

2016

FINAL DRUG DEATHS REPORT

CUYAHOGA COUNTY MEDICAL EXAMINERS OFFICE

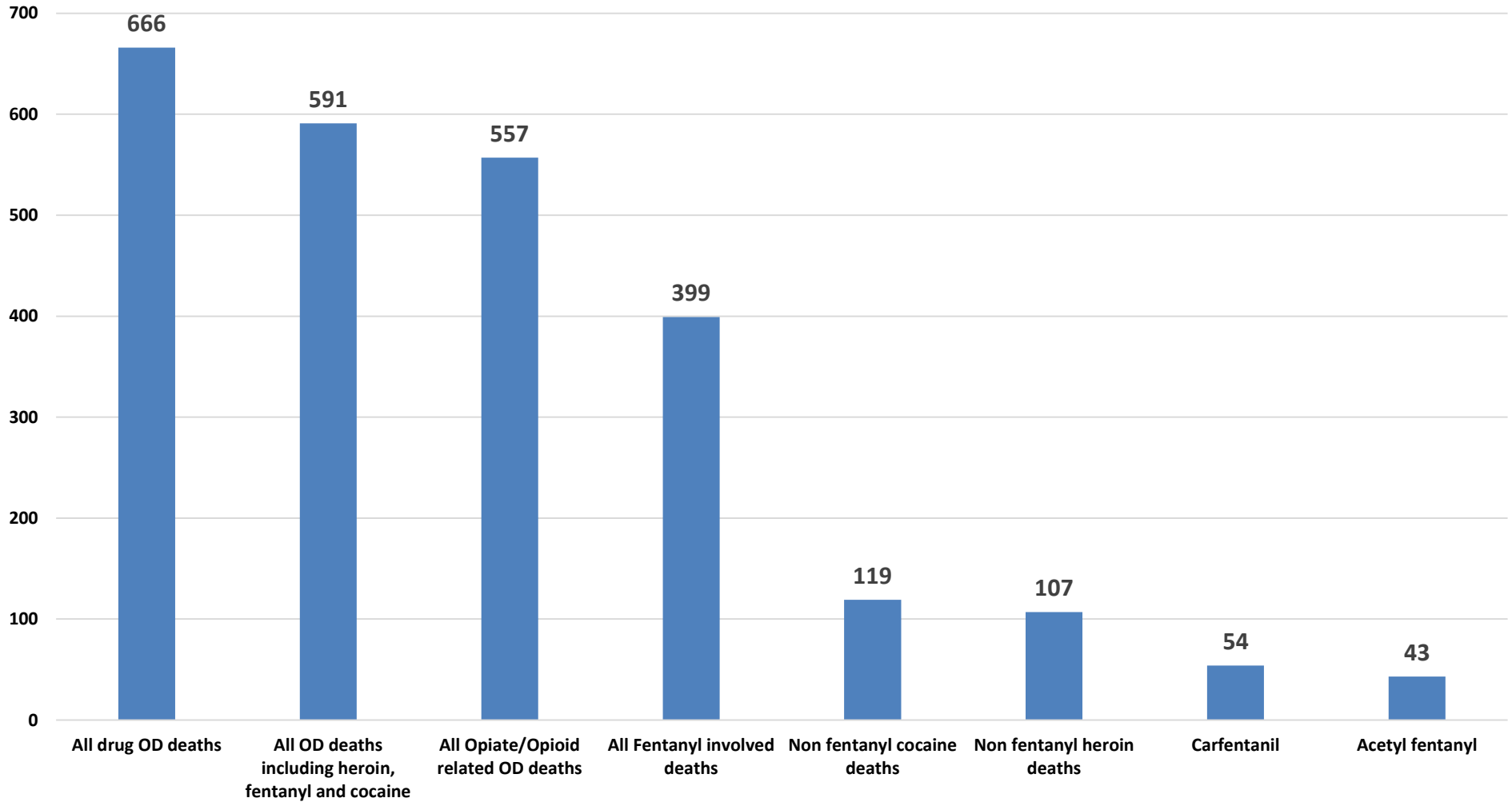
DR. THOMAS P. GILSON, MD

CUYAHOGA COUNTY | 11001 Cedar Ave., Cleveland, OH 44106



