,695	35.3	173,861,133	63.1	436,210,615	573.0	2,322,237,993	188.6
2005	460,078	602.9	3,651,282	28.0	29,321,248	38.4	203,182,381	78.0	521,084,212	682.9	2,843,322,205	244.7
2006	462,451	601.6	4,113,734	28.7	30,304,198	39.4	233,486,579	83.9	549,474,795	714.9	3,392,796,999	263.5
2007	496,917	638.1	4,610,651	38.3	33,555,615	43.1	267,042,194	103.7	626,972,057	805.2	4,019,769,056	314.7
2008	509,918	644.5	5,120,569	41.9	35,083,159	44.3	302,125,353	112.9	677,597,293	856.5	4,697,366,349	348.2
2009	523,024	652.2	5,643,593	45.5	36,665,406	45.7	338,790,759	122.5	716,093,629	893.0	5,413,459,978	373.7
2010	545,741	677.2	6,189,333	51.9	39,546,077	49.1	378,336,836	140.0	799,238,285	991.9	6,212,698,263	428.7
2011	552,833	677.2	6,742,166	53.8	39,726,689	48.7	418,063,524	141.1	727,960,912	891.8	6,940,659,175	381.6
2012	549,176	661.3	7,291,342	52.8	38,706,982	46.6	456,770,506	134.9	676,796,488	815.0	7,617,455,662	347.7
2013	518,626	616.4	7,809,968	44.3	36,048,221	42.8	492,818,727	118.8	625,715,217	743.8	8,243,170,879	313.9
2014	471,543	552.6	8,281,510	31.2	31,608,545	37.0	524,427,272	91.8	538,356,457	630.9	8,781,527,336	256.1
2015	426,254	492.0	8,707,764	18.6	29,118,437	33.6	553,545,708	76.7	508,727,224	587.2	9,290,254,560	236.5
2016	397,719	453.9	9,105,483	10.7	26,645,657	30.4	580,191,365	61.7	468,509,655	534.8	9,758,764,215	209.9
2017	348,996	394.6	9,454,479	-2.9	22,745,612	25.7	602,936,977	38.0	389,099,382	440.0	10,147,863,597	157.4

Table 1: Cumulative and Annual Prescriptions

Percent increases are calculated to the first year shown in the table. Only prescriptions per capita is calculated as per 1,000 persons. All other percapita figures are per person based on the San Francisco County population.

Table 1, Keller Decl., ECF No. 1392, at 5

Dr. Andrew Giovanninni

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
OXYMORPHONE	634	1.4	3,787	198	3	95,517	1.6	1,552	84	3	3,812,390	1.4	2,525	149	3
MORPHINE	1,033	2.2	20,411	1,907	77	86,685	1.5	18,402	1,928	86	8,649,930	3.1	5,769	680	32
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
HYDROMORPHONE	93	0.2	73,402	6,576	296	13,686	0.2	38,350	4,283	194	364,555	0.1	23,238	2,847	121

Table 4: Andrew Giovanninni Opioid Prescriptions and Ranking by Drug Name

Table 4, Keller Decl., ECF No. 1392, at 8

Dr. Andrew Giovanninni

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
OXYMORPHONE	634	1.4	3,787	198	3	95,517	1.6	1,552	84	3	3,812,390	1.4	2,525	149	3
MORPHINE	1,033	2.2	20,411	1,907	77	86,685	1.5	18,402	1,928	86	8,649,930	3.1	5,769	680	32
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
HYDROMORPHONE	93	0.2	73,402	6,576	296	13,686	0.2	38,350	4,283	194	364,555	0.1	23,238	2,847	121

Table 4: Andrew Giovanninni Opioid Prescriptions and Ranking by Drug Name

Table 4, Keller Decl., ECF No. 1392, at 8

Dr. Andrew Giovanninni

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
OXYMORPHONE	634	1.4	3,787	198	3	95,517	1.6	1,552	84	3	3,812,390	1.4	2,525	149	3
MORPHINE	1,033	2.2	20,411	1,907	77	86,685	1.5	18,402	1,928	86	8,649,930	3.1	5,769	680	32
FENTANYL	571	1.2	31,980	2,388	65	32,947	0.6	4,430	477	10	4,832,352	1.7	14,291	1,341	38
HYDROMORPHONE	93	0.2	73,402	6,576	296	13,686	0.2	38,350	4,283	194	364,555	0.1	23,238	2,847	121

