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# KASPER QUARTERLY THRESHOLD ANALYSIS REPORT

SECOND QUARTER 2018

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## **KASPER Quarterly Threshold Analysis Report, Second Quarter 2018**

The Kentucky Injury Prevention and Research Center, bona fide agent for the Kentucky Department for Public Health, prepares this report to provide information on rates of controlled substance dispensing (number of prescriptions dispensed per 1,000 Kentucky residents) by age group and gender. The analysis includes dispensing rates of 1) total Schedule II through V controlled substances; 2) alprazolam; 3) buprenorphine/naloxone; 4) opioids, excluding buprenorphine/naloxone; 5) hydrocodone; 6) oxycodone; 7) gabapentin and 8) total Schedule II stimulants.

Additionally, trend graphs for the First Quarter 2015 to Second Quarter 2018 are presented for each dispensed controlled substance class or specific controlled substance.

There was a substantial increase in the number of controlled substances prescriptions dispensed in the Third Quarter of 2017 that was captured by KASPER. This increase was due, in part, to the scheduling of gabapentin in Kentucky as a Schedule V controlled substance that took effect July 1, 2017. Gabapentin dispensing rates are being provided for the first time in this report.

Prior threshold analysis reports are available on the KASPER website at <https://chfs.ky.gov/agencies/os/oig/dai/deppb/Pages/kasper.aspx> and on KIPRC's website at <http://www.mc.uky.edu/kiprc/>.

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## Report Summary

1. *All Controlled Substance Dispensing:* Females over the age of 17 were dispensed Schedule II-V controlled substance prescriptions at higher rates than males. The highest controlled substance prescription dispensing rates were for females 55 to 64 years of age at 1,244 prescriptions dispensed per 1,000 females and for females 45 to 54 years of age at 1,108 prescriptions dispensed per 1,000.
2. *Alprazolam Dispensing:* Females over 17 years of age were dispensed alprazolam prescriptions at higher rates than males. Females over 25 years of age were dispensed alprazolam at rates approximately 2 times more often than males over 25 years of age. The highest rate of dispensed alprazolam prescriptions was for females 65 years of age and older at 96 prescriptions dispensed per 1,000 females. The overall dispensing rate for alprazolam declined for the eleventh consecutive quarter.
3. *Buprenorphine-Naloxone Dispensing:* Dispensing rates for buprenorphine-naloxone prescriptions were highest for both males and females 25 to 44 years of age. Males 35 to 44 years of age had the highest dispensing rates of buprenorphine-naloxone prescriptions at 170 prescriptions per 1,000 males. The buprenorphine-naloxone dispensing rate increased for the thirteenth consecutive quarter.
4. *Opioids, excluding Buprenorphine-Naloxone:* By excluding buprenorphine-naloxone dispensing, opioid dispensing rates may better represent opioid use for pain control. Females had higher dispensing rates than males. The highest rates were for females aged 55 to 64 years at 485 opioid (non-buprenorphine-naloxone) prescriptions per 1,000 and females aged 65 years and older at 462 prescriptions per 1,000 females. Trend comparisons for opioids, excluding buprenorphine-naloxone, are preliminary. Dispensing rates for opioids, excluding buprenorphine-naloxone, increased slightly in 2<sup>nd</sup> Quarter 2018.
5. *Hydrocodone Dispensing:* The highest hydrocodone dispensing rates were for females 55 to 64 years of age at 244 prescriptions dispensed per 1,000 females and females 65 years and older at 232 prescriptions per 1,000 females. Dispensing rates for hydrocodone increased slightly in 2<sup>nd</sup> Quarter 2018.
6. *Oxycodone Dispensing:* Females under the age of 55 years had higher oxycodone dispensing rates compared to males. After 55 years of age, males were dispensed oxycodone at higher rates than females. The highest dispensing rates were for males and females aged 55 to 64 years at 121 prescriptions dispensed per 1,000 for males and 116 per 1,000 for females.
7. *Gabapentin:* Gabapentin was dispensed to females over age 17 years at higher rates than males the same age. The highest dispensing rate was for females aged 55 to 64 years at 241 prescriptions dispensed per 1,000 females and for females aged 45 to 54 years at 212 prescriptions dispensed per 1,000 females.
8. *Schedule II Stimulant Dispensing:* Schedule II stimulants include amphetamine (e.g. Adderall) and methylphenidate (e.g. Concerta, Ritalin). The Schedule II stimulant dispensing

rates were highest for males and females aged 0 to 16 years at 164 prescriptions dispensed per 1,000 for males and 70 per 1,000 for females.

9. *County Resident Dispensing Rates:* Dispensing rates vary widely by both county and substance.
  - a. Alprazolam dispensing rates were highest in Bell (96 prescriptions per 1,000 persons), Powell (79 per 1,000), and Perry (74 per 1,000) counties. The lowest alprazolam dispensing rates were in Russell (12 per 1,000), Green (17 per 1,000), and Grant, Hardin, Kenton, Letcher, and Warren (18 per 1,000) counties.
  - b. Buprenorphine-naloxone dispensing rates were highest in Magoffin (304 per 1,000), Owsley (279 per 1,000), and Lee (232 per 1,000) counties. The lowest buprenorphine-naloxone dispensing rates were in Union (5 per 1,000), Todd (7 per 1000), and Daviess, Oldham and Breckinridge (8 per 1,000) counties.
  - c. Opioid, excluding buprenorphine-naloxone, dispensing rates were highest in Owsley (582 per 1,000), Clay (500 per 1,000), and Floyd (492 per 1,000) counties. The lowest opioid, excluding buprenorphine-naloxone, dispensing rates were Russell (84 per 1,000), Boyd (112 per 1,000), and Oldham (115 per 1,000) counties.
  - d. Hydrocodone dispensing rates were highest in Owsley (372 per 1,000), Clay (330 per 1,000), and Bell (302 per 1,000) counties. The lowest hydrocodone dispensing rates were in Kenton (39 per 1,000), Boyd (49 per 1,000), and Boone and Russell (40 per 1,000) counties.
  - e. Oxycodone dispensing rates were highest in Powell (112 per 1,000), Perry (103 per 1,000), and Clinton (102 per 1,000) counties. The lowest oxycodone dispensing rates were in Russell (14 per 1,000), Oldham (26 per 1,000), and Daviess (27 per 1,000) counties.
  - f. Gabapentin dispensing rates were highest in Owsley (375 per 1,000), Clay (329 per 1,000), and Perry (294 per 1,000) counties. The lowest gabapentin dispensing rates were in Oldham (43 per 1,000), Daviess and Russell (46 per 1,000), and Kenton (49 per 1,000) counties.
  - g. Schedule II stimulant dispensing rates were highest in Henderson (129 per 1,000), Union and McCracken (106 per 1,000), and Webster (83 per 1,000) counties. The lowest Schedule II Stimulant dispensing rates were in Russell (9 per 1,000), Clay (14 per 1,000), and Clinton, Casey, Cumberland and Elliott (18 per 1,000) counties.

