

# Montgomery County, Ohio, Poisoning Death Review Quarter III Update January through September 2016

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*The Poisoning Death Review (PDR) is conducted by the WSU Boonshoft School of Medicine Center for Interventions, Treatment & Addictions Research (CITAR), in collaboration with the Montgomery County Coroner's Office, under contract with Public Health - Dayton & Montgomery County.*

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## Highlights of Quarter III Findings

**Introduction:** This 2016 Quarter III Report presents the Poison Death Review data on unintentional drug overdose deaths based on reports provided by the Montgomery County Coroner's office. Two hundred and fifty-three overdose deaths that occurred in Montgomery County between January through September, 2016, were analyzed for this report.

**Methods:** The attached tables provide data on: 1) Demographics; 2) Health; 3) History of Substance Abuse; 4) Location of Death; and 5) Toxicology. The toxicology tables indicate mentions of drugs found in decedents' bodies as identified by the Coroner's office. **Drug Mentions:** A drug "mention" means that a specific drug was found in a bodily system or fluid of a decedent, not that the drug was necessarily the sole cause of death. The presence of more than one drug can result in more than one mention from a single decedent. **Special Note regarding illicit fentanyl and analogs: This report discusses illicit fentanyl (non-pharmaceutical) as well as two fentanyl analogs identified in the toxicology reports: carfentanil and furanylfentanyl. Note that fentanyl analogs are also illicit and manufactured in clandestine labs often located overseas. Routine in-house screening for carfentanil began in Quarter III. An additional send out analysis for 10 fentanyl analogs was also used when a fentanyl analog was suspected.**

**Limitations:** The highlights below describe comparisons of findings in Quarters I-III, 2016, with findings from all of 2015. The comparison of percentages are preliminary indicators of trends in 2016. Importantly, the number of drug overdose deaths in Quarter III is likely higher than the total reported here. This is because of the procedures and time involved in processing overdose death data and transmitting the data from the Montgomery Coroner's Office to the Center for Interventions, Treatment, and Addictions Research.

### Highlights

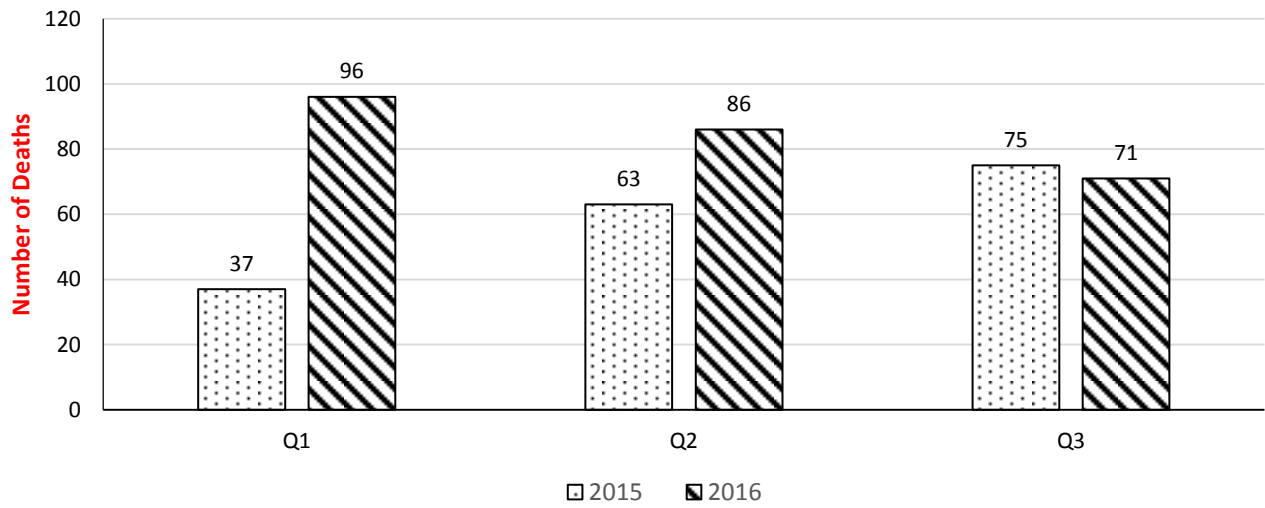
- Overall overdose deaths: Unintentional drug overdose deaths in the first three Quarters of 2016 continued to increase, compared to 2015. In the first three quarters of 2016, 253 drug overdose deaths were available for analysis, compared to 175 overdose deaths in the first three quarters of 2015 (Figure 1). This is a 45% increase. The total number of unintentional overdose deaths through three Quarters in 2016 (253) nearly equals the total number of overdose deaths (259) in all of 2015.
- Quarterly overdose deaths: In Quarter III 2016, 71 overdose deaths were reported, compared to 86 in Quarter II, and 96 in Quarter I. (see Figure 1) Figure 1 also shows deaths by Quarter in 2015 and 2016. In 2016, 96 unintentional drug overdose deaths were reported in Quarter I, compared to 37 in Quarter I in 2015, a 159% increase. In Quarter II 2016, 86 overdose deaths were reported, compared to 63 in Quarter II 2015, a 36% increase. In Quarter III 2016, 71 deaths were reported, compared to 75 in 2015, a 5% decrease.
- Monthly deaths: Figure 2 shows the number of overdose deaths in Quarters I through III, 2016, by month. In the first three months of 2016, overdose deaths nearly tripled, compared to deaths in Quarter I, 2015. Deaths in April 2016 are nearly double those in 2015 while May and

