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KASPER QUARTERLY THRESHOLD ANALYSIS REPORT

FOURTH QUARTER 2017

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KASPER Quarterly Threshold Analysis Report, Fourth Quarter 2017

The Kentucky Injury Prevention and Research Center, as 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) hydrocodone; 5) methadone; 6) opioids; 7) oxycodone; and 8) total Schedule II stimulants.

Additionally, trend graphs for the First Quarter 2015 to Fourth Quarter 2017 are presented for each dispensed controlled substance class or specific controlled substance.

There is a substantial increase in the number of controlled substances prescriptions dispensed being in the Third Quarter of 2017 that was captured by KASPER. This increase is due, in part, to the scheduling of gabapentin in Kentucky as a Schedule V controlled substance.

Your feedback is important to us. After you review the report, please click on this link to complete the evaluation survey:

<https://www.surveymonkey.com/r/KASPER4thQTR2017ThresholdReportFeedback>

Prior threshold analysis reports are available on the KASPER website at <http://www.chfs.ky.gov/os/oig/kaspertrendreports> 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 1,262 prescriptions dispensed per 1,000 females and for females 45 to 54 years of age at 1,133 prescriptions dispensed per 1,000. The overall dispensing rate for total controlled substances sharply increased from the first quarter of 2017 due, in part, to the scheduling and reporting of gabapentin dispensing in Kentucky as a Schedule V controlled substance in July 2017.
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 higher than males over 25 years of age. The highest rate of dispensed alprazolam prescriptions was for females 65 years of age and older at 99 prescriptions dispensed per 1,000 females. The overall dispensing rate for alprazolam declined for the ninth 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 150 prescriptions per 1,000 males. The buprenorphine-naloxone dispensing rate increased for the eleventh consecutive quarter.
4. *Hydrocodone Dispensing:* Females 17 years of age and older were dispensed hydrocodone at higher rates than males. The highest hydrocodone dispensing rates were for females and males 55 to 64 years of age at 247 prescriptions dispensed per 1,000 females and 236 prescriptions per 1,000 males. The dispensing rates for hydrocodone declined for the ninth consecutive quarter.
5. *Methadone Dispensing:* Males had a higher methadone dispensing rate compared to females. The highest dispensing rate was for males 55 to 64 years of age at a rate of 8 prescriptions per 1,000 males. Methadone dispensing rates declined for the eighth consecutive quarter.
6. *All Opioids:* Females over 17 years of age had higher opioid dispensing rates than males; the highest rates were for females and males aged 55 to 64 years at 514 prescriptions per 1,000 and 492 per 1,000 for females and males, respectively. Opioid prescription dispensing rates declined for the fifth consecutive quarter.
7. *Opioids, excluding Buprenorphine-Naloxone:* By excluding buprenorphine-naloxone dispensing, opioid dispensing rates may better represent opioid use for pain control. Females over 17 years of age had higher dispensing rates than males. The highest rates were for females and males aged 55 to 64 years at 495 opioid (non-buprenorphine-naloxone) prescriptions per 1,000 and 468 prescriptions per 1,000 for females and males, respectively. Trend comparisons for opioids, excluding buprenorphine-naloxone, are

preliminary. Dispensing rates for opioids, excluding buprenorphine-naloxone, decreased from 253 prescriptions per 1,000 persons to 235 per 1,000 persons.

8. *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 higher rates than females. The highest dispensing rates were for males and females aged 55 to 64 years at 126 prescriptions dispensed per 1,000 for males and 121 per 1,000 for females.
9. *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 181 prescriptions dispensed per 1,000 for males and 77 per 1,000 for females.
10. *County Resident Dispensing Rates:* Dispensing rates vary widely by both county and substance.
 - a. Alprazolam dispensing rates were highest in Bell (98 prescriptions per 1,000 persons), Powell (82 per 1,000), and Clinton (76 per 1,000) counties. The lowest alprazolam dispensing rates were in Russell (14 per 1,000), Grant (17 per 1,000), and Kenton, Meade, and Hardin (19 per 1,000) counties.
 - b. Buprenorphine-naloxone dispensing rates were highest in Magoffin (292 per 1,000), Owsley (282 per 1,000), and Lee (250 per 1,000) counties. The lowest buprenorphine-naloxone dispensing rates were in Union (2 per 1,000), Todd (4 per 1,000), and Oldham and Breckinridge (6 per 1,000) counties.
 - c. Opioid, excluding buprenorphine-naloxone, dispensing rates were highest in Owsley (583 per 1,000), Floyd (504 per 1,000), and Clay (495 per 1,000) counties. The lowest opioid, excluding buprenorphine-naloxone, dispensing rates were Russell (87 per 1,000), Boyd (119 per 1,000), and Oldham (125 per 1,000) counties.
 - d. Hydrocodone dispensing rates were highest in Owsley (369 per 1,000), Clay (329 per 1,000), and Bell (306 per 1,000) counties. The lowest hydrocodone dispensing rates were in Kenton (42 per 1,000), Boyd (51 per 1,000), and Boone (52 per 1,000) counties.
 - e. Oxycodone dispensing rates were highest in Powell (115 per 1,000), Clinton (114 per 1,000), and Perry (107 per 1,000) counties. The lowest oxycodone dispensing rates were in Russell (14 per 1,000), Davies and Oldham (29 per 1,000), and Boyd (31 per 1,000) counties.
 - f. Schedule II Stimulant dispensing rates were highest in Henderson (146 per 1,000), Union (120 per 1,000), and McCracken (109 per 1,000) counties. The lowest Schedule II Stimulant dispensing rates were in Russell (9 per 1,000), Elliott and Clay (16 per 1,000), and Cumberland (17 per 1,000) counties.

Schedule II-V Controlled Substances

Figure 1:

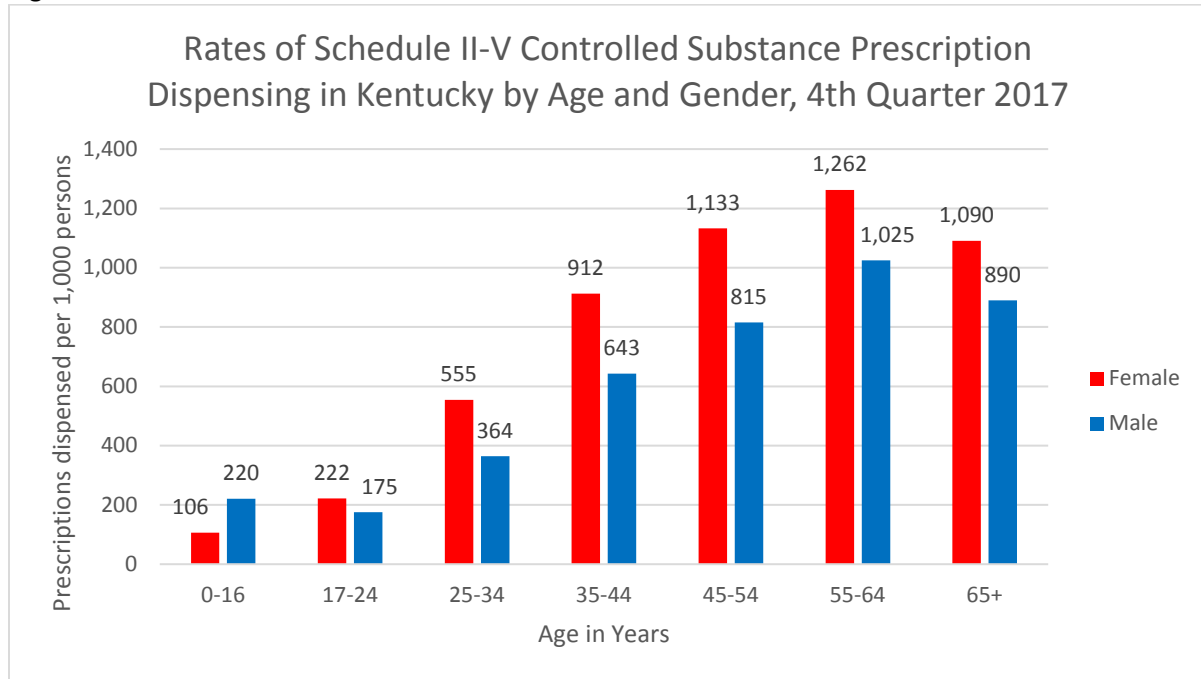
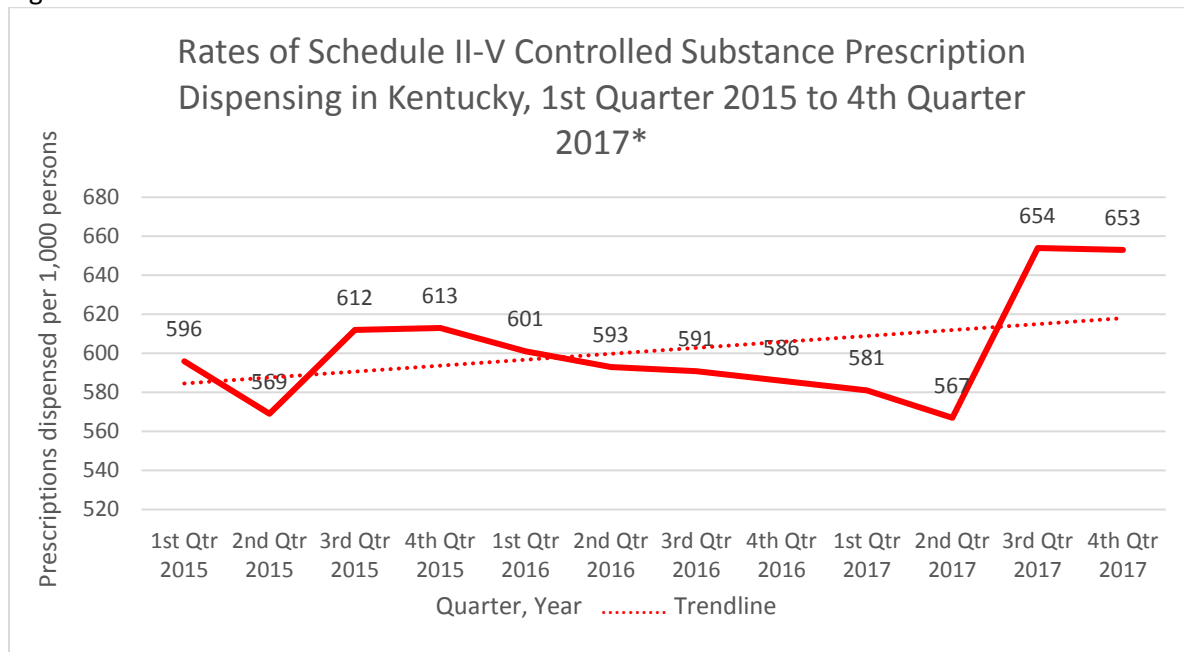


Figure 2:



* Note: The increase in the rate is due, in part, to the scheduling of gabapentin in Kentucky.

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

Alprazolam

Figure 3:

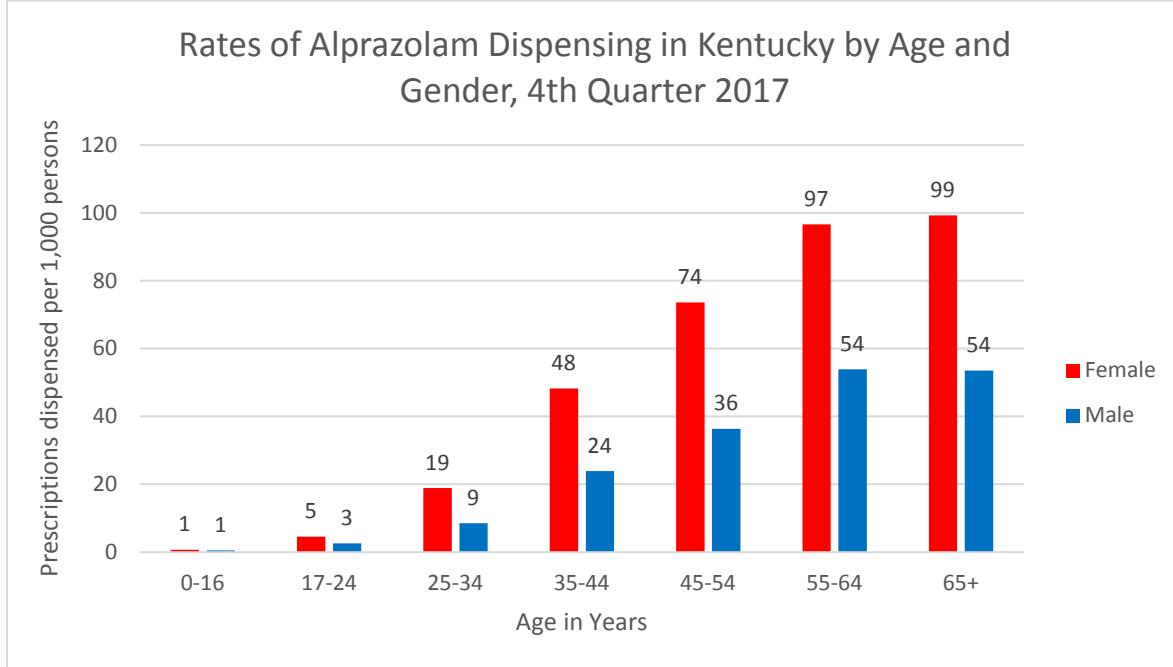
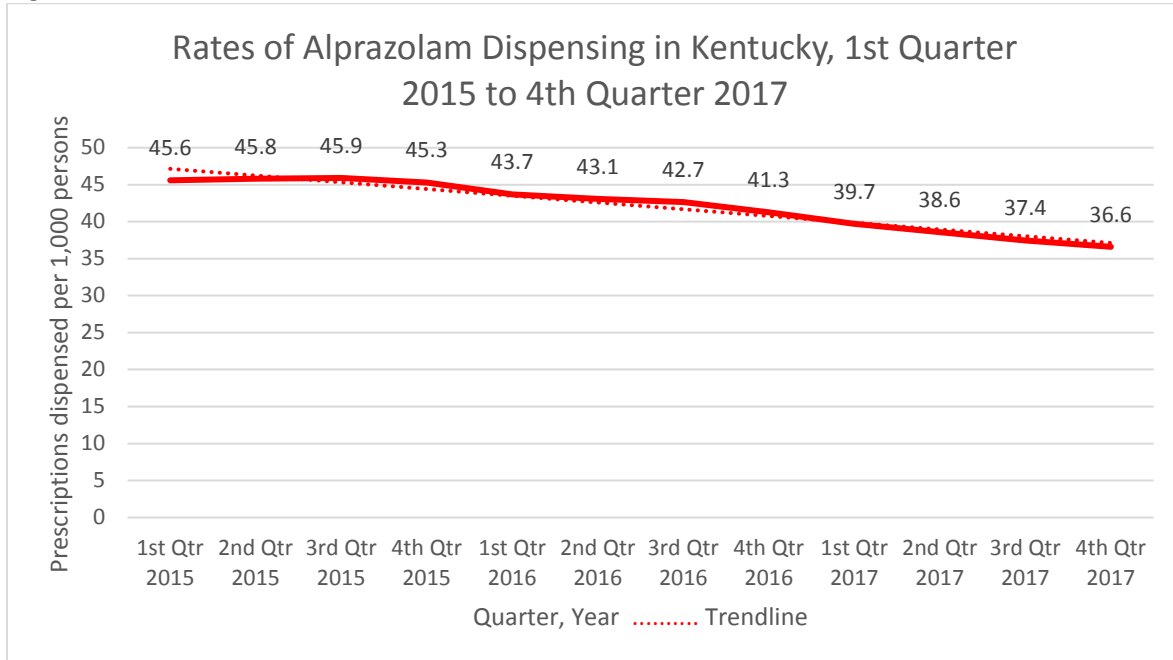