CCMEO 2016 Fentanyl involved deaths

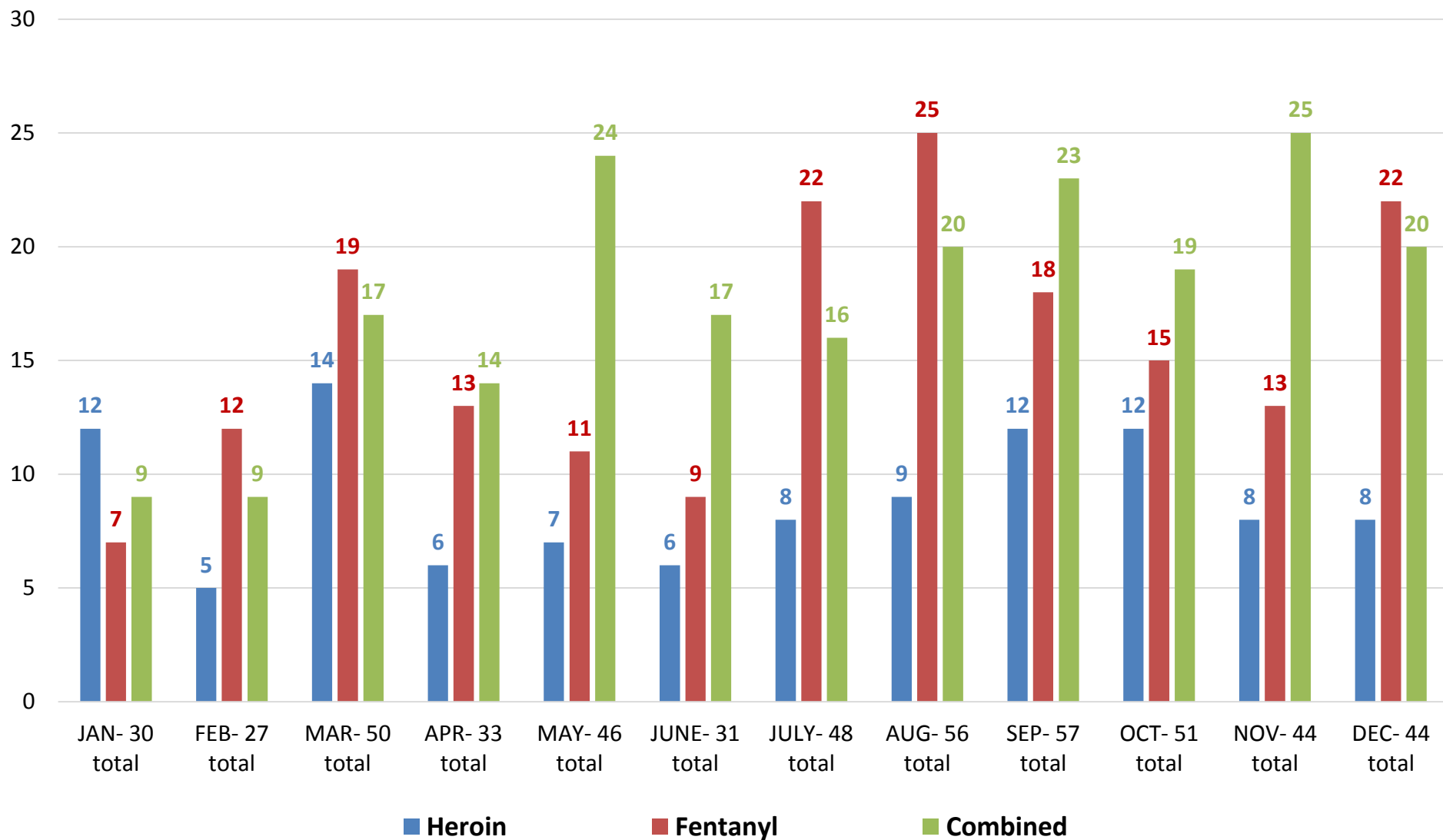
Notes: All analogues are included in total fentanyl-involved deaths and there is overlap between categories