June increases in 2016 range from 6 in May to 4 in June. In July, overdose deaths declined from 34 in 2015 to 28 in 2016, increased from 19 in August 2015 to 22 in August 2016, and decreased from 23 in September 2015 to 21 in September 2016. (Note that the number of overdose deaths, particularly in September, are likely to increase to some extent when additional overdose death cases are received.)

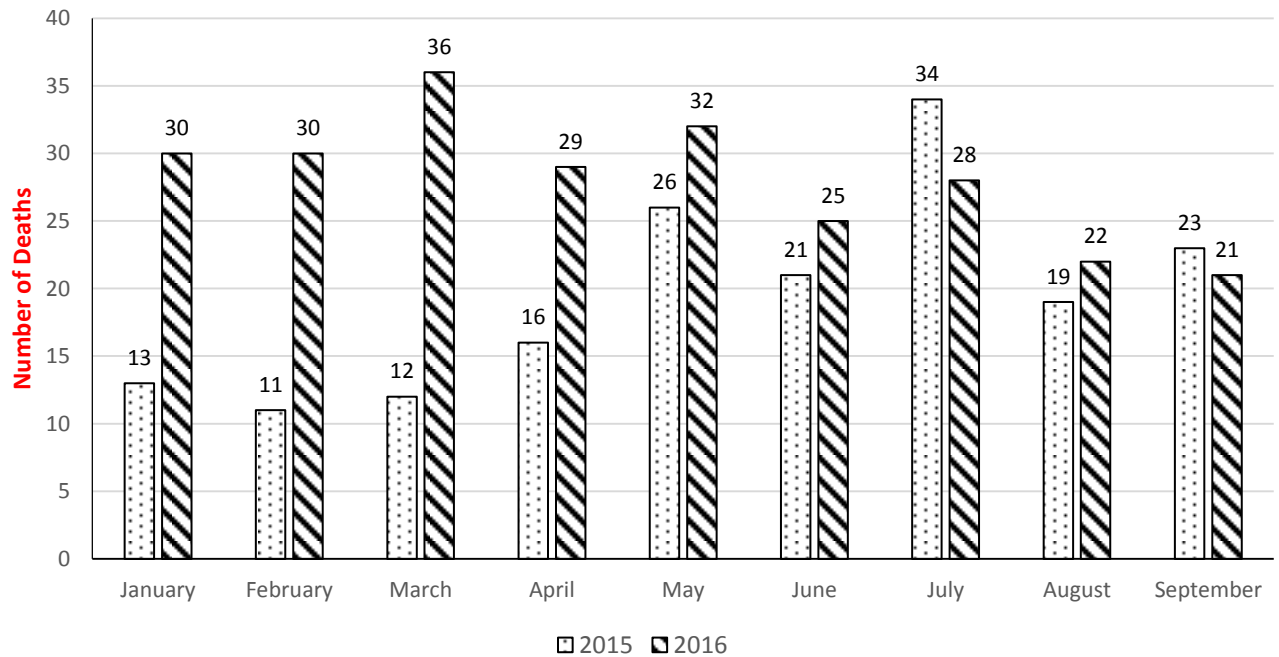
- Montgomery County Residents: Of the 253 unintentional drug overdose deaths in the first three Quarters of 2016, 221 (87%) were Montgomery County residents, similar to 88% in 2015.
- Age: Decedents between the ages of 25 – 34 years-old increased from 26% in 2015 to 30% in 2016.
- Fentanyl: Mentions of illicit fentanyl and/or fentanyl analogs increased from 41% in 2015 to 69% in Quarters I-III in 2016, a **68% increase**. (Note that screening for fentanyl analogs was initiated in Quarter III, 2016).
- Heroin: Mentions of heroin continue to indicate a decreasing trend from 45% in 2015, compared to 23% in the first three Quarters of 2016, a **49% decrease**.
- Non-medical opioids: Any non-medical prescription opioid mentions indicate a decreasing trend from 31% in 2015, compared to 19% in the first three Quarters of 2016, a **39% decrease**.
- Benzodiazepine: Any benzodiazepine mentions indicate a decreasing trend from 43% in 2015, compared to 32% through the first three Quarters of 2016, a **26% decrease**.
- Fentanyl with no other CNS depressant mentions: The trend in drug overdose deaths with Illicit fentanyl and fentanyl analog mentions, but no other central nervous system depressant (CNS) mentions, is increasing. In 2015, 13% of overdose deaths had mentions of illicit fentanyl and no other CNS depressants, compared to 28% in the first three Quarters of 2016, a **115% increase**.
- Fentanyl without Heroin: The trend in overdose deaths with illicit fentanyl (and analog) mentions, plus no heroin mentions, is also increasing. In 2015, 31% of overdose deaths had illicit fentanyl mentions, plus no heroin mentions, compared to 57% in the first three Quarters of 2016. **This is an 84% increase**.
- Fentanyl, heroin, and combined: Figure 3 shows the number of illicit fentanyl (including analogs), heroin, and combined (heroin & illicit fentanyl) overdose deaths by month in Quarters I-III, 2016. The number of illicit fentanyl deaths increased from 17 in January to a high of 27 in March, declining slightly to 25 in April 20 in May and June, and declining to 17 in July, 14 in August, and 15 in September. In contrast with illicit fentanyl, heroin mentions are much lower, ranging from highs of 11 and 12 in January and February to lows of 3 and 4 in April and June. Mentions of illicit fentanyl and heroin combined are comparatively low, ranging from 6 in January and February to only 1 in May and June.