Table 4: Andrew Giovanninni Opioid Prescriptions and Ranking by Drug Name

Table 4, Keller Decl., ECF No. 1392, at 8

National Date	Prescriber Dosage Units	State Avg Dosage Units	Prescriber Above State Average Dosage Units	National Avg Dosage Units	Prescriber Above National Average Dosage Units	Prescriber MMEs	State Avg MMEs	Prescriber Above State Average MMEs	National Avg MMEs	Prescriber Above National Average MMEs
1997	42,258	10,070	4.2	10,254	4.1	279,961	53,227	5.3	54,753	5.1
1998	49,227	10,949	4.5	11,227	4.4	328,174	58,777	5.6	61,423	5.3
1999	71,990	12,200	5.9	12,526	5.7	436,778	66,932	6.5	71,548	6.1

National Date	Prescriber Dosage Units	State Avg Dosage Units	Prescriber Above State Average Dosage Units	National Avg Dosage Units	Prescriber Above National Average Dosage Units	Prescriber MMEs	State Avg MMEs	Prescriber Above State Average MMEs	National Avg MMEs	Prescriber Above National Average MMEs
1997	42,258	10,070	4.2	10,254	4.1	279,961	53,227	5.3	54,753	5.1
1998	49,227	10,949	4.5	11,227	4.4	328,174	58,777	5.6	61,423	5.3
1999	71,990	12,200	5.9	12,526	5.7	436,778	66,932	6.5	71,548	6.1
2000	90,679	12,967	7.0	13,797	6.6	958,813	72,894	13.2	84,249	11.4

Table 3, Keller Decl., ECF No. 1392, at 7

Dr. Guido Gores

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
HYDROCODONE	9,674	35.8	41,831	4,638	72	1,101,439	31.3	15,902	2,105	21	8,777,342	9.5	14,955	1,991	20
OXYCODONE	6,377	23.6	19,271	653	16	1,001,441	28.4	7,986	406	10	41,300,858	44.8	3,856	289	10
METHADONE	2,272	8.4	4,221	383	9	603,550	17.1	1,981	188	7	18,058,524	19.6	2,053	183	7
CODEINE	4,693	17.4	4,857	930	15	358,324	10.2	3,430	539	7	2,113,963	2.3	1,748	389	6
MORPHINE	1,981	7.3	9,481	877	30	266,105	7.6	4,685	512	16	12,497,173	13.6	3,644	422	15
HYDROMORPHONE	1,157	4.3	3,678	389	6	177,081	5.0	2,165	288	4	4,632,364	5.0	1,510	209	4
FENTANYL	759	2.8	22,597	1,734	41	9,633	0.3	19,908	1,830	47	4,618,458	5.0	15,158	1,417	43
MEPERIDINE	72	0.3	51,266	1,168	24	4,646	0.1	30,829	951	23	45,490	0.0	17,860	694	16
OXYMORPHONE	19	0.1	35,569	2,500	80	1,564	0.0	32,565	2,355	73	164,621	0.2	24,705	1,814	44
LEVORPHANOL	10	0.0	2,830	480	39	393	0.0	4,613	835	69	8,644	0.0	4,613	835	69
BUPRENORPHINE	8	0.0	40,696	3,860	116	33	0.0	43,940	4,239	138	3,706	0.0	42,687	4,044	123