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



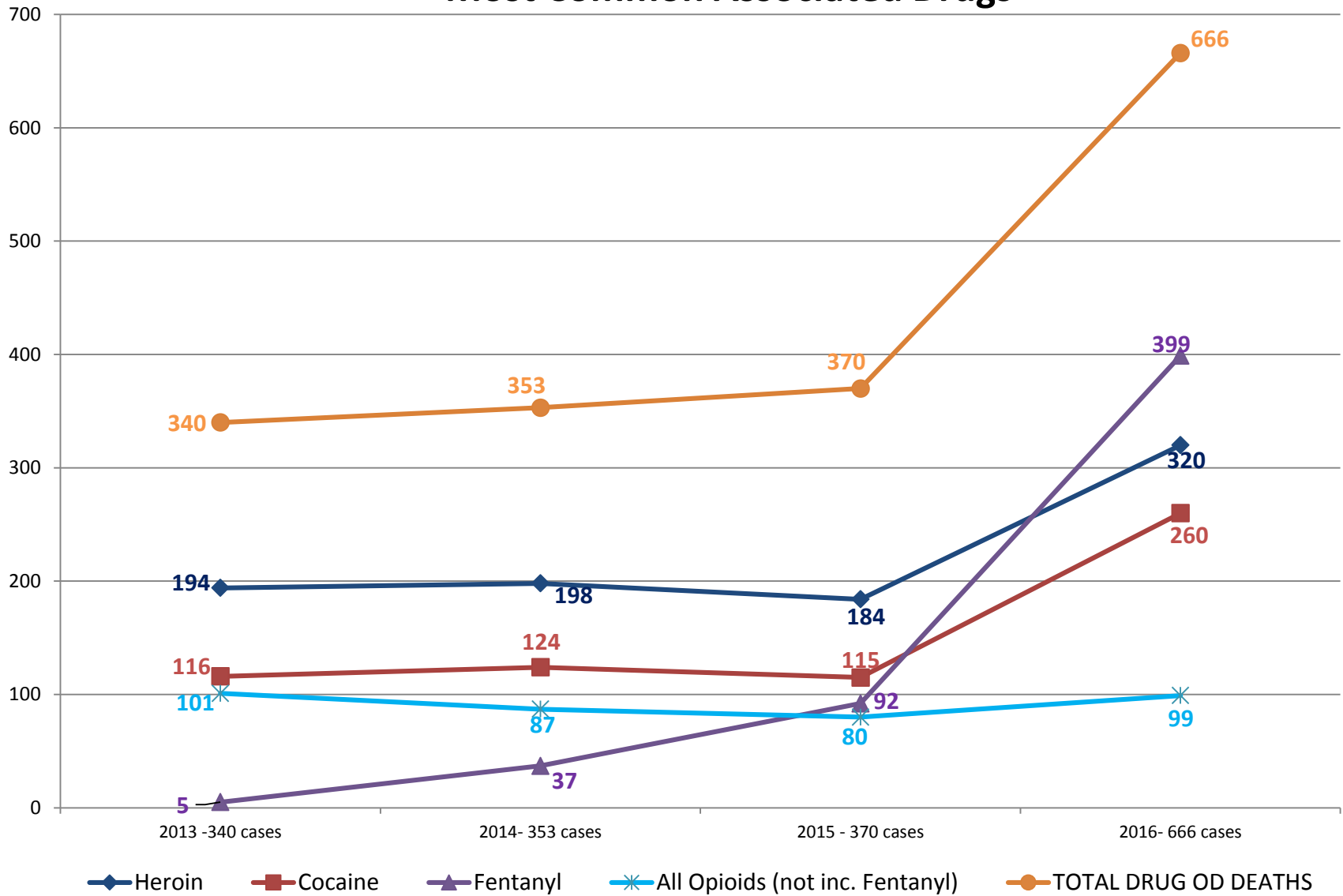
CCMEO 2016 Fentanyl & Heroin Related Deaths, by Month