Figure 4:



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

Buprenorphine-Naloxone

Figure 5:

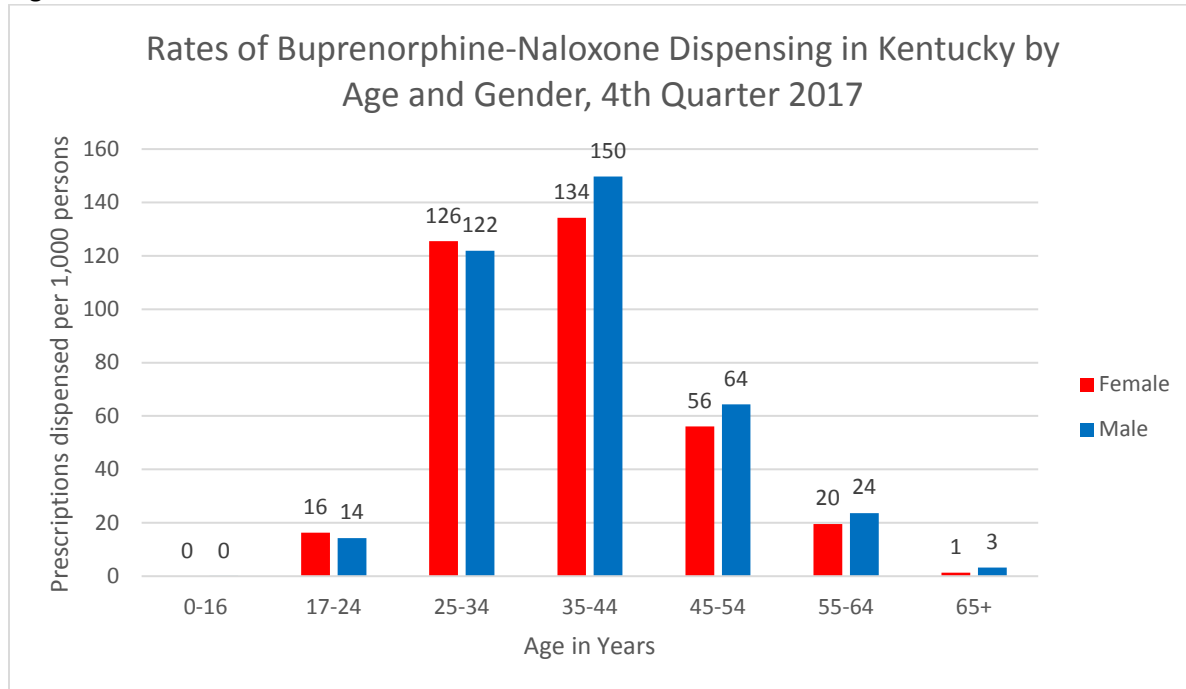
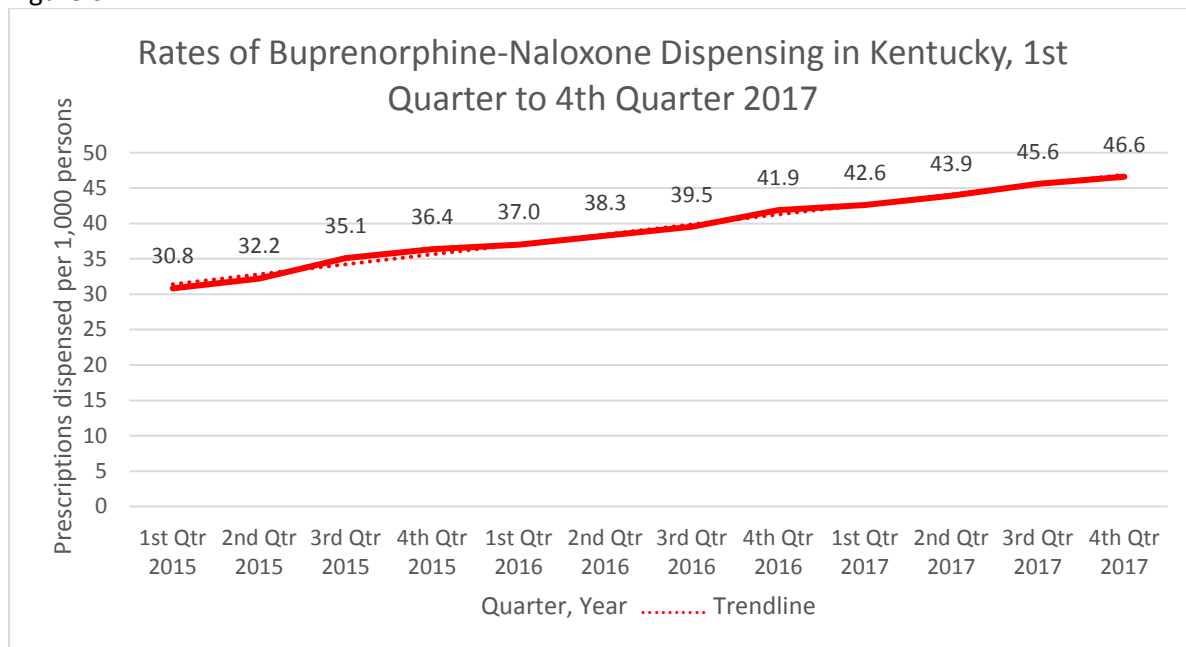


Figure 6:



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

Hydrocodone

Figure 7:

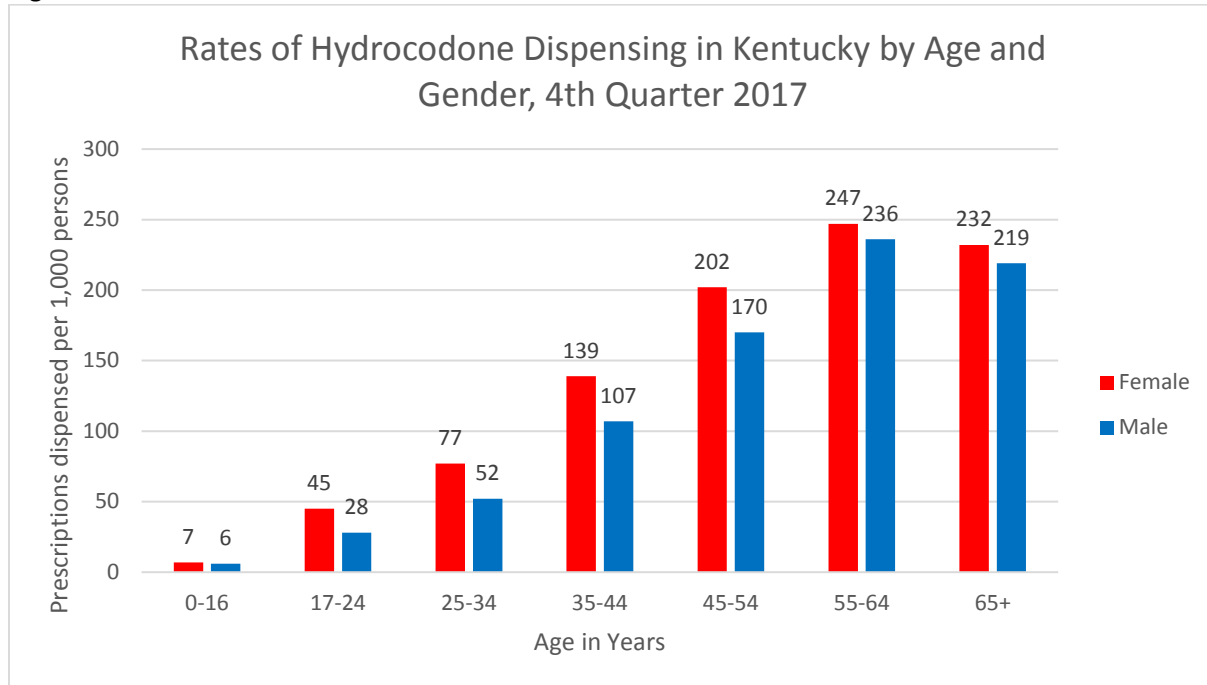
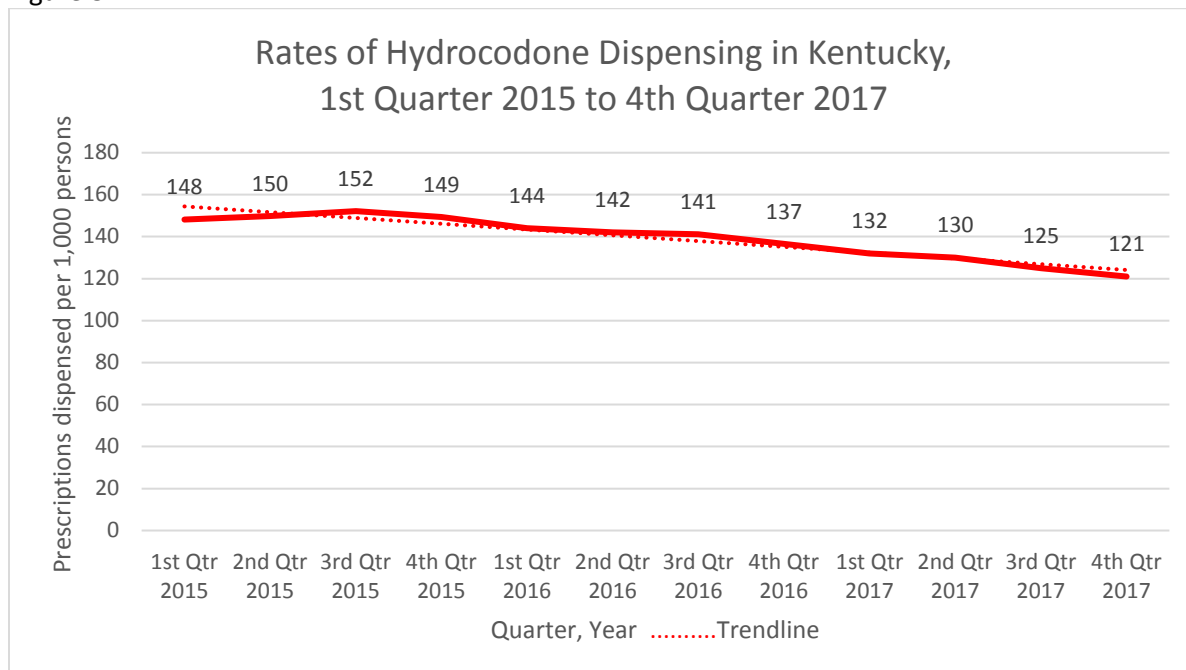


Figure 8:



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

Methadone

Figure 9:

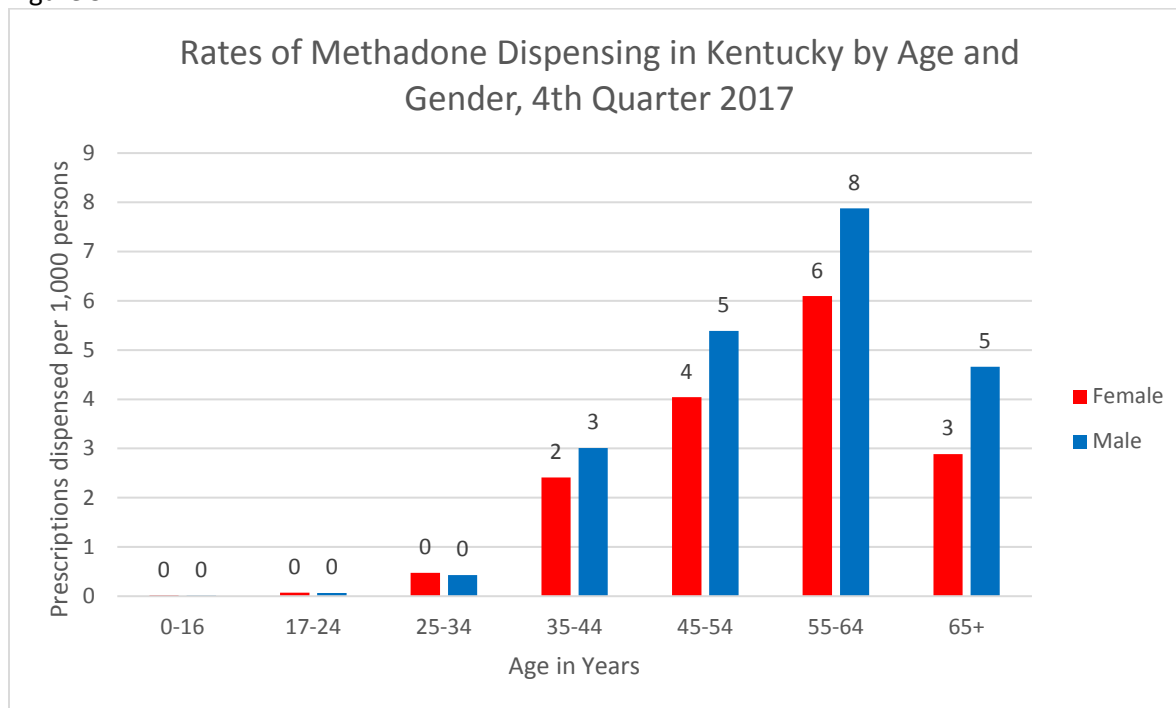
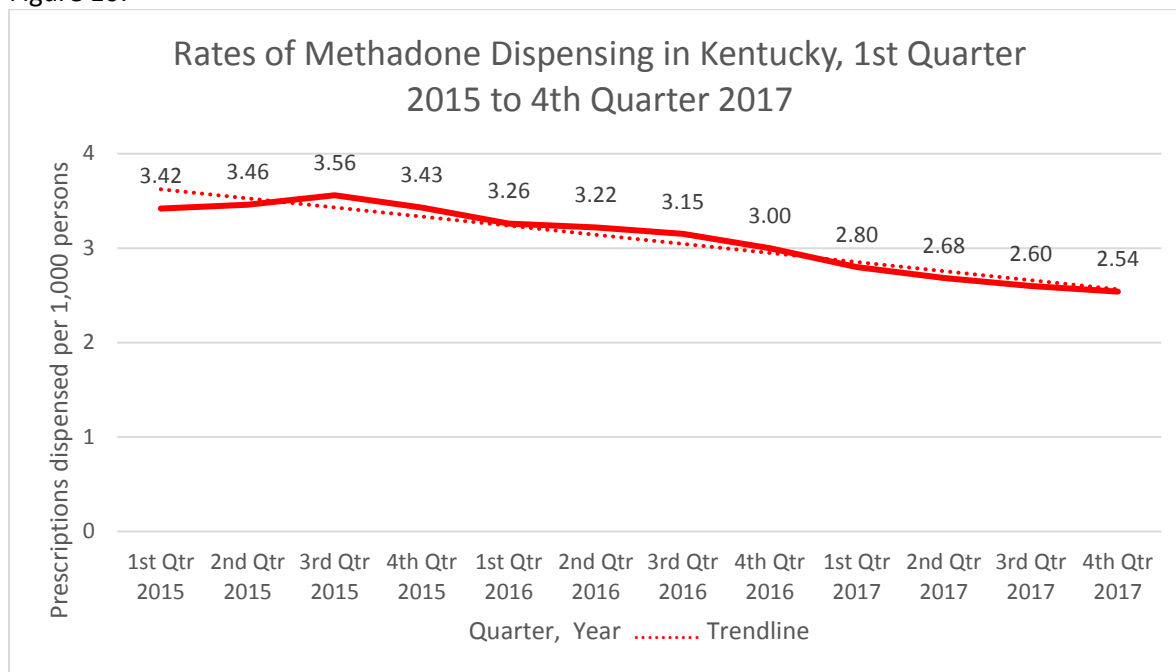