Table 6: Guido Gores Opioid Prescriptions and Ranking by Drug Name

Table 6, Keller Decl., ECF No. 1392, at 10

Dr. Guido Gores

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
HYDROCODONE	9,674	35.8	41,831	4,638	72	1,101,439	31.3	15,902	2,105	21	8,777,342	9.5	14,955	1,991	20
OXYCODONE	6,377	23.6	19,271	653	16	1,001,441	28.4	7,986	406	10	41,300,858	44.8	3,856	289	10
METHADONE	2,272	8.4	4,221	383	9	603,550	17.1	1,981	188	7	18,058,524	19.6	2,053	183	7
CODEINE	4,693	17.4	4,857	930	15	358,324	10.2	3,430	539	7	2,113,963	2.3	1,748	389	6
MORPHINE	1,981	7.3	9,481	877	30	266,105	7.6	4,685	512	16	12,497,173	13.6	3,644	422	15
HYDROMORPHINE	1,157	4.3	3,678	389	6	177,081	5.0	2,165	288	4	4,632,364	5.0	1,510	209	4
FENTANYL	759	2.8	22,597	1,734	41	9,633	0.3	19,908	1,830	47	4,618,458	5.0	15,158	1,417	43
MEPERIDINE	72	0.3	51,266	1,168	24	4,646	0.1	30,829	951	23	45,490	0.0	17,860	694	16
OXYMORPHONE	19	0.1	35,569	2,500	80	1,564	0.0	32,565	2,355	73	164,621	0.2	24,705	1,814	44
LEVORPHANOL	10	0.0	2,830	480	39	393	0.0	4,613	835	69	8,644	0.0	4,613	835	69
BUPRENORPHINE	8	0.0	40,696	3,860	116	33	0.0	43,940	4,239	138	3,706	0.0	42,687	4,044	123

Table 6: Guido Gores Opioid Prescriptions and Ranking by Drug Name

Table 6, Keller Decl., ECF No. 1392, at 10

National Date	Prescriber Dosage Units	State Avg Dosage Units	Prescriber Above State Average Dosage Units	National Avg Dosage Units	Prescriber Above National Average Dosage Units	Prescriber MMEs	State Avg MMEs	Prescriber Above State Average MMEs	National Avg MMEs	Prescriber Above National Average MMEs
1997	80,783	10,699	7.6	8,683	9.3	882,784	80,668	10.9	71,152	12.4
1998	107,018	11,789	9.1	9,523	11.2	1,568,030	94,708	16.6	84,843	18.5
1999	98,859	13,412	7.4	10,699	9.2	1,532,682	116,397	13.2	105,692	14.5
2000	120,264	14,765	8.1	12,121	9.9	2,366,945	139,119	17.0	136,491	17.3
2001	151,437	16,426	9.2	13,548	11.2	3,368,060	171,925	19.6	170,383	19.8
2002	65,778	17,714	3.7	15,068	4.4	959,325	211,728	4.5	204,677	4.7
2003	90,870	19,099	4.8	16,825	5.4	1,886,903	243,700	7.7	244,180	7.7
2004	87,915	18,473	4.8	17,353	5.1	2,150,949	243,316	8.8	262,442	8.2
2005	104,398	17,352	6.0	17,904	5.8	2,293,103	246,147	9.3	272,851	8.4
2006	116,110	18,749	6.2	19,626	5.9	2,663,737	273,276	9.7	304,194	8.8
2007	141,057	20,109	7.0	21,309	6.6	3,491,549	299,308	11.7	335,677	10.4
2008	163,700	21,131	7.7	22,435	7.3	3,903,402	322,885	12.1	353,753	11.0
2009	174,901	22,083	7.9	23,123	7.6	5,227,203	342,928	15.2	366,138	14.3
2010	226,008	22,612	10.0	23,975	9.4	6,790,710	353,866	19.2	386,100	17.6
2011	257,764	23,734	10.9	24,895	10.4	7,563,447	368,290	20.5	394,017	19.2
2012	306,873	22,823	13.4	23,273	13.2	8,834,928	345,422	25.6	358,867	24.6
2013	287,825	21,371	13.5	21,953	13.1	7,698,384	323,998	23.8	336,546	22.9
2014	253,232	19,241	13.2	20,038	12.6	7,122,645	291,810	24.4	308,476	23.1
2015	249,124	17,578	14.2	18,157	13.7	8,160,062	271,125	30.1	283,572	28.8
2016	221,198	16,041	13.8	16,623	13.3	7,030,026	245,192	28.7	258,011	27.2
2017	219,096	14,111	15.5	14,443	15.2	6,726,267	210,676	31.9	218,899	30.7