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



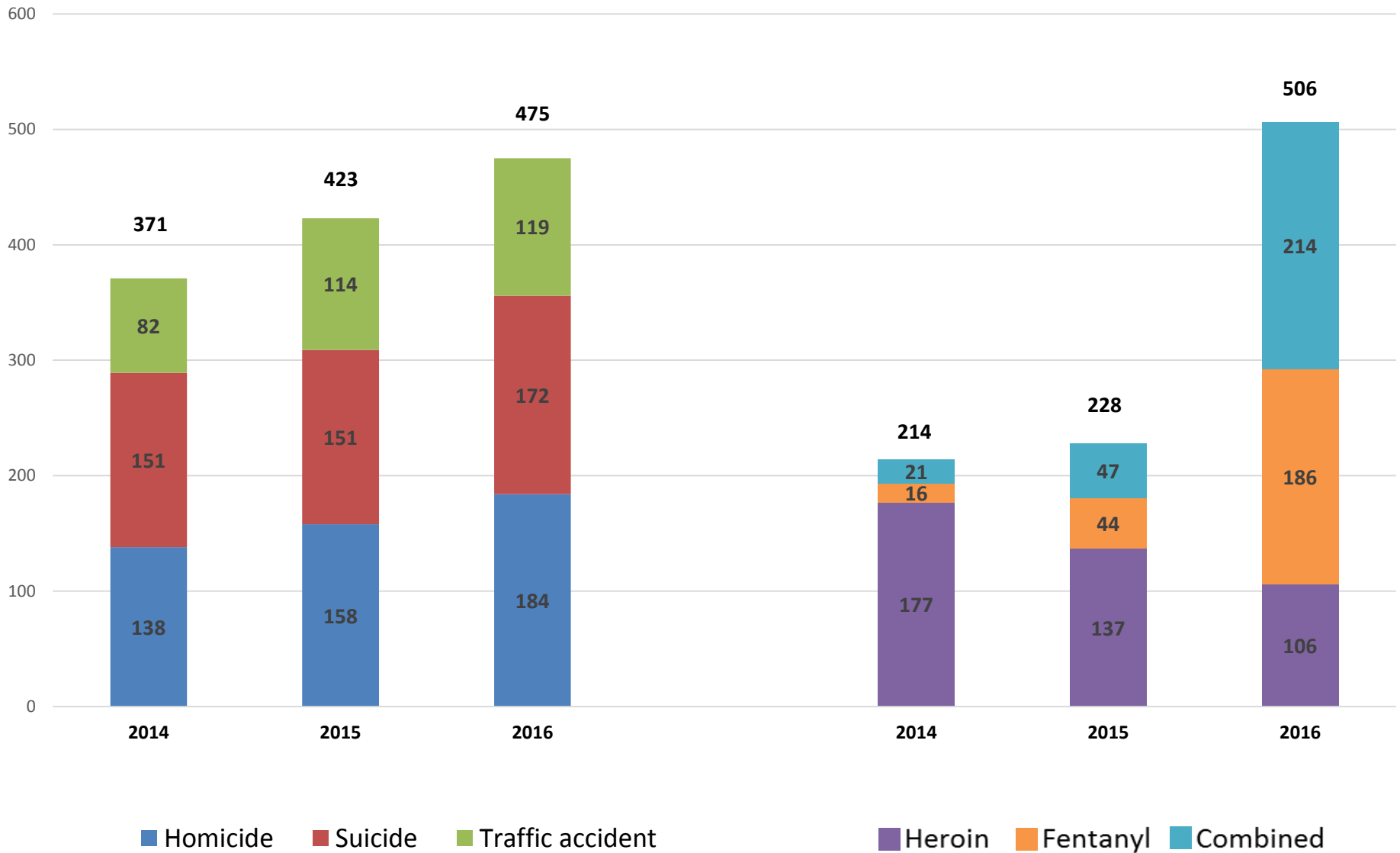
Cuyahoga County Overdose Deaths 2013-2016 Most Common Associated Drugs