Schedule II-V Controlled Substances

Figure 1:

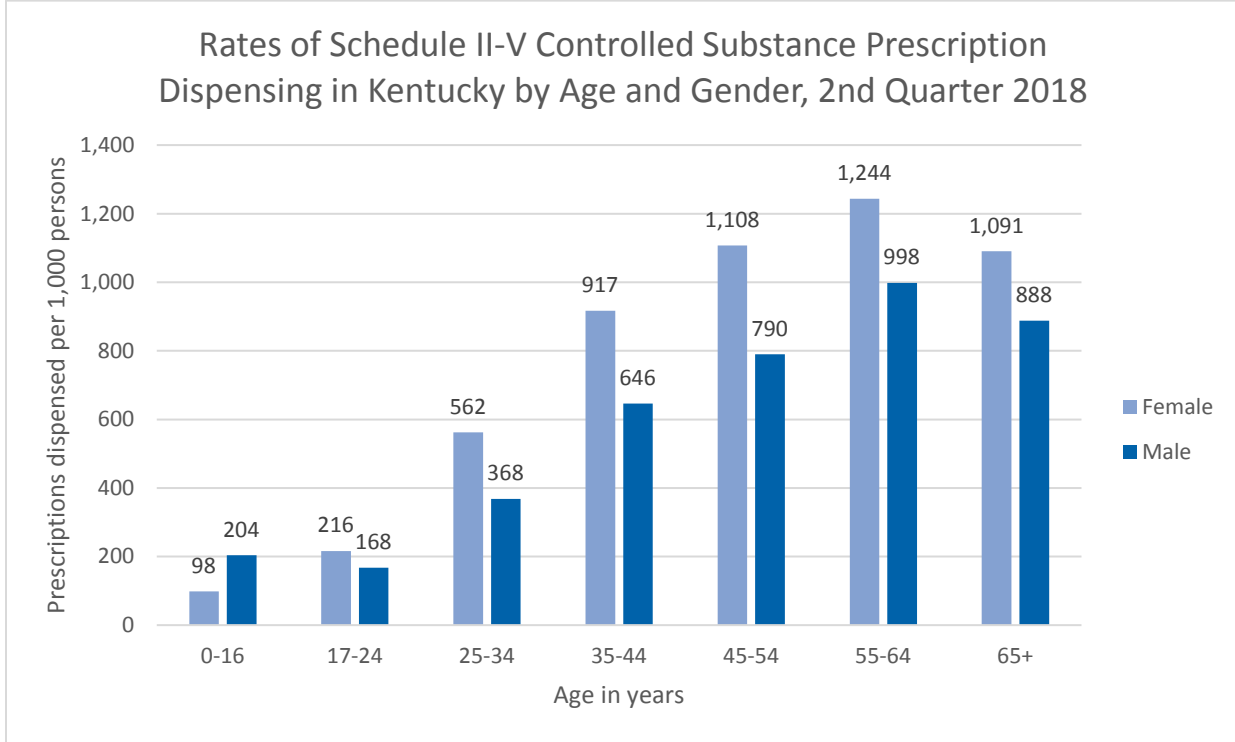
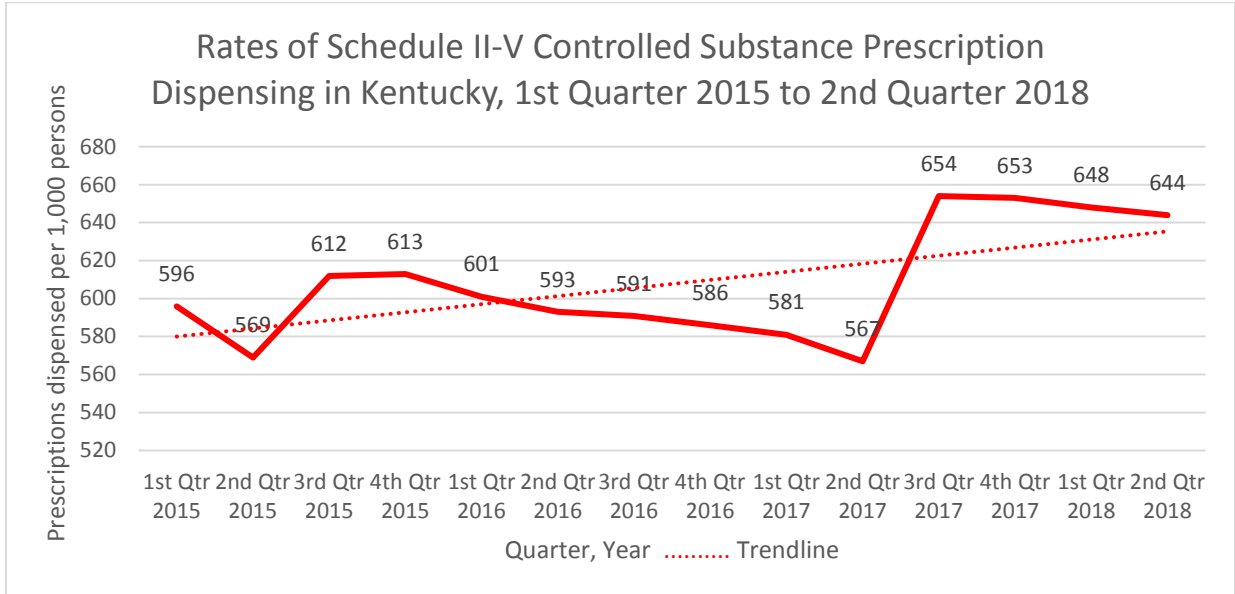


Figure 2:



\* Note: The increase in the rate beginning 3<sup>rd</sup> Quarter 2017 is due, in part, to the scheduling of gabapentin in Kentucky.

Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

Alprazolam

Figure 3:

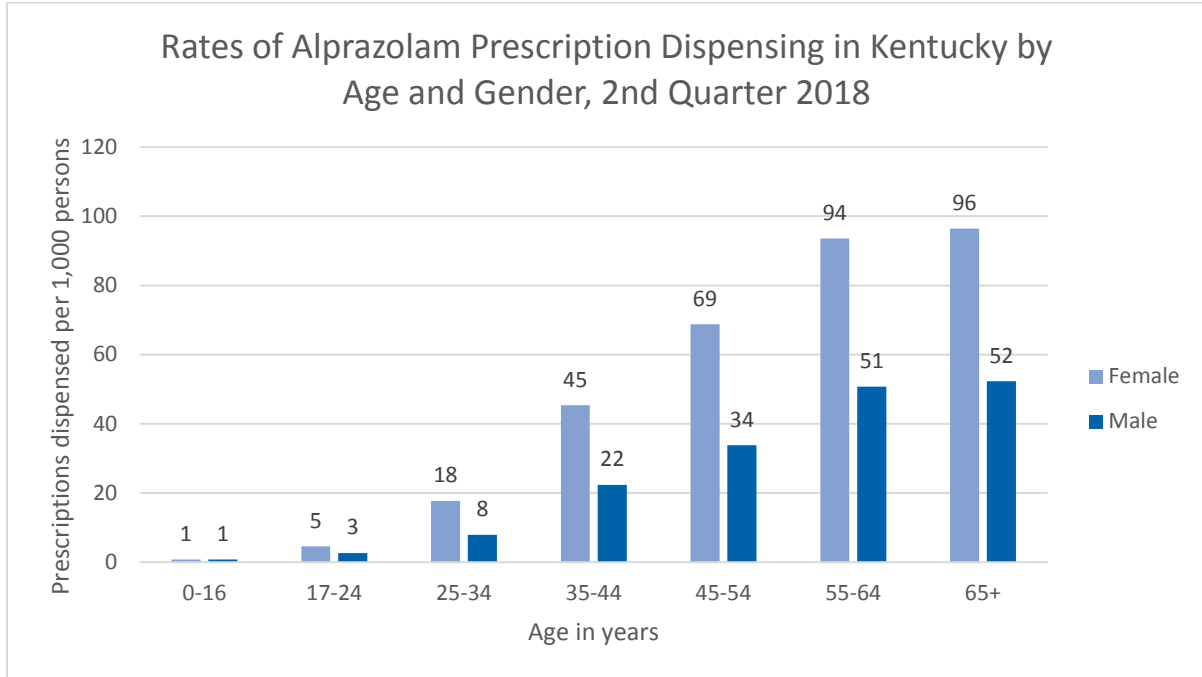
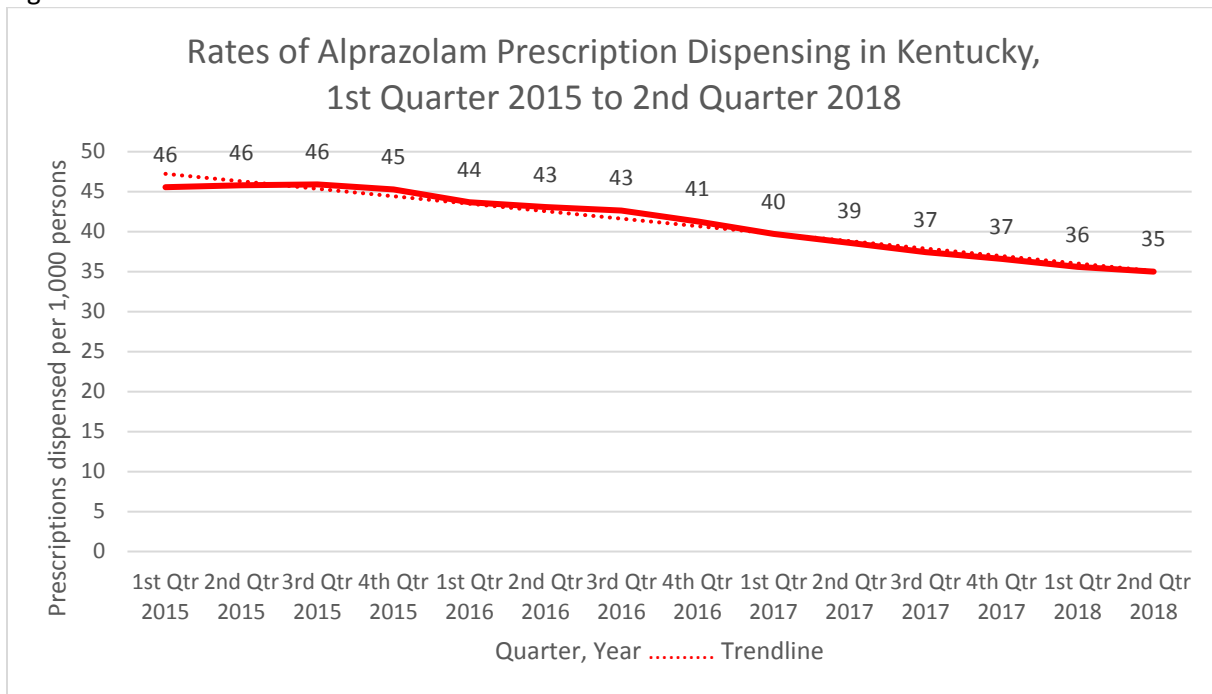


Figure 4:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

Buprenorphine-Naloxone

Figure 5:

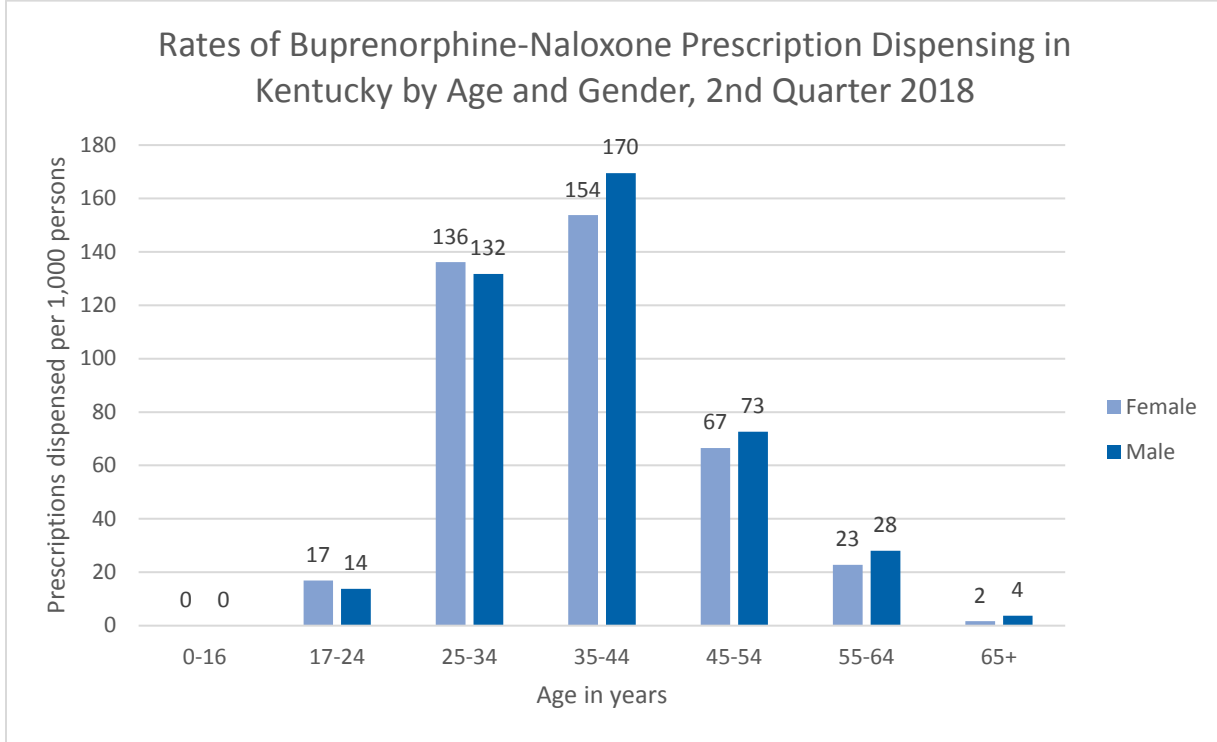
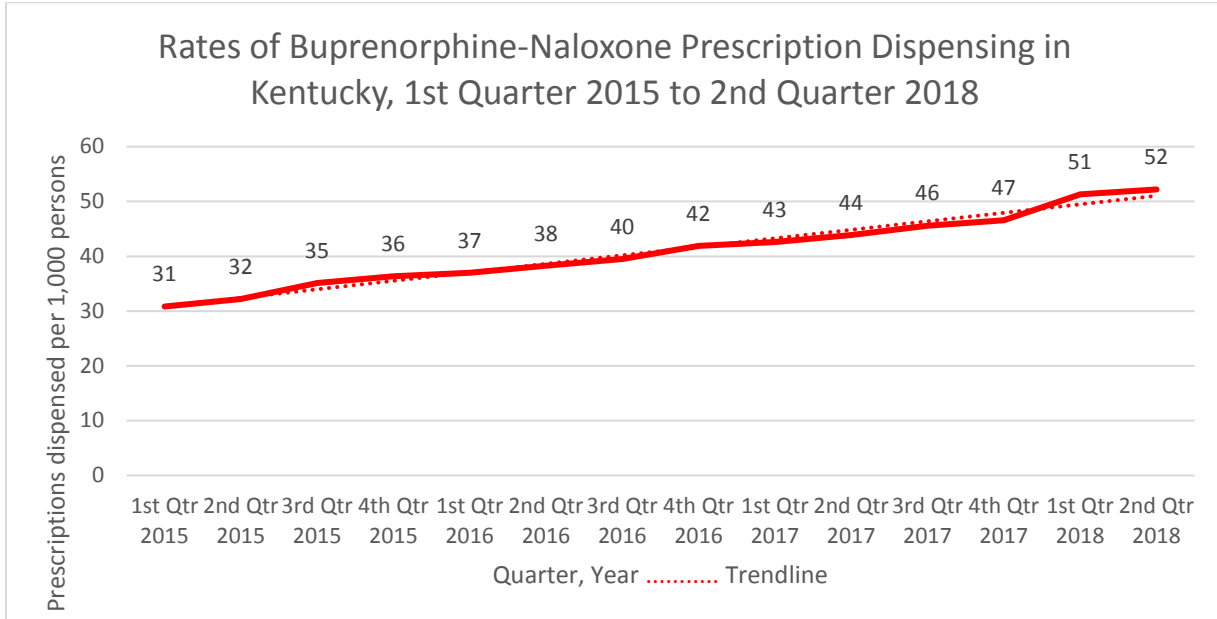


Figure 6:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

Opioids, Excluding Buprenorphine-Naloxone

Figure 7:

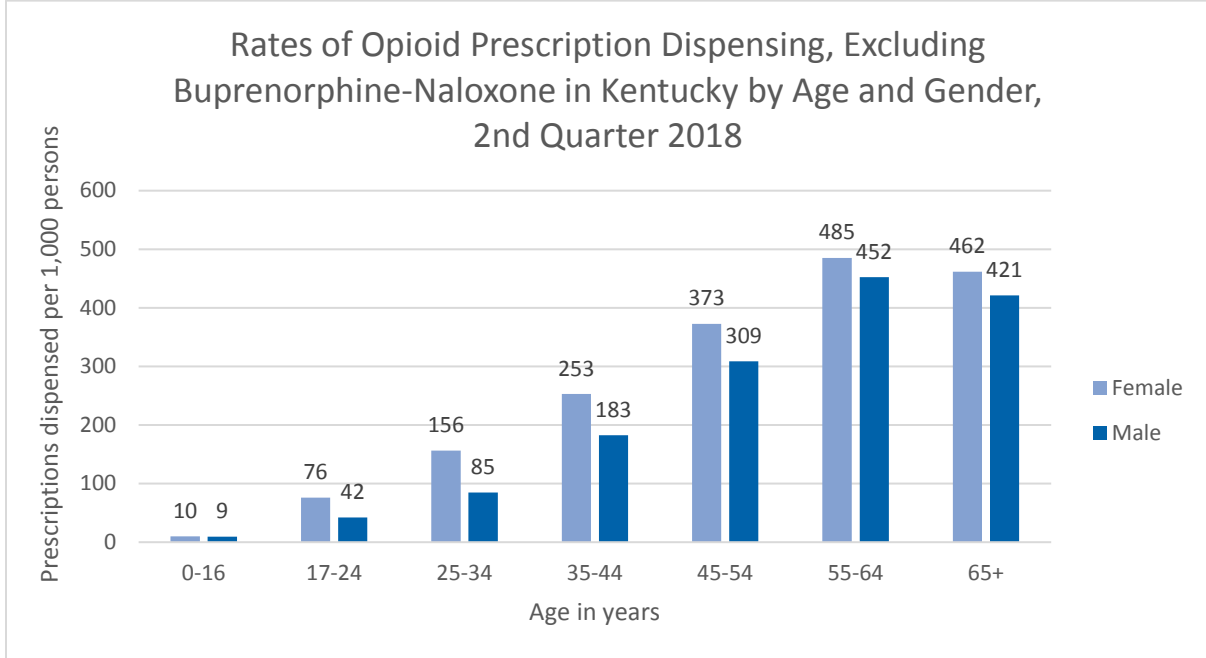
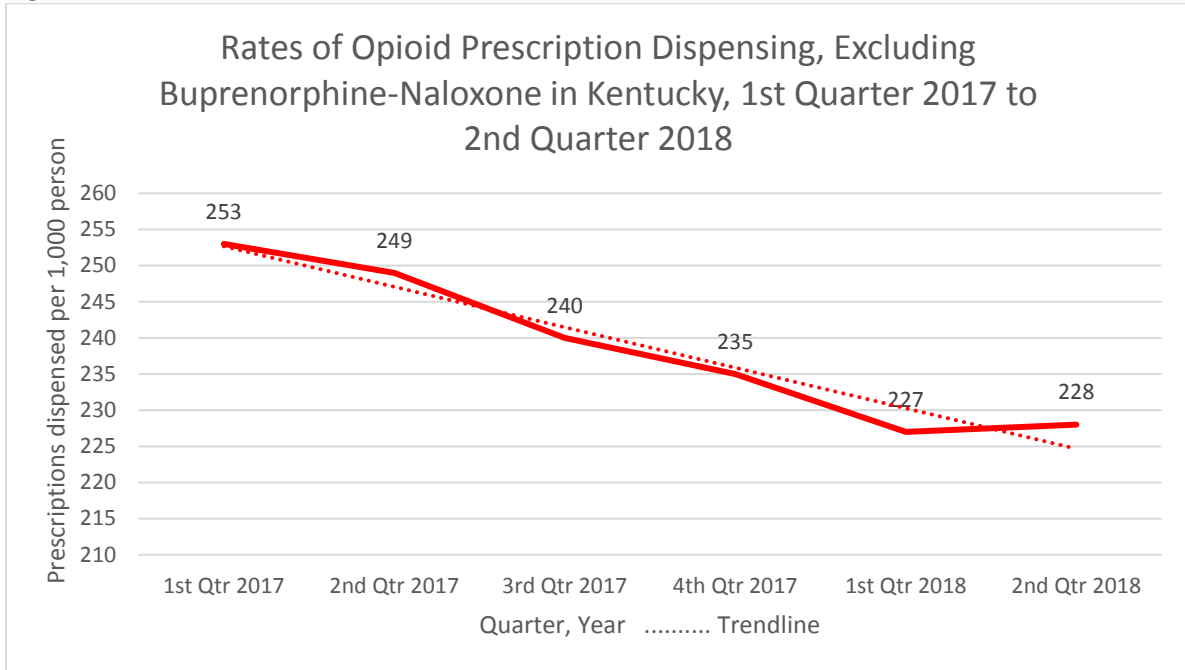