Table 5: Guido Gores Annual Opioid Dosage Units Compared to Specialty Average

Table 5, Keller Decl., ECF No. 1392, at 10

Dr. Guido Gores

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	759	2.8	22,597	1,734	41	9,633	0.3	19,908	1,830	47	4,618,458	5.0	15,158	1,417	43
CODEINE	4,693	17.4	4,857	930	15	358,324	10.2	3,430	539	7	2,113,963	2.3	1,748	389	6
MORPHINE	1,981	7.3	9,481	877	30	266,105	7.6	4,685	512	16	12,497,173	13.6	3,644	422	15
HYDROMORPHONE	1,157	4.3	3,678	389	6	177,081	5.0	2,165	288	4	4,632,364	5.0	1,510	209	4
FENTANYL	759	2.8	22,597	1,734	41	9,633	0.3	19,908	1,830	47	4,618,458	5.0	15,158	1,417	43
MEPERIDINE	72	0.3	51,266	1,168	24	4,646	0.1	30,829	951	23	45,490	0.0	17,860	694	16
OXYMORPHONE	19	0.1	35,569	2,500	80	1,564	0.0	32,565	2,355	73	164,621	0.2	24,705	1,814	44
LEVORPHANOL	10	0.0	2,830	480	39	393	0.0	4,613	835	69	8,644	0.0	4,613	835	69
BUPRENORPHINE	8	0.0	40,696	3,860	116	33	0.0	43,940	4,239	138	3,706	0.0	42,687	4,044	123

Table 6: Guido Gores Opioid Prescriptions and Ranking by Drug Name

Table 6, Keller Decl., ECF No. 1392, at 10

Total Actiq/Fentora Rx (1997-2018): 17										
National Date	Prescriber Dosage Units	State Avg Dosage Units	Prescriber Above State Average Dosage Units	National Avg Dosage Units	Prescriber Above National Average Dosage Units	Prescriber MMEs	State Avg MMEs	Prescriber Above State Average MMEs	National Avg MMEs	Prescriber Above National Average MMEs
1997	80,783	10,699	7.6	8,683	9.3	882,784	80,668	10.9	71,152	12.4
1998	107,018	11,789	9.1	9,523	11.2	1,568,030	94,708	16.6	84,843	18.5
1999	98,859	13,412	7.4	10,699	9.2	1,532,682	116,397	13.2	105,692	14.5
2000	120,264	14,765	8.1	12,121	9.9	2,366,945	139,119	17.0	136,491	17.3

Table 5: Guido Gores Annual Opioid Dosage Units Compared to Specialty Average

Table 5, Keller Decl., ECF No. 1392, at 10

Dr. Masami Hattori

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
HYDROCODONE	22,396	25.5	8,000	766	5	2,368,121	29.7	3,907	479	7	22,256,218	8.6	3,120	356	4
OXYCODONE	21,287	24.3	2,417	50	2	2,253,698	28.2	2,328	94	2	77,393,268	29.8	1,489	109	4
MORPHINE	17,913	20.4	263	6	1	1,249,724	15.7	363	23	2	59,038,742	22.7	264	24	3
METHADONE	6,929	7.9	881	47	1	1,130,638	14.2	802	75	1	30,426,830	11.7	1,012	92	3
HYDROMORPHONE	4,974	5.7	308	32	1	574,094	7.2	345	44	1	12,373,255	4.8	335	39	1
FENTANYL	9,880	11.3	36							2	50,066,045	19.3	436	52	1
OXYMORPHONE	1,367	1.6	1,5							2	5,567,240	2.1	1,598	87	2
CODEINE	1,031	1.2	83,4							172	634,236	0.2	17,922	3,356	92
TAPENTADOL	732	0.8	1,5							1	1,172,588	0.5	2,855	264	3
LEVORPHANOL	84	0.1	40							9	319,441	0.1	299	76	9
BUPRENORPHINE	1,152	1.3	29							4	655,977	0.3	357	39	2
MEPERIDINE	33	0.0	87,1							34	34,413	0.0	23,294	875	25