Figure 10:



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

Opioids

Figure 11:

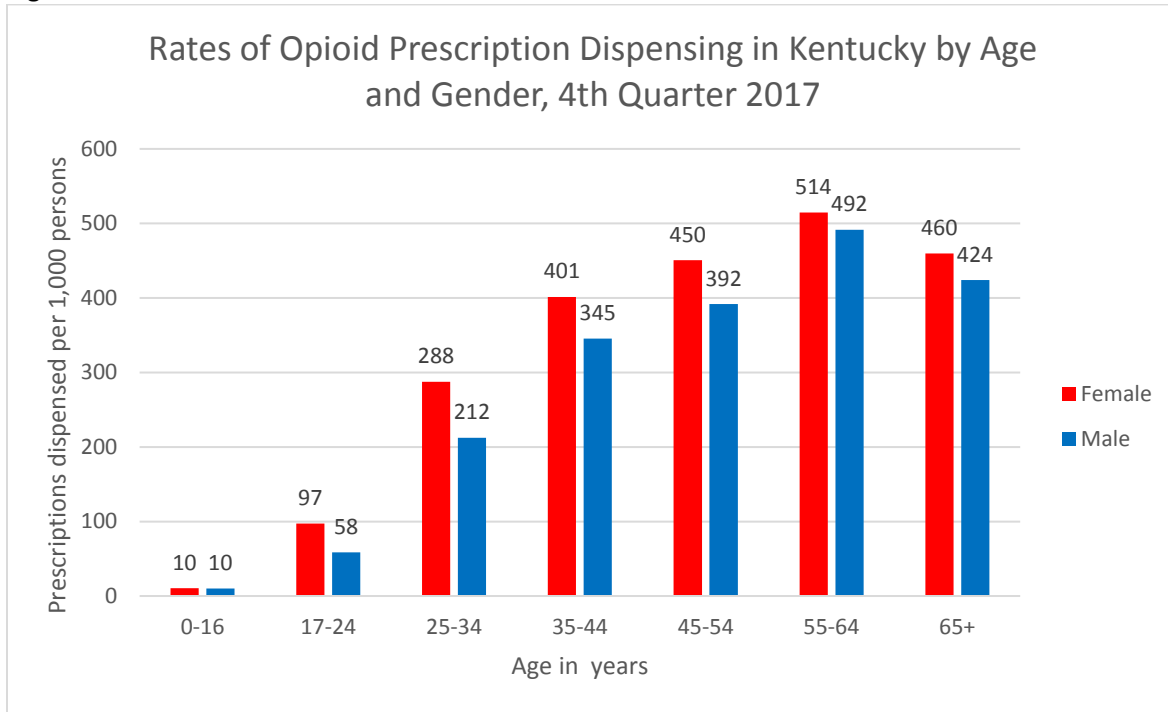
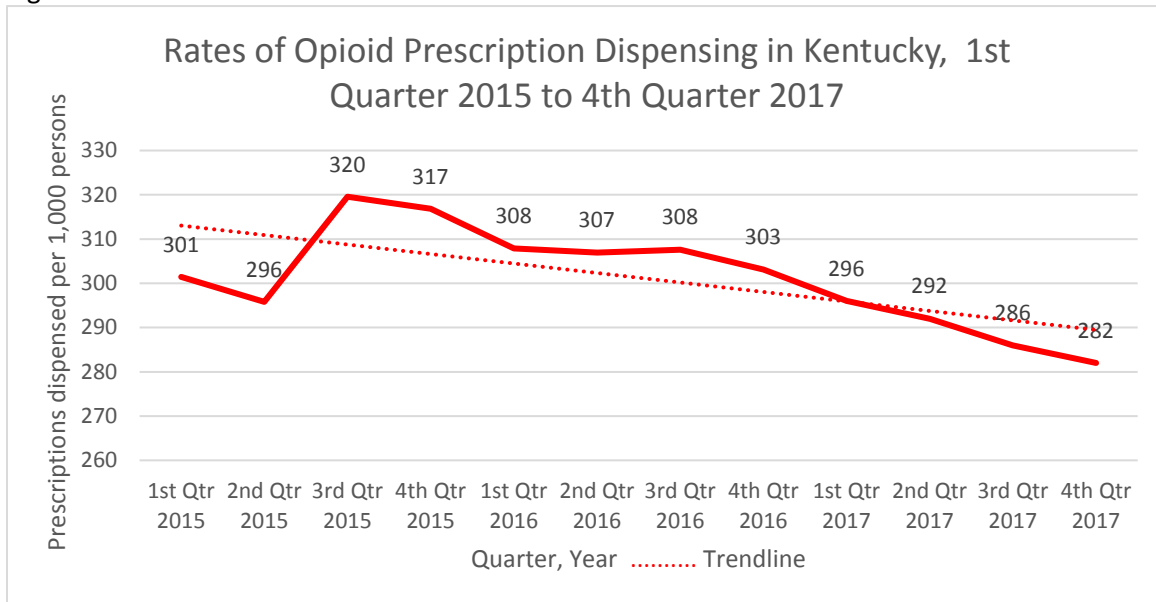