- Methamphetamine: Mentions of methamphetamine increased from 5% in 2015 to 11% in the first three Quarters of 2016.
- Summary: The increasing impact of illicit fentanyl mentions observed in Quarters I and II continued in Quarter III. Illicit fentanyl (and analog mentions) have increased 68% from 41% in 2015 to 69% in Quarters I-III, 2016. At the same time, the percentages of heroin, nonmedical prescription opioid, and benzodiazepine mentions decreased, compared to 2015. The number of overdose deaths in Quarter III, 2016, indicate a decrease, compared to the number of overdose deaths in Quarters I and II. Decedent demographics, histories of substance abuse, locations of death and toxicology reports reinforce the Community Overdose Action Team approach to stabilizing the continuing upward trend in unintentional drug overdose deaths. That approach includes reducing the supply of illegal opioids, preventing drug use before it begins, education and outreach, promoting best practice prescribing guidelines for pain, expanding Naloxone and syringe exchange and expanding pathways to treatment and recovery.

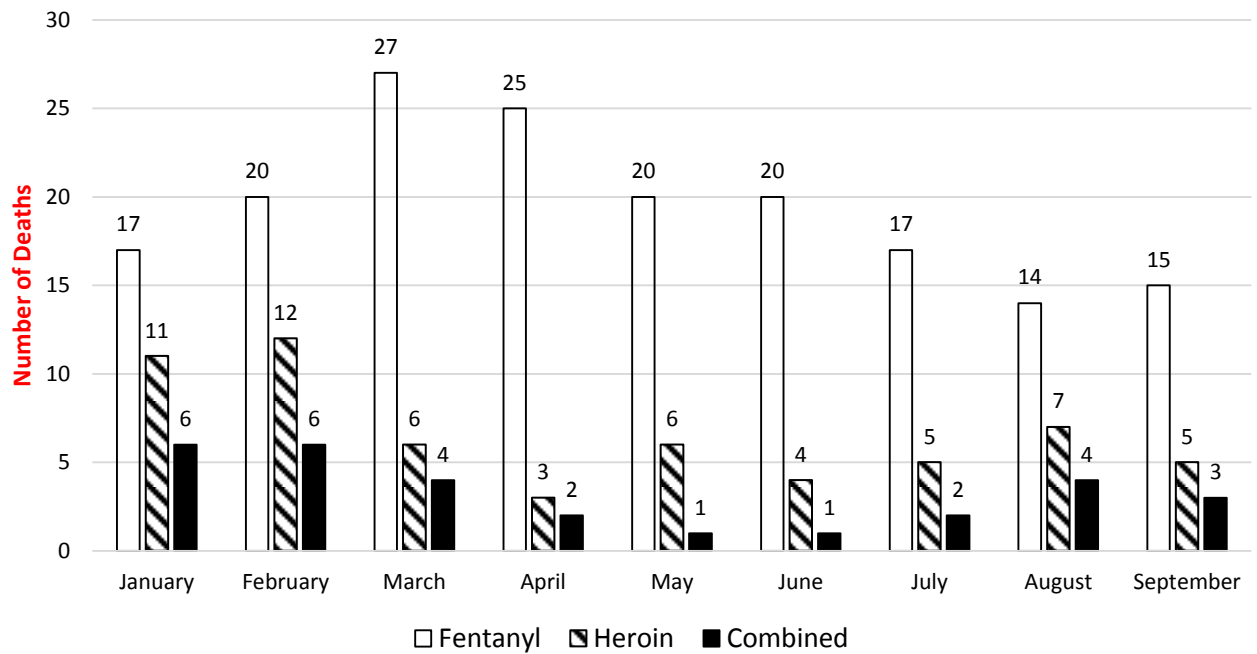
**Figure 1. Total Number of Unintentional Drug Overdose Deaths by Quarter, Montgomery County, 2015 and 2016**



**Figure 2. Total Number of Unintentional Drug Overdose Deaths by Month, Montgomery County, 2015 and 2016**



**Figure 3. Illicit Fentanyl (and Analogs), Heroin & Combined Related Deaths by Month, Quarters I-III, Montgomery County, 2016**



## UNINTENTIONAL POISONING DEATH REVIEW SUMMARY REPORT, 2016. QUARTER III, Montgomery County, Ohio

	<b>Total Cases Jan 1- Sept 30 (estimate)</b>	<b>253</b>		2015 Cases: 259	2014 Cases: 264	2013 Cases: 226	2012 Cases: 162	2011 Cases: 130	2010 Cases: 127