Figure 8:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services. Surveillance of Opioid Prescriptions, excluding Buprenorphine-Naloxone, began 1<sup>st</sup> Quarter 2017.



Hydrocodone

Figure 9:

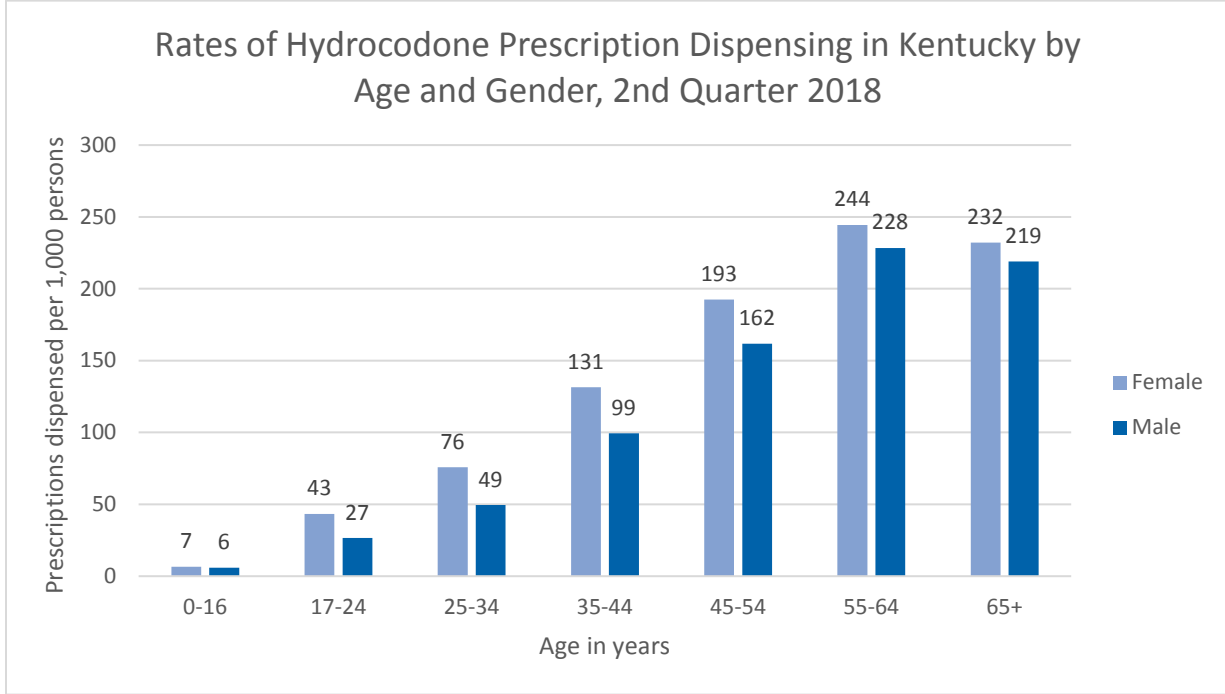
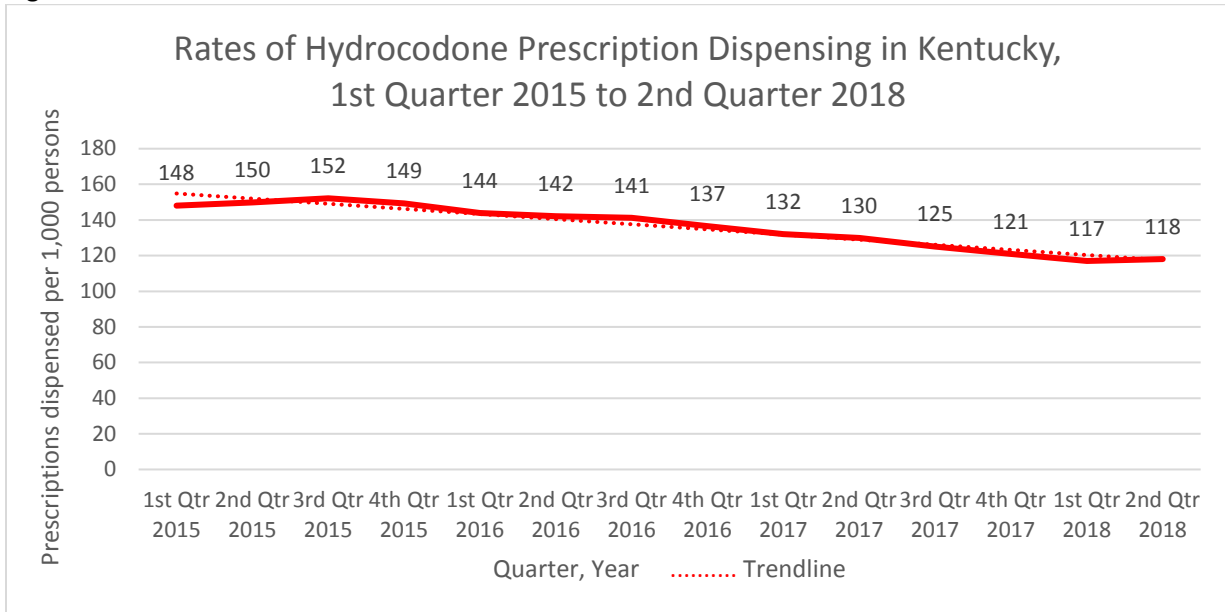


Figure 10:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

Oxycodone

Figure 11:

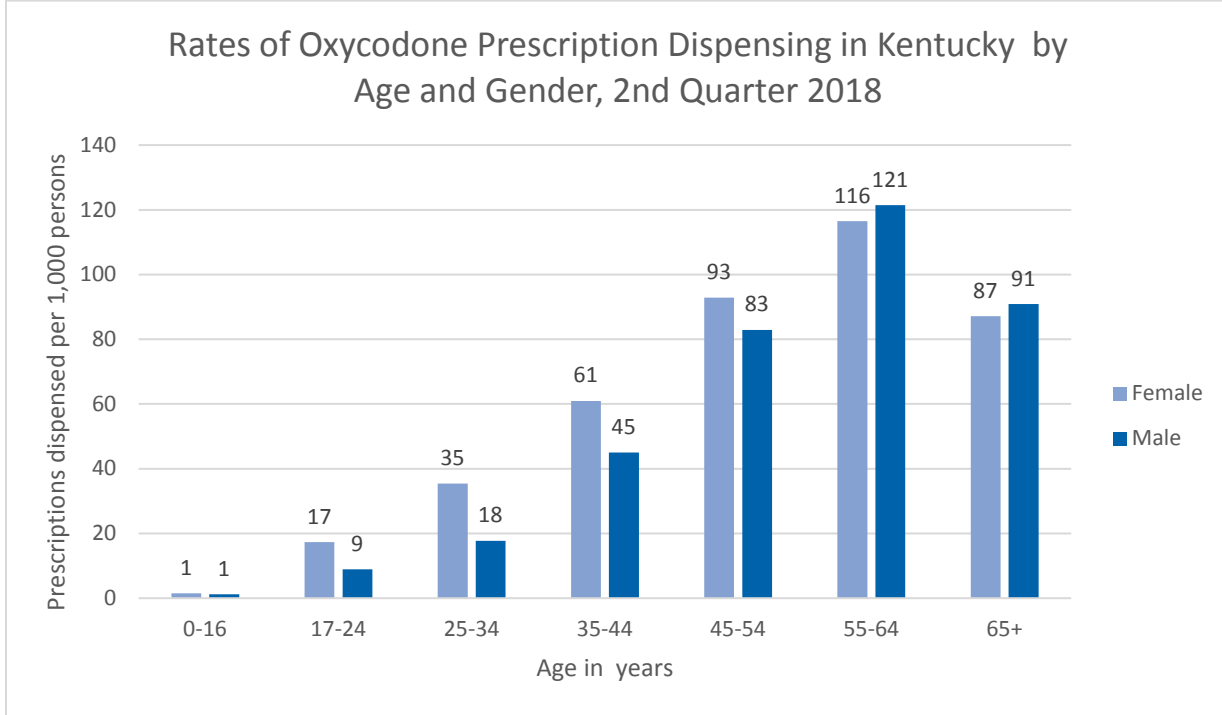
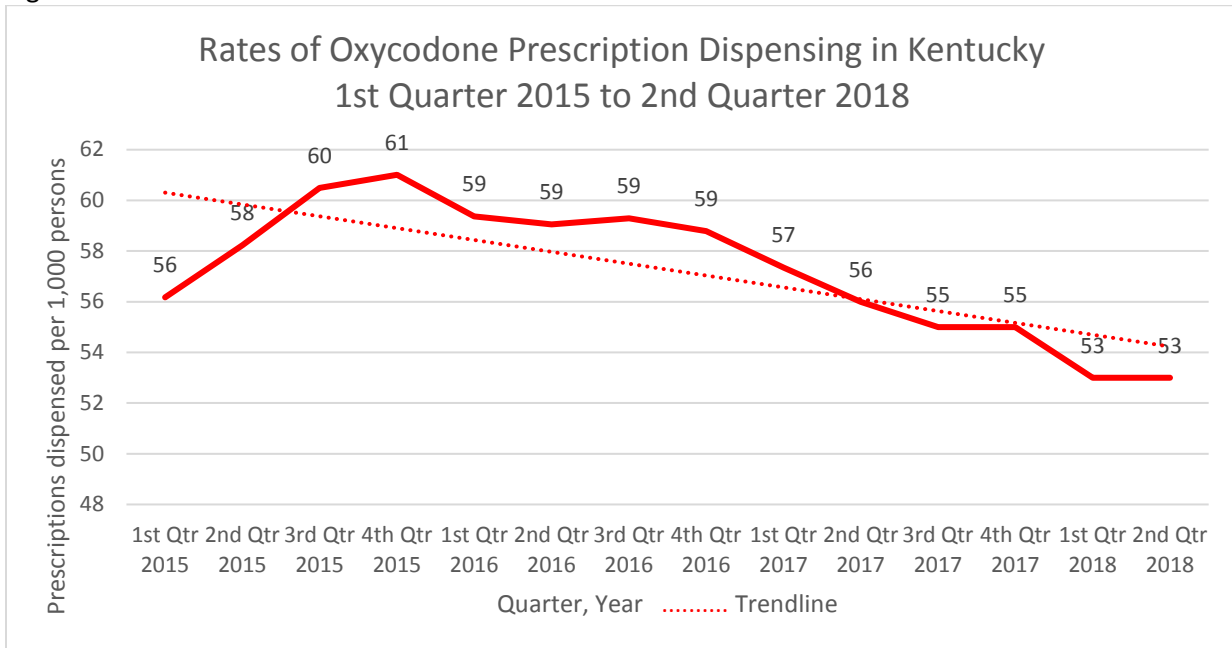


Figure 12:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

## Gabapentin

Figure 13:

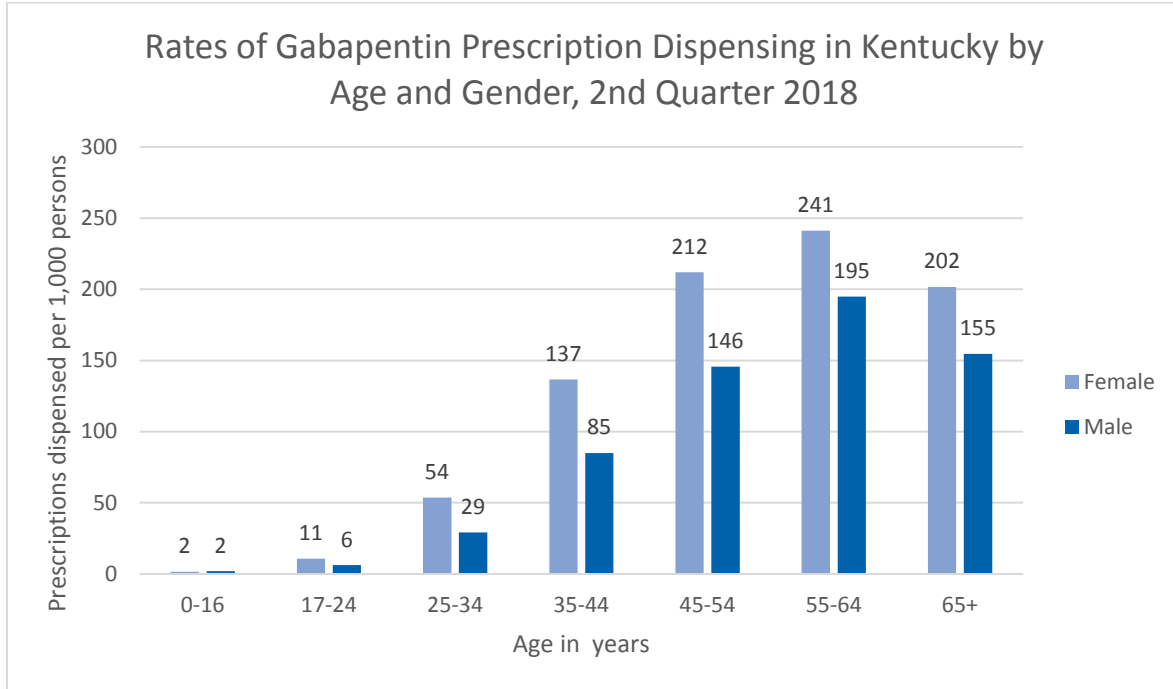


Figure 14:

A dispensing trend graph will be added when sufficient data are available.

Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

Schedule II Stimulants

Figure 15:

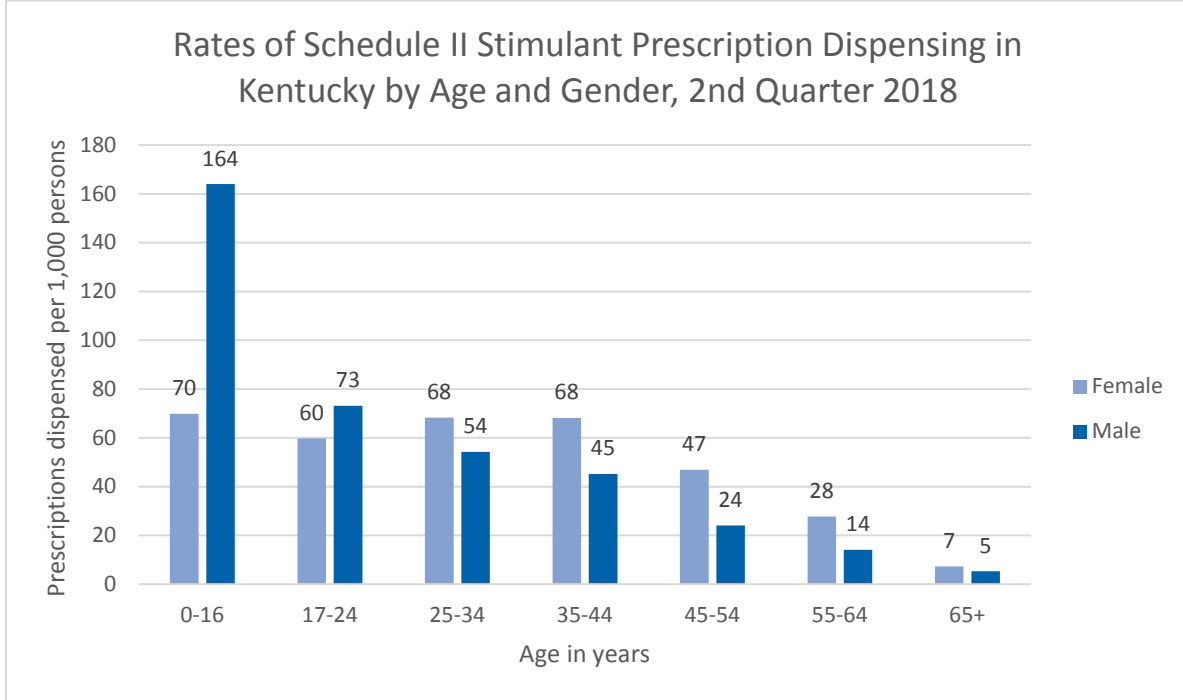
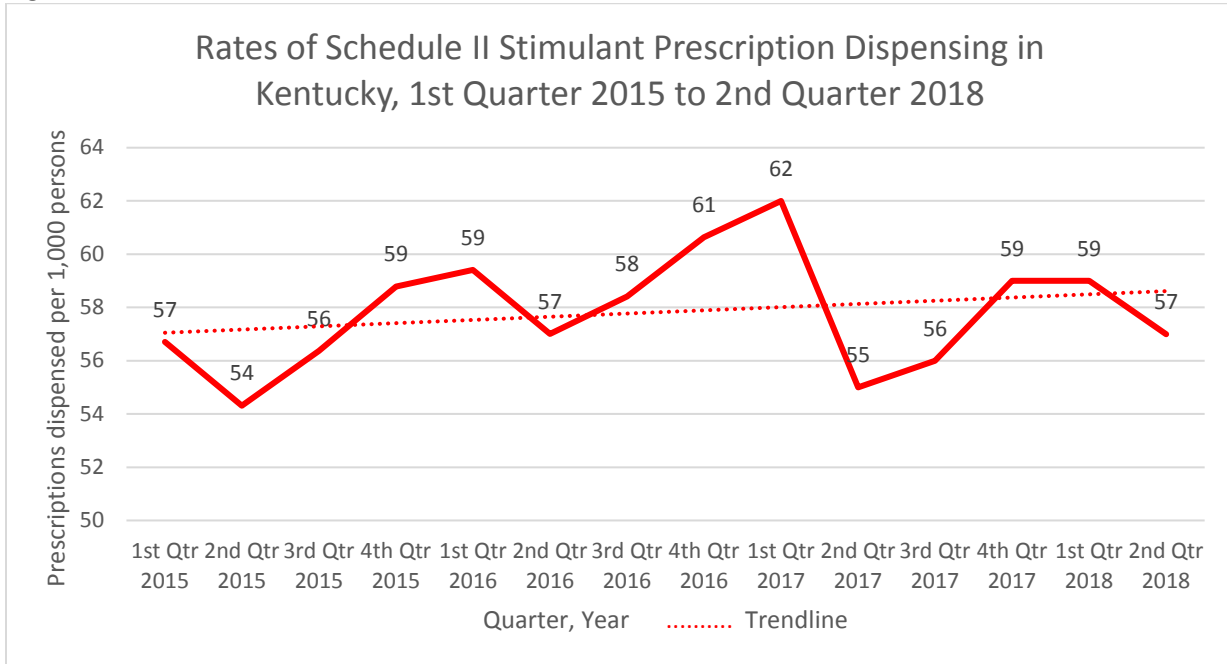


Figure 16:



Produced by the Kentucky Injury Prevention and Research Center, May 2018. Data source: Kentucky All Schedule Prescription Electronic Reporting, Kentucky Office of Inspector General, Cabinet for Health and Family Services.