Figure 12:



Produced by the Kentucky Injury Prevention and Research Center, February 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 13:

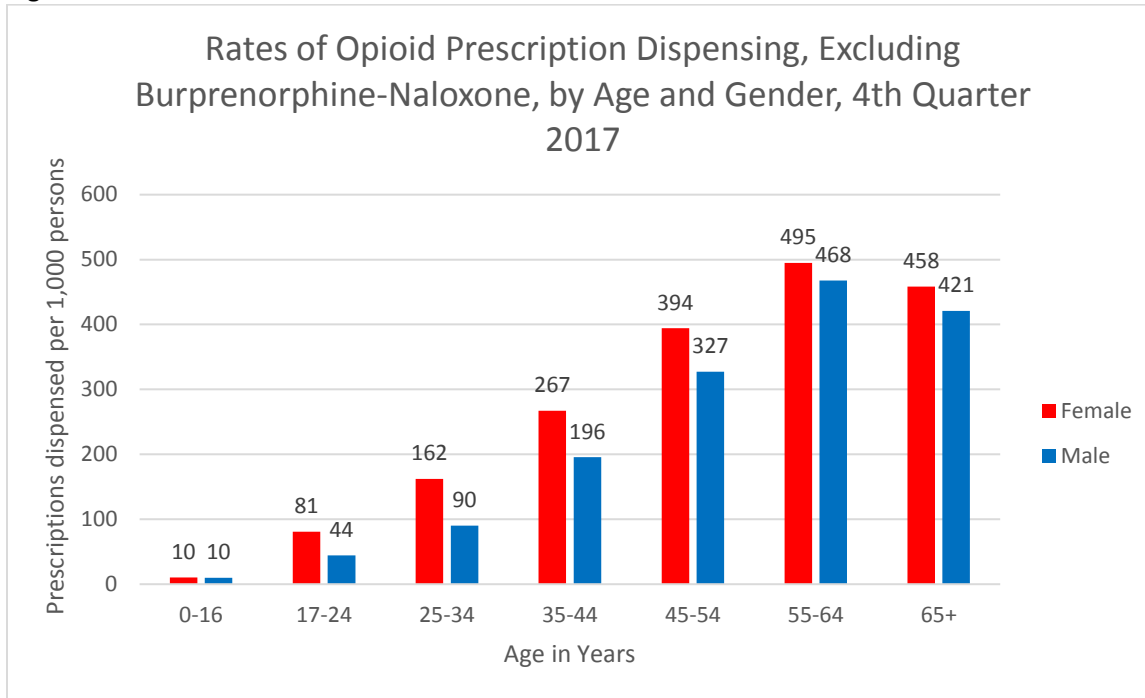
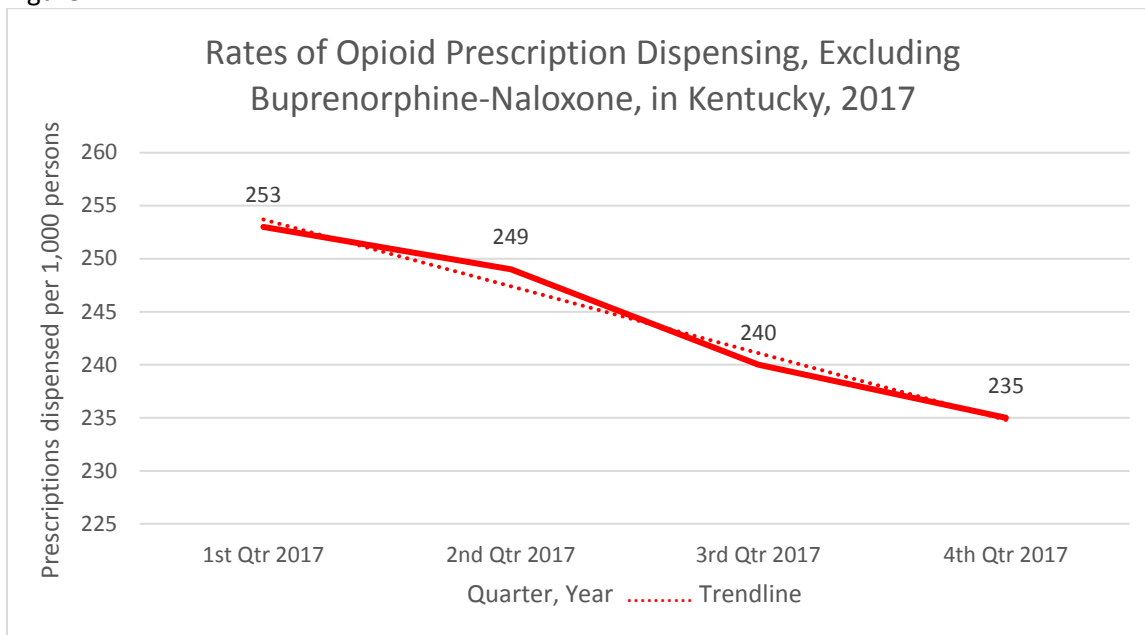


Figure 14:



Produced by the Kentucky Injury Prevention and Research Center, February 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 1st Quarter 2017.

Oxycodone

Figure 15:

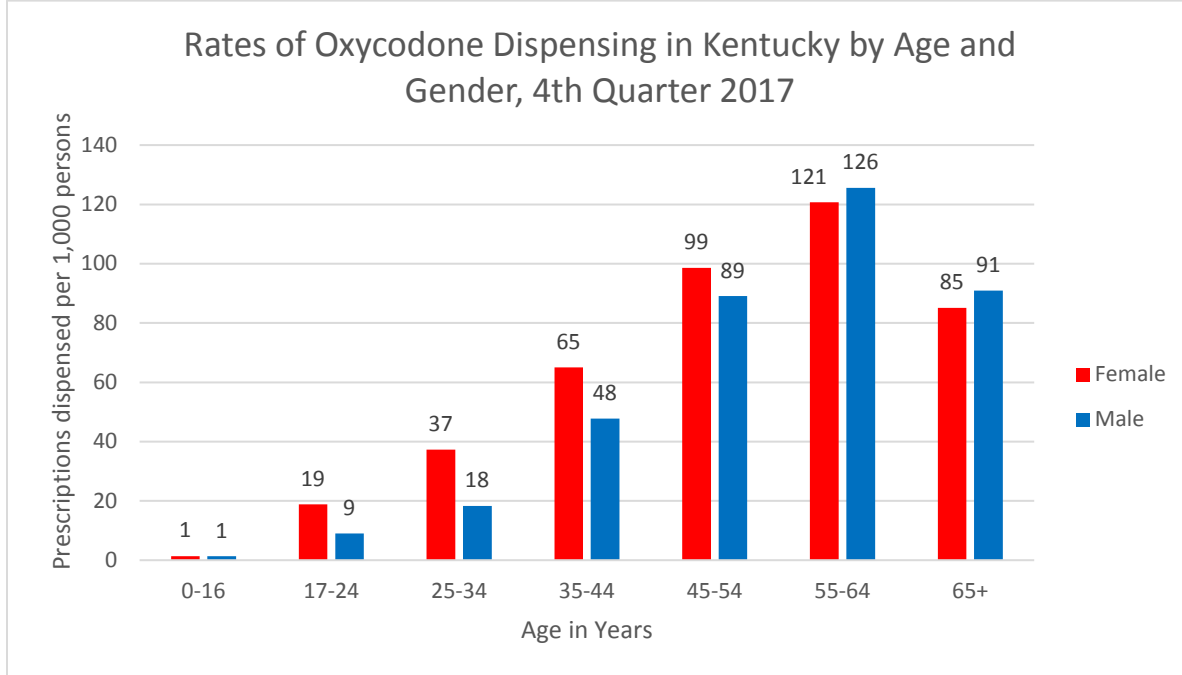
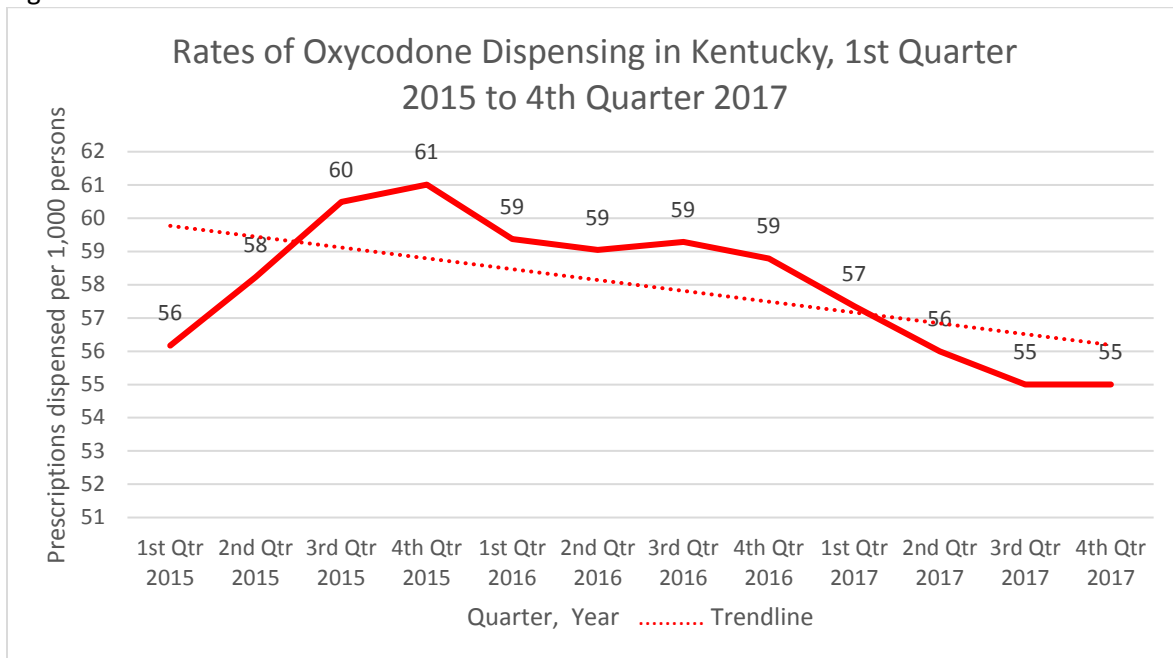


Figure 16:



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

Schedule II Stimulants

Figure 17:

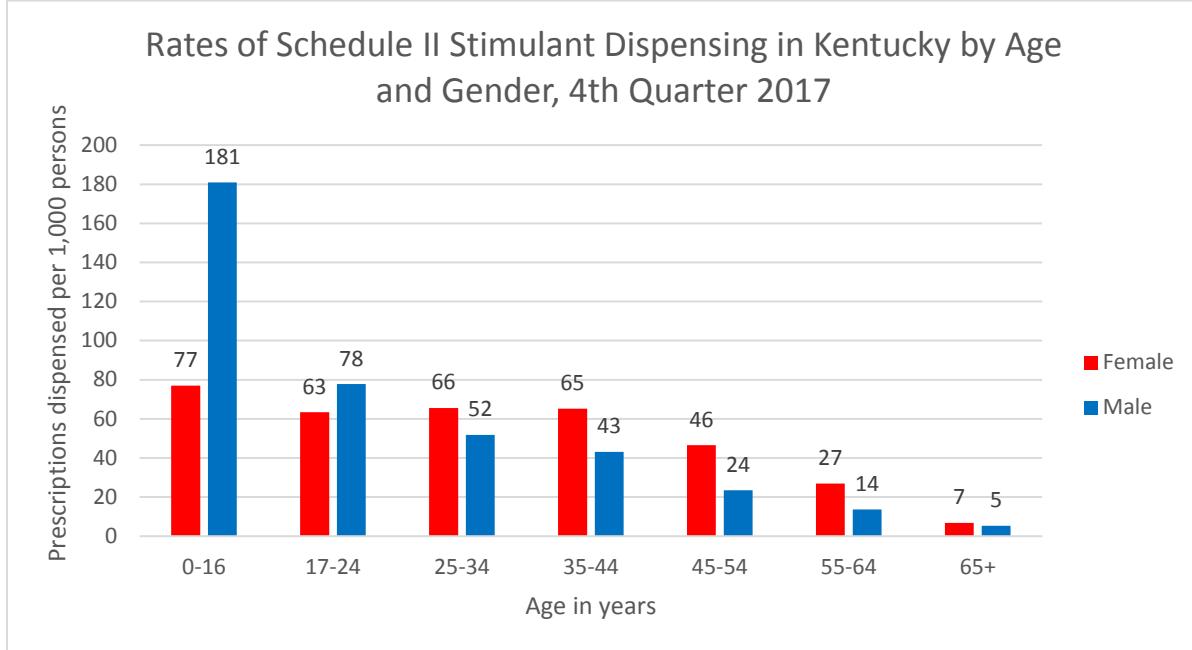
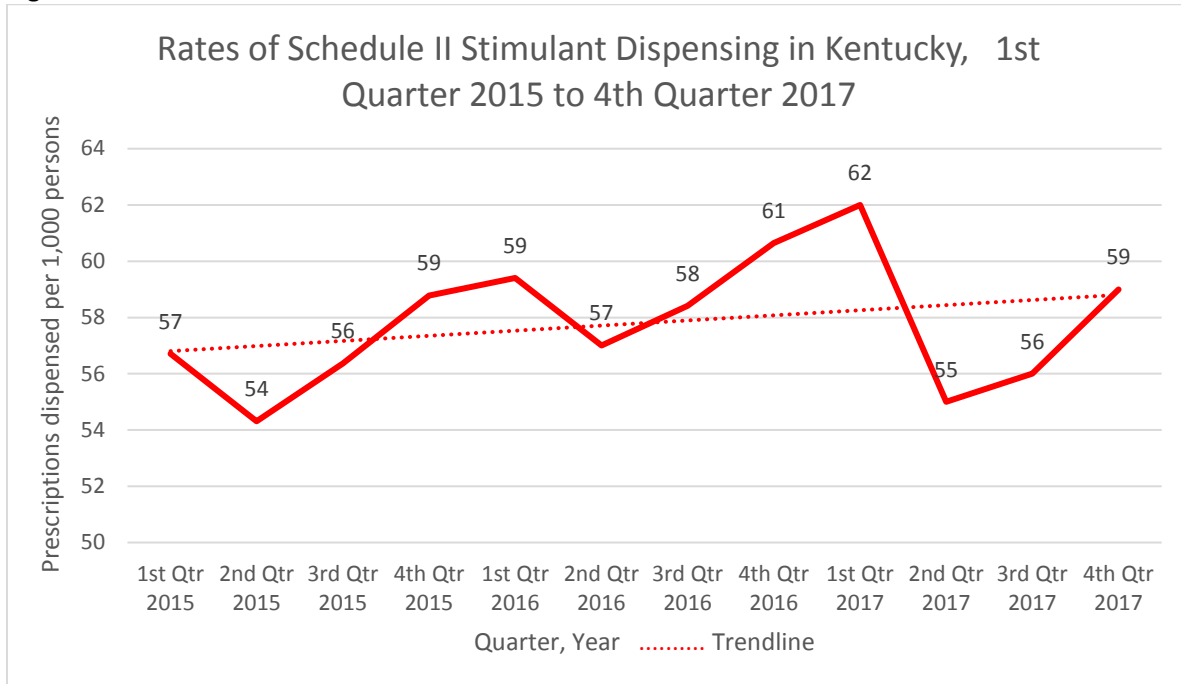