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### DEMOGRAPHICS

Characteristic	Category	Freq	%	2015 %	2014 %	2013 %	2012 %	2011 %	2010 %
Average Age			<b>40.1</b>	40.7	41.2	42.5	42.8	42.1	40.0
Age Group	<15 years	1	<b>0%</b>	0%	0%	0%	0%	0%	0%
	15-24 years	14	<b>6%</b>	7%	6%	4%	4%	5%	14%
	25-34 years	77	<b>30%</b>	26%	28%	26%	28%	22%	22%
	35-44 years	73	<b>29%</b>	29%	26%	28%	19%	26%	28%
	45-54 years	45	<b>18%</b>	22%	23%	27%	33%	32%	18%
	55-64 years	40	<b>16%</b>	14%	14%	13%	14%	14%	16%
	65-74 years	3	<b>1%</b>	2%	2%	3%	2%	1%	2%
	75+ years	0	<b>0%</b>	0%	0%	0%	0%	0%	0%
Gender	Male	167	<b>66%</b>	68%	62%	67%	60%	59%	57%
	Female	86	<b>34%</b>	32%	38%	33%	40%	41%	43%
Race	White	207	<b>82%</b>	86%	89%	87%	85%	87%	90%
	Black	41	<b>16%</b>	14%	11%	11%	14%	13%	10%
	Other	5	<b>2%</b>	1%	0%	2%	1%	0%	0%
Education	<High School	72	<b>28%</b>	26%	23%	29%	27%	28%	20%
	HS graduate	163	<b>64%</b>	67%	73%	65%	69%	69%	76%
	College graduate	16	<b>6%</b>	6%	3%	4%	2%	2%	2%
	Post-graduate	0	<b>0%</b>	0%	0%	1%	1%	1%	1%
	Unknown	2	<b>1%</b>	1%	0%	2%	1%	0%	0%
Marital Status	Single	140	<b>55%</b>	57%	44%	43%	47%	39%	41%
	Married	33	<b>13%</b>	20%	21%	21%	15%	31%	29%
	Divorced	67	<b>26%</b>	25%	31%	32%	30%	25%	26%
	Separated	1	<b>0%</b>	1%	0%	2%	0%	3%	2%
	Widowed	11	<b>4%</b>	2%	2%	3%	7%	2%	2%
	Unknown	1	<b>0%</b>	1%	0%	0%	0%	0%	0%
Military	Ever in Military	18	<b>7%</b>	7%	8%	7%	9%	4%	13%
Residence	Montgomery Co	221	<b>87%</b>	88%	90%	87%	90%	91%	92%