**Total Actiq/Fentora Rx
(1997-2018):
42**

IQVIA Data, DEF-MDL-00028

Table 8: Masami Hattori Opioid Prescriptions and Ranking by Drug Name

Table 8, Keller Decl., ECF No. 1392, at 12

Dr. John Pierce

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	1,171	2.5	12,419	982	17	16,556	0.4	10,055	1,035	25	7,860,969	11.2	7,338	754	16
MORPHINE	1,577	3.4	12,504	1,146	42	162,729	4.3	8,661	921	35	5,057,352	7.2	10,773	1,248	63
HYDROMORPHONE	1,008	2.1	4,503	472	9	95,296	2.5	4,802	669	16	1,498,433	2.1	5,676	794	22
FENTANYL	1,171	2.5	12,419	982	17	16,556	0.4	10,055	1,035	25	7,860,969	11.2	7,338	754	16
OXYMORPHONE	111	0.2	14,132	884	22	14,885	0.4	9,243	625	20	649,429	0.9	11,466	782	24
MEPERIDINE	69	0.1	52,871	1,215	28	8,170	0.2	18,634	549	13	54,877	0.1	14,808	570	12
BUPRENORPHINE	13	0.0	33,180	3,142	89	220	0.0	18,663	1,850	46	6,313	0.0	35,217	3,330	95
TAPENTADOL	1	0.0	132,137	10,423	257	65	0.0	119,716	9,962	253	1,299	0.0	127,068	10,715	270
LEVORPHANOL	1	0.0	10,364	1,517	128	27	0.0	10,994	1,664	147	590	0.0	10,994	1,664	147

Table 10: John Pierce Opioid Prescriptions and Ranking by Drug Name

Table 10, Keller Decl., ECF No. 1392, at 15

Dr. John Pierce

Drug Name	Opioid Prescriptions	% of Opioid Prescriptions	Prescriptions Rank (Nation)	Prescriptions Rank (State)	Prescriptions Rank (County)	Opioid Dosage Units	% of Opioid Dosage Units	Dosage Units Rank (Nation)	Dosage Units Rank (State)	Dosage Units Rank (County)	Opioid MMEs	% of Opioid MMEs	MMEs Rank (Nation)	MMEs Rank (State)	MMEs Rank (County)
FENTANYL	1,171	2.5	12,419	982	17	16,556	0.4	10,055	1,035	25	7,860,969	11.2	7,338	754	16
METHADONE	1,494	3.2	6,789	669	22	308,167	5.2	4,587	511	24	9,244,062	13.2	4,650	495	23
MORPHINE	1,577	3.4	12,504	1,146	42	162,729	4.3	8,661	921	35	5,057,352	7.2	10,773	1,248	63
HYDROMORPHONE	1,008	2.1	4,503	472	9	95,296	2.5	4,802	669	16	1,498,433	2.1	5,676	794	22
FENTANYL	1,171	2.5	12,419	982	17	16,556	0.4	10,055	1,035	25	7,860,969	11.2	7,338	754	16
OXYMORPHONE	111	0.2	14,132	884	22	14,885	0.4	9,243	625	20	649,429	0.9	11,466	782	24
MEPERIDINE	69	0.1	52,871	1,215	28	8,170	0.2	18,634	549	13	54,877	0.1	14,808	570	12
BUPRENORPHINE	13	0.0	33,180	3,142	89	220	0.0	18,663	1,850	46	6,313	0.0	35,217	3,330	95
TAPENTADOL	1	0.0	132,137	10,423	257	65	0.0	119,716	9,962	253	1,299	0.0	127,068	10,715	270
LEVORPHANOL	1	0.0	10,364	1,517	128	27	0.0	10,994	1,664	147	590	0.0	10,994	1,664	147

Table 10: John Pierce Opioid Prescriptions by Drug Name

**Total Actiq/Fentora Rx
(1997-2018):**

88

, ECF No. 1392, at 15

National Date	Prescriber Above National Average MMEs
1997	14.5
1998	13.4

IQVIA Data, DEF-MDL-00028

National Date	Prescriber Dosage Units	State Avg Dosage Units	Prescriber Above State Average Dosage Units	National Avg Dosage Units	Prescriber Above National Average Dosage Units	Prescriber MMEs	State Avg MMEs	Prescriber Above State Average MMEs	National Avg MMEs	Prescriber Above National Average MMEs
1997	168,455	10,699	15.7	8,683	19.4	1,032,897	80,668	12.8	71,152	14.5
1998	176,098	11,789	14.9	9,523	18.5	1,135,720	94,708	12.0	84,843	13.4
1999	204,019	13,412	15.2	10,699	19.1	1,490,675	116,397	12.8	105,692	14.1
2000	187,086	14,765	12.7	12,121	15.4	1,597,189	139,119	11.5	136,491	11.7

Table 9: John Pierce Annual Opioid Dosage Units Compared to Specialty Average

Table 9, Keller Decl., ECF No. 1392, at 14