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



CCMEO Comparison Violent Deaths vs. Heroin/Fentanyl 2014-2016

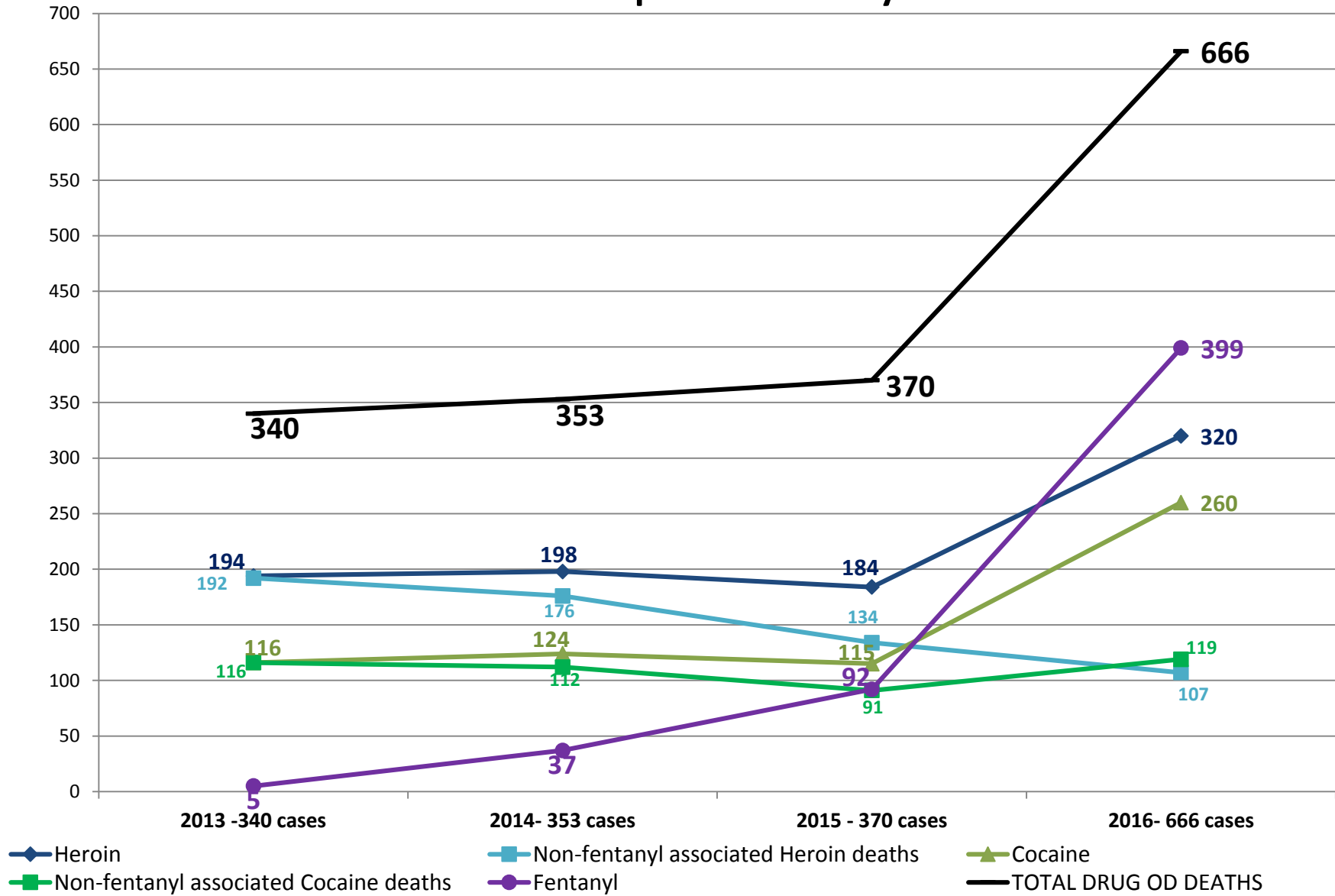


Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