### HEALTH

Characteristic	Freq	%	2015 %	2014 %	2013 %	2012 %	2011 %	2010 %
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Physical Disability/Illness		166	<b>66%</b>	66%	68%	78%	81%	74%	79%
Heart Disease		107	<b>42%</b>	42%	52%	58%	58%	56%	65%
<b>HISTORY OF SUBSTANCE ABUSE</b>									
	<b>Total Cases Jan 1-Sept 30</b>	<b>253</b>		2015 Cases: 259	2014 Cases: 264	2013 Cases: 226	2012 Cases: 162	2011 Cases: 130	2010 Cases: 127
<b>Substance Abuse</b>		<b>Freq</b>	<b>%</b>	2015 %	2014 %	2013 %	2012 %	2011 %	2010 %
Any history		240	<b>95%</b>	89%	76%	78%	78%	82%	75%
<b>DEATH INVESTIGATION</b>									
<b>Characteristic</b>	<b>Category</b>								
		<b>Freq</b>	<b>%</b>	2015 %	2014 %	2013 %	2012 %	2011 %	2010 %
Location of death	Home	136	<b>54%</b>	57%	55%	58%	50%	53%	68%
	Relative's home	7	<b>3%</b>	2%	1%	1%	1%	0%	2%
	Friend's home	22	<b>9%</b>	8%	12%	15%	11%	16%	14%
	Place of work	1	<b>0%</b>	0%	0%	0%	0%	0%	0%
	Hospital	46	<b>18%</b>	20%	22%	15%	30%	22%	9%
	Drug Trt facility	0	<b>0%</b>	<1%	0%	0%	0%	0%	0%
	Public area	2	<b>1%</b>	1%	3%	4%	2%	2%	2%
	Other	39	<b>15%</b>	11%	6%	8%	4%	6%	4%



## TOXICOLOGY REPORT: Unintentional Poisoning Death Review, Montgomery County Summary Report, 2016, Quarter III, Montgomery County, OH

*This section of the summary includes all substances found in the decedent's body or bodily fluids. There may be multiple drug mentions for each case.*