Figure 18:



Produced by the Kentucky Injury Prevention and Research Center, February 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 of Dispensing by Drug Class or Type by Kentucky County, 4th Quarter 2017							
	Alprazolam	Bup- renorphine/ Naloxone	All Opioids	Opioids- BN	Hydro- codone	Oxy- codone	Stimulants
Adair	34	68	321	253	157	33	24
Allen	34	23	266	242	145	46	27
Anderson	33	56	282	226	123	46	50
Ballard	42	14	260	246	144	60	58
Barren	28	38	265	227	136	42	37
Bath	38	135	386	251	107	68	36
Bell	98	139	620	481	306	39	23
Boone	20	12	173	162	52	66	75
Bourbon	34	101	321	220	97	57	52
Boyd	22	57	176	119	51	31	40
Boyle	34	43	251	207	116	38	44
Bracken	59	20	256	236	84	83	42
Breathitt	66	219	627	408	231	75	33
Breckinridge	35	6	206	199	106	39	34
Bullitt	31	15	205	190	64	47	50
Butler	24	19	265	246	152	46	37
Caldwell	48	19	285	266	138	64	49
Calloway	54	9	218	209	117	41	56
Campbell	24	14	184	170	55	74	69
Carlisle	46	15	309	293	164	75	68
Carroll	43	36	328	292	141	81	57
Carter	32	104	280	176	75	44	30
Casey	50	65	304	239	132	38	19
Christian	29	8	161	153	83	31	44
Clark	34	88	321	233	97	75	58
Clay	63	152	646	495	329	76	16
Clinton	76	44	427	384	200	114	24
Crittenden	39	19	348	329	178	81	53
Cumberland	53	84	445	362	221	64	17
Daviess	26	7	139	132	70	29	43
Edmonson	27	13	232	220	122	44	32
Elliott	42	93	243	151	67	40	16
Estill	61	183	586	403	213	105	40
Fayette	26	29	161	132	59	34	65

	Alprazolam	Bup- renorphine/ Naloxone	All Opioids	Opioids- BN	Hydro- codone	Oxy- codone	Stimulants
Fleming	43	44	241	197	90	53	28
Floyd	49	201	705	504	303	86	50
Franklin	32	60	253	193	102	42	57
Fulton	44	15	305	290	174	58	52
Gallatin	20	22	239	217	76	90	52
Garrard	35	52	271	219	104	56	43
Grant	17	22	228	206	61	93	46
Graves	65	20	288	268	150	60	77
Grayson	39	14	377	363	206	58	50
Green	20	28	247	219	99	33	25
Greenup	43	87	357	270	116	67	76
Hancock	28	7	187	180	100	32	46
Hardin	19	8	214	206	109	45	63
Harlan	43	117	487	371	190	64	38
Harrison	36	77	297	221	95	58	40
Hart	22	17	226	209	115	44	38
Henderson	46	9	299	290	145	76	146
Henry	32	25	274	249	133	56	61
Hickman	31	10	197	187	111	38	38
Hopkins	31	30	314	285	155	63	75
Jackson	24	122	413	291	151	67	27
Jefferson	35	13	199	187	105	42	64
Jessamine	27	70	267	196	85	52	69
Johnson	45	146	559	413	236	67	44
Kenton	19	14	157	143	42	62	70
Knott	58	145	552	407	234	95	35
Knox	55	69	408	339	194	52	20
Larue	25	17	262	245	131	53	57
Laurel	39	92	340	248	133	43	28
Lawrence	29	175	454	279	143	56	37
Lee	59	250	676	427	248	72	26
Leslie	34	165	523	358	207	76	22
Letcher	20	154	527	373	206	68	26
Lewis	32	67	288	221	105	49	37
Lincoln	46	60	326	265	137	61	33
Livingston	67	29	425	397	215	97	69
Logan	29	14	263	249	137	54	26

	Alprazolam	Bup- renorphine/ Naloxone	All Opioids	Opioids- BN	Hydro- codone	Oxy- codone	Stimulants
Lyon	68	20	278	258	136	62	49
Madison	22	77	272	195	92	49	48
Magoffin	60	292	709	417	241	67	55
Marion	44	39	292	253	141	56	50
Marshall	54	25	330	305	158	83	77
Martin	53	188	553	366	192	50	33
Mason	46	20	178	158	63	44	46
McCracken	56	24	327	302	163	78	109
McCreary	33	116	447	331	146	92	19
McLean	45	22	292	270	155	57	47
Meade	19	10	159	150	80	33	34
Menifee	43	123	417	295	148	74	29
Mercer	27	55	297	243	120	51	48
Metcalfe	37	37	353	316	191	52	38
Monroe	35	68	361	293	170	52	21
Montgomery	49	130	396	265	107	79	37
Morgan	56	105	404	299	150	52	30
Muhlenberg	48	52	373	321	182	74	63
Nelson	31	20	261	241	126	59	66
Nicholas	41	151	395	244	105	59	41
Ohio	37	22	299	154	155	48	39
Oldham	25	6	131	125	66	29	78
Owen	23	34	209	176	69	56	32
Owsley	43	282	865	583	369	91	41
Pendleton	22	20	221	201	71	82	55
Perry	75	233	717	483	265	107	53
Pike	26	110	362	252	151	33	24
Powell	82	179	571	392	194	115	45
Pulaski	58	69	315	246	117	57	36
Robertson	45	39	224	185	81	46	54
Rockcastle	27	79	365	287	153	63	23
Rowan	29	77	254	177	75	40	41
Russell	14	28	116	87	53	14	9
Scott	27	70	260	189	82	53	63
Shelby	27	17	201	184	99	41	53
Simpson	28	12	212	200	106	45	26
Spencer	30	20	233	213	117	46	53

	Alprazolam	Bup- renorphine/ Naloxone	All Opioids	Opioids- BN	Hydro- codone	Oxy- codone	Stimulants
Taylor	36	34	283	249	124	43	34
Todd	36	4	215	211	121	40	45
Trigg	42	13	261	248	122	58	47
Trimble	28	16	229	213	116	50	37
Union	42	2	301	299	160	67	120
Warren	20	15	206	191	104	41	50
Washington	24	24	217	193	98	40	41
Wayne	57	61	358	297	173	53	25
Webster	40	15	342	327	167	80	88
Whitley	68	166	628	462	243	95	45
Wolfe	63	102	501	399	229	80	35
Woodford	30	40	222	181	82	43	70