County Resident Rates

Table 1:

Rates per 1000 persons for Dispensing by Drug Class or Type by Kentucky County, 2nd Quarter 2018							
County	Alprazolam Rate	Bup-Nal Rate	Opioid-BN Rate	Hydrocodone Rate	Oxycodone Rate	Gabapentin Rate	CII Stimulants Rate
ADAIR	31	75	246	154	33	106	25
ALLEN	35	25	236	142	43	106	29
ANDERSON	33	54	218	115	46	87	47
BALLARD	43	17	236	143	55	75	60
BARREN	26	39	222	134	41	109	36
BATH	37	148	221	94	60	153	32
BELL	96	148	462	302	36	240	22
BOONE	20	13	154	50	62	51	73
BOURBON	32	120	208	86	54	120	50
BOYD	20	66	112	49	29	63	39
BOYLE	33	51	204	114	36	80	40
BRACKEN	53	18	232	85	78	94	44
BREATHITT	65	211	399	222	72	233	30
BRECKINRIDGE	33	8	204	111	39	84	34
BULLITT	31	20	186	100	46	65	51
BUTLER	22	19	238	144	45	120	36
CALDWELL	48	27	262	131	64	125	46
CALLOWAY	54	10	201	111	39	67	53
CAMPBELL	25	14	165	54	70	60	67
CARLISLE	48	19	298	162	75	96	68
CARROLL	38	38	286	134	90	127	58
CARTER	31	113	169	71	41	93	28
CASEY	49	72	238	134	34	100	18
CHRISTIAN	27	9	153	84	30	64	40
CLARK	33	114	226	95	71	122	59
CLAY	63	170	500	330	79	329	14
CLINTON	66	53	382	210	102	137	18
CRITTENDEN	36	26	301	168	69	116	51
CUMBERLAND	51	99	340	200	68	146	18
DAVISS	25	8	128	70	27	46	42
EDMONSON	26	14	209	115	43	89	31
ELLIOTT	39	96	137	67	35	66	18
ESTILL	54	170	379	200	97	232	36
FAYETTE	26	33	126	57	32	54	63

County	Alprazolam Rate	Bup-Nal Rate	Opioid-BN Rate	Hydrocodone Rate	Oxycodone Rate	Gabapentin Rate	CII Stimulants Rate
FLEMING	48	47	213	93	60	114	31
FLOYD	44	230	492	294	94	292	46
FRANKLIN	31	62	186	99	41	77	55
FULTON	42	14	272	163	54	134	49
GALLATIN	20	23	210	71	85	78	46
GARRARD	32	63	214	100	54	92	41
GRANT	18	26	215	65	95	78	42
GRAVES	62	17	260	146	59	114	73
GRAYSON	35	17	352	201	56	155	49
GREEN	17	36	222	107	39	108	23
GREENUP	42	100	259	109	67	136	71
HANCOCK	26	10	172	86	37	61	48
HARDIN	18	13	204	109	44	77	58
HARLAN	37	134	357	186	60	211	35
HARRISON	36	85	230	99	61	118	40
HART	25	31	209	116	45	99	34
HENDERSON	44	13	279	141	73	74	126
HENRY	29	26	229	125	52	96	56
HICKMAN	31	15	176	99	40	76	34
HOPKINS	25	39	280	152	65	116	70
JACKSON	27	116	293	149	68	191	25
JEFFERSON	34	15	183	103	42	66	62
JESSAMINE	26	77	185	81	49	87	66
JOHNSON	39	167	389	231	60	214	40
KENTON	18	15	136	39	59	49	67
KNOTT	54	139	399	228	92	271	33
KNOX	53	86	337	196	53	241	20
LARUE	24	18	250	135	50	109	54
LAUREL	37	104	245	131	44	139	28
LAWRENCE	28	191	265	139	53	171	38
LEE	61	232	418	237	76	266	25
LESLIE	34	200	375	223	75	174	20
LETCHER	18	215	368	209	66	254	27
LEWIS	32	78	199	96	46	127	34
LINCOLN	43	68	252	129	56	103	31
LIVINGSTON	58	33	367	197	93	117	64
LOGAN	27	16	237	133	48	109	25
LYON	73	19	256	132	66	94	47

County	Alprazolam Rate	Bup-Nal Rate	Opioid-BN Rate	Hydrocodone Rate	Oxycodone Rate	Gabapentin Rate	CII Stimulants Rate
MADISON	23	81	194	91	48	92	47
MAGOFFIN	54	304	402	248	60	273	45
MARION	41	44	230	125	51	97	40
MARSHALL	50	29	278	143	74	103	72
MARTIN	50	231	347	182	44	251	35
MASON	44	22	154	61	44	101	41
MCCRACKEN	54	26	288	153	76	95	106
MCCREARY	29	110	323	140	93	141	19
MCLEAN	43	35	263	159	51	111	46
MEADE	20	9	145	76	33	54	32
MENIFEE	43	151	297	146	76	160	32
MERCER	25	63	224	114	47	103	48
METCALFE	32	51	309	191	49	143	36
MONROE	34	64	279	166	49	152	21
MONTGOMERY	50	142	254	102	76	149	36
MORGAN	52	113	294	146	53	150	29
MUHLENBURG	43	82	308	174	73	154	62
NELSON	29	25	234	123	56	83	67
NICHOLAS	37	159	239	104	63	167	39
OHIO	35	26	266	154	44	112	39
OLDHAM	24	8	115	61	26	43	77
OWEN	22	32	162	65	48	91	29
OWSLEY	42	279	582	372	92	375	39
PENDLETON	21	24	201	66	80	84	45
PERRY	74	226	486	258	103	294	51
PIKE	24	127	247	151	32	147	23
POWELL	79	200	378	181	112	238	43
PULASKI	56	73	244	117	57	108	33
ROBERTSON	46	29	186	79	48	118	62
ROCKCASTLE	22	85	258	135	58	106	19
ROWAN	26	94	165	72	34	80	38
RUSSELL	12	29	84	50	14	46	9
SCOTT	26	74	187	79	51	69	65
SHELBY	28	16	181	95	41	73	53
SIMPSON	27	20	216	111	50	96	28
SPENCER	29	18	205	111	44	87	53
TAYLOR	31	47	242	125	43	115	30
TODD	32	7	200	117	35	93	42

County	Alprazolam Rate	Bup-Nal Rate	Opioid-BN Rate	Hydrocodone Rate	Oxycodone Rate	Gabapentin Rate	CII Stimulants Rate
TRIGG	41	15	235	115	53	96	44
TRIMBLE	25	17	205	112	45	75	33
UNION	40	5	281	151	64	79	106
WARREN	18	19	180	100	38	74	50
WASHINGTON	24	31	183	92	38	81	36
WAYNE	51	67	290	167	56	112	22
WEBSTER	36	15	335	172	81	123	83
WHITLEY	65	190	468	254	93	281	44
WOLFE	60	111	389	224	75	208	37
WOODFORD	29	38	179	82	41	72	67