Characteristic	Category	Total Cases Jan 1-Sept 30, 2016		2015 Cases: 259		2014 Cases: 264		2013 Cases: 226		2012 Cases: 162		2011 Cases: 130		2010 Cases: 127	
		Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
	Alcohol	52	21%	67	26%	77	29%	63	28%	46	28%	30	23%	29	23%
	Cocaine	103	41%	92	36%	83	31%	59	26%	49	30%	53	41%	38	30%
	Methamphetamine	28	11%	14	5%	11	4%	6	3%	4	2%	2	2%	1	1%
	Heroin	59	23%	117	45%	127	48%	132	58%	95	59%	46	35%	39	31%
	Illicit Fentanyl & Analogs	175	69%	107	41%	107	41%	20	9%	0	0%	0	0%	0	0%
	Furanylfentanyl	3	1%												
	Carfentanil	1	0%												
	Illicit Fentanyl	171	68%												
<b>Prescription Opioids</b>	<b>Any</b>	47	19%	79	31%	98	37%	100	44%	75	46%	81	62%	94	74%
	Oxycodone	19	8%	22	9%	28	11%	24	11%	25	15%	25	19%	29	23%
	Hydrocodone	13	5%	20	8%	43	16%	22	10%	15	9%	19	15%	31	24%
	Methadone	6	2%	11	4%	13	5%	31	14%	20	12%	43	33%	41	32%
	Fentanyl	1	0%	3	1%	7	3%	14	6%	9	6%	8	6%	9	7%
	Tramadol	3	1%	5	2%	5	2%	15	7%	9	6%	5	4%	8	6%
	Hydromorphone	1	0%	5	2%	4	2%	1	0%	0	0%	0	0%	1	1%
	Morphine	11	4%	30	12%	28	11%	16	7%	10	6%	10	8%	11	9%
<b>Anti-Depressants</b>	<b>Any</b>	18	7%	16	6%	41	16%	61	27%	88	54%	41	32%	48	38%
<b>Sedatives (Including Benzos)</b>	<b>Any</b>	88	35%	112	43%	146	55%	133	59%	88	54%	96	74%	96	76%
<b>Benzodiazepines</b>	<b>Any</b>	81	32%	111	43%	134	51%	118	52%	70	43%	84	65%	87	69%
<b>Any Rx Opioid + Any Benzo</b>		28	11%	48	19%	61	23%	67	30%	43	27%	64	49%	73	57%
<b>Two or more CNS Depressants</b>		142	56%	164	63%	181	72%	167	74%	107	66%	107	82%	108	85%
<b>Heroin with No Other CNS Depressant</b>		12	5%	30	12%	20	8%	21	9%	30	19%	6	5%	5	4%

<b>Illicit Fentanyl &amp; Analogs with No Other CNS Depressant</b>		70	<b>28%</b>	34	13%	19	8%								
<b>Heroin + Any Rx Opioid</b>		8	<b>3%</b>	15	6%	29	11%	25	11%	22	14%	13	10%	16	13%
<b>Any Opioid (Heroin/Rx Opioid/Illicit Fentanyl/Analogs)</b>		235	<b>93%</b>	239	92%	245	93%	204	90%	148	90%	114	88%	117	92%
<b>Any Rx Opioid + No Heroin</b>		39	<b>15%</b>	64	25%	65	25%	74	33%	50	31%	66	51%	77	61%
<b>Illicit Fentanyl and/or Analogs + Heroin</b>		29	<b>11%</b>	24	9%	36	14%	13	6%	0	0%	0	0%	0	0%
<b>Illicit Fentanyl and/or Analogs + No Heroin</b>		145	<b>57%</b>	81	31%	71	27%	7	3%	0	0%	0	0%	0	0%
<b>Methamphetamine + (Heroin or Illicit Fentanyl/Analogs)</b>		24	<b>9%</b>	11	4%	9	3%	4	2%	3	2%	1	1%	0	0%
<b>Cocaine + (Heroin and/or Illicit Fentanyl/Analogs)</b>		93	<b>37%</b>	77	30%	72	27%	41	18%	32	20%	29	22%	15	12%
<b>Heroin + No Illicit Fentanyl and/or Analogs</b>		30	<b>12%</b>	90	35%	89	34%	119	53%	95	59%	46	35%	39	31%
<b>Any Benzo + Heroin</b>		17	<b>7%</b>	53	20%	65	25%	65	29%	35	22%	28	22%	24	19%
<b>Any Benzo + Illicit Fentanyl and/or Analogs</b>		53	<b>21%</b>	39	15%	54	20%	8	4%	0	0%	0	0%	0	0%
<b>Any Benzo + Any Opioid</b>		79	<b>31%</b>	110	42%	128	48%	115	51%	64	40%	80	62%	84	66%
<b>Cocaine + Heroin</b>		27	<b>11%</b>	47	18%	50	19%	41	18%	32	20%	29	22%	15	12%
<b>Cocaine + Illicit Fentanyl and/or analogs</b>		76	<b>30%</b>	38	15%	38	14%	1	0%	0	0%	0	0%	0	0%
<b>Other Prescription</b>	Any	7	<b>3%</b>	3	1%	36	14%	62	27%	49	30%	48	37%	49	39%
<b>Over-The-Counter</b>	Any	20	<b>8%</b>	13	5%	19	7%	32	14%	32	20%	25	19%	26	20%