Cuyahoga County Overdose Deaths 2013-2016

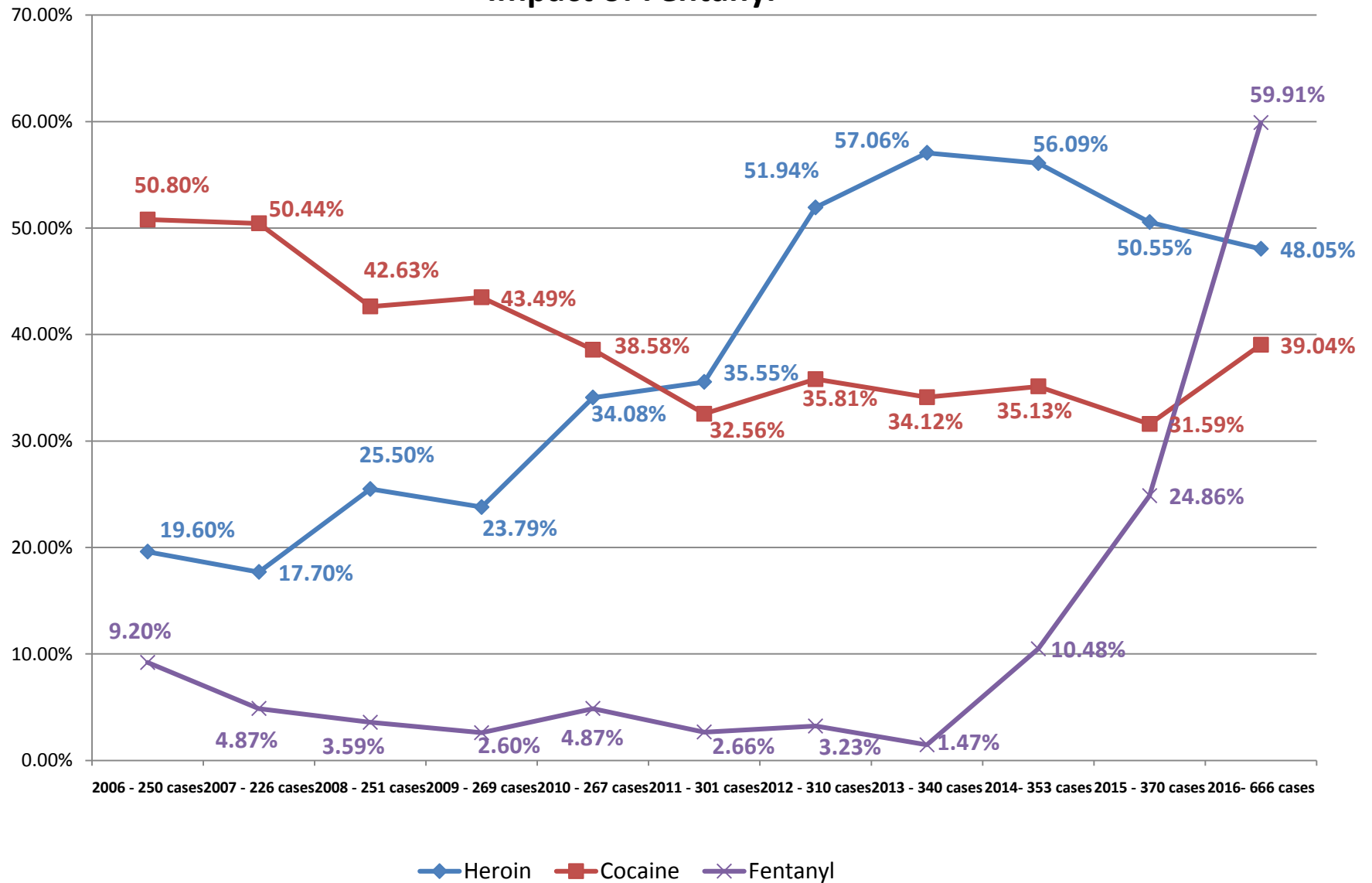
Impact of Fentanyl



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



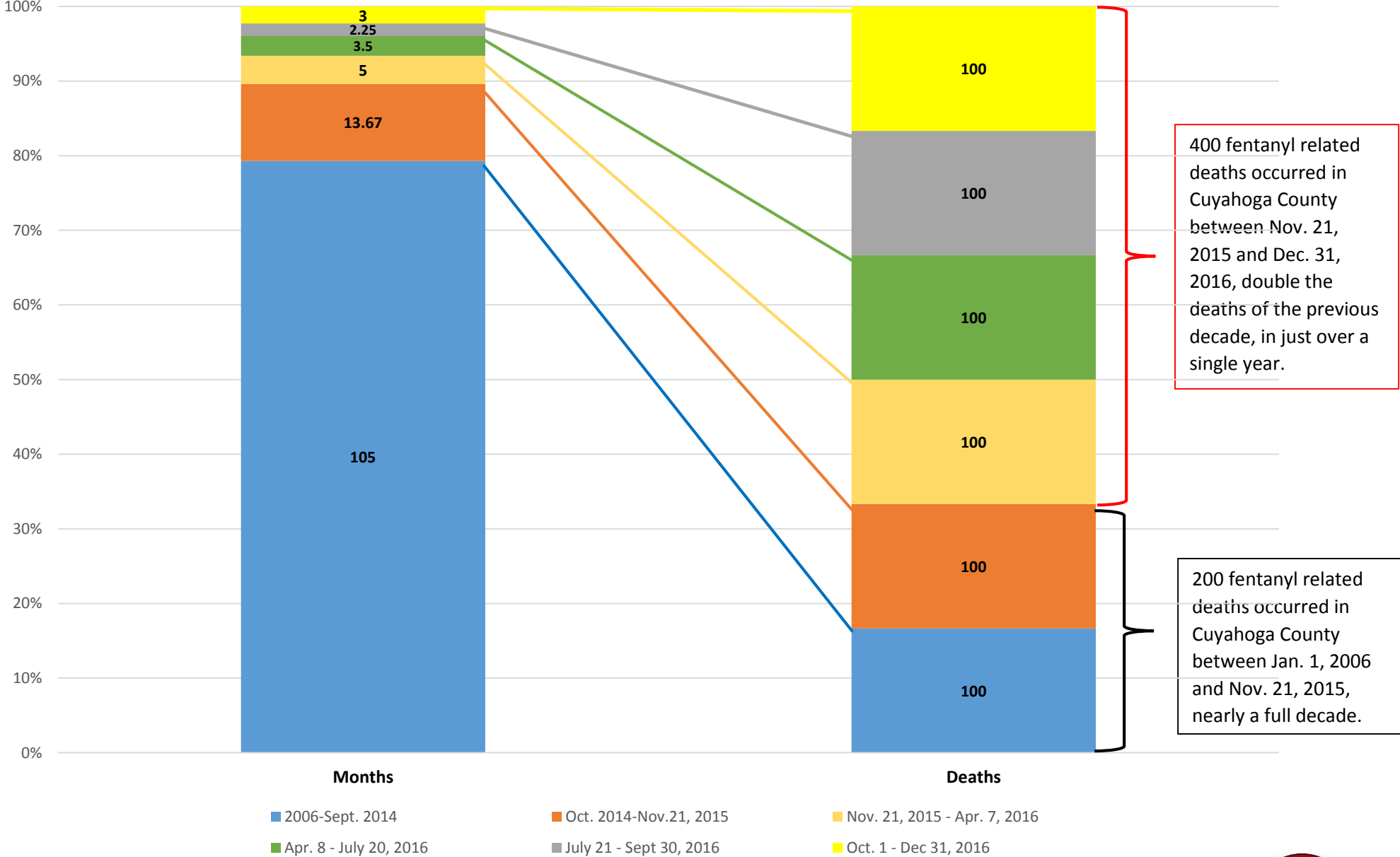
Cuyahoga County Overdose Deaths 2006-2016, Drug By % Impact of Fentanyl



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



Cuyahoga County Fentanyl Deaths 2006-2016 # Months per 100 fentanyl related Deaths



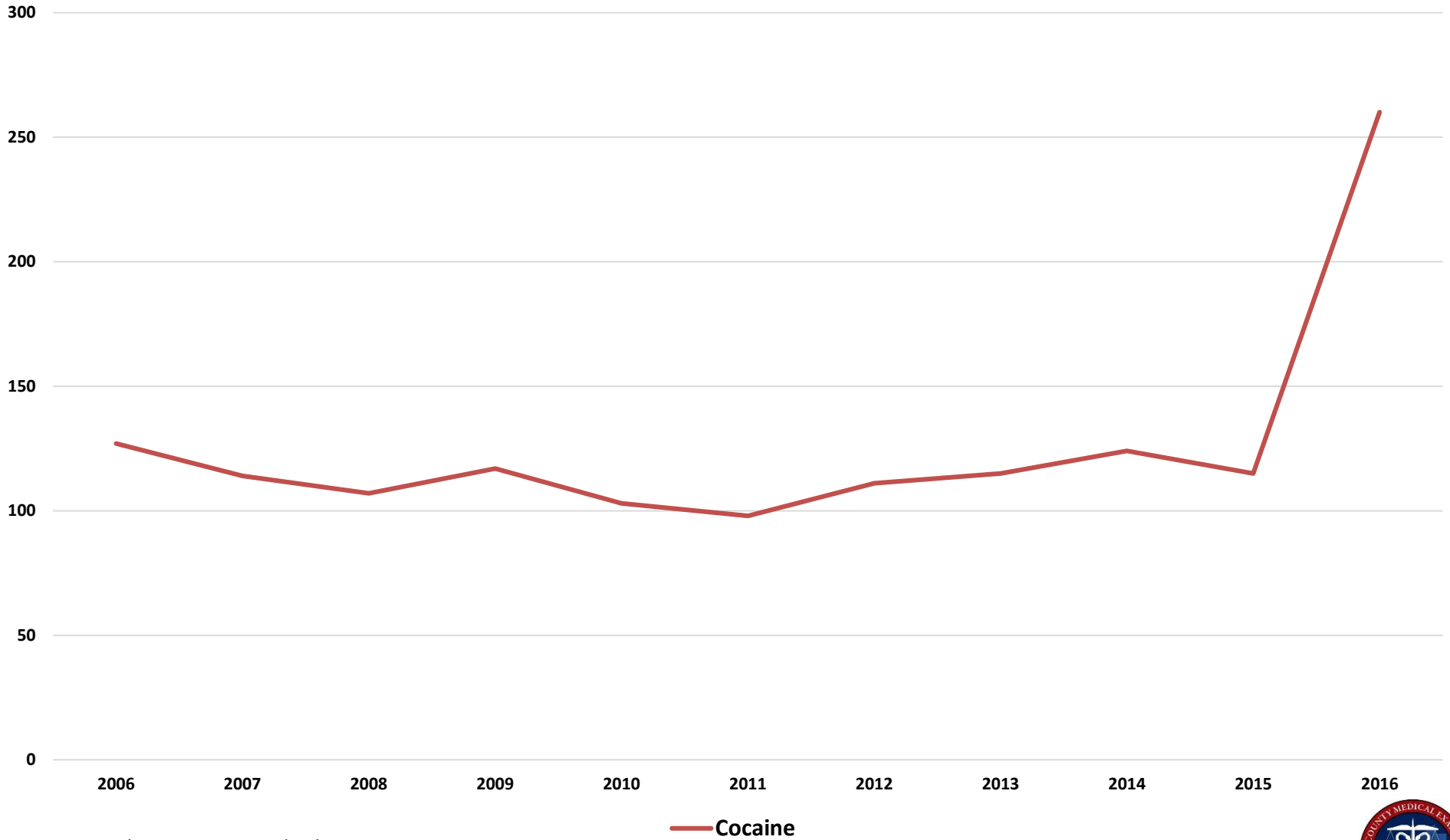
400 fentanyl related deaths occurred in Cuyahoga County between Nov. 21, 2015 and Dec. 31, 2016, double the deaths of the previous decade, in just over a single year.

200 fentanyl related deaths occurred in Cuyahoga County between Jan. 1, 2006 and Nov. 21, 2015, nearly a full decade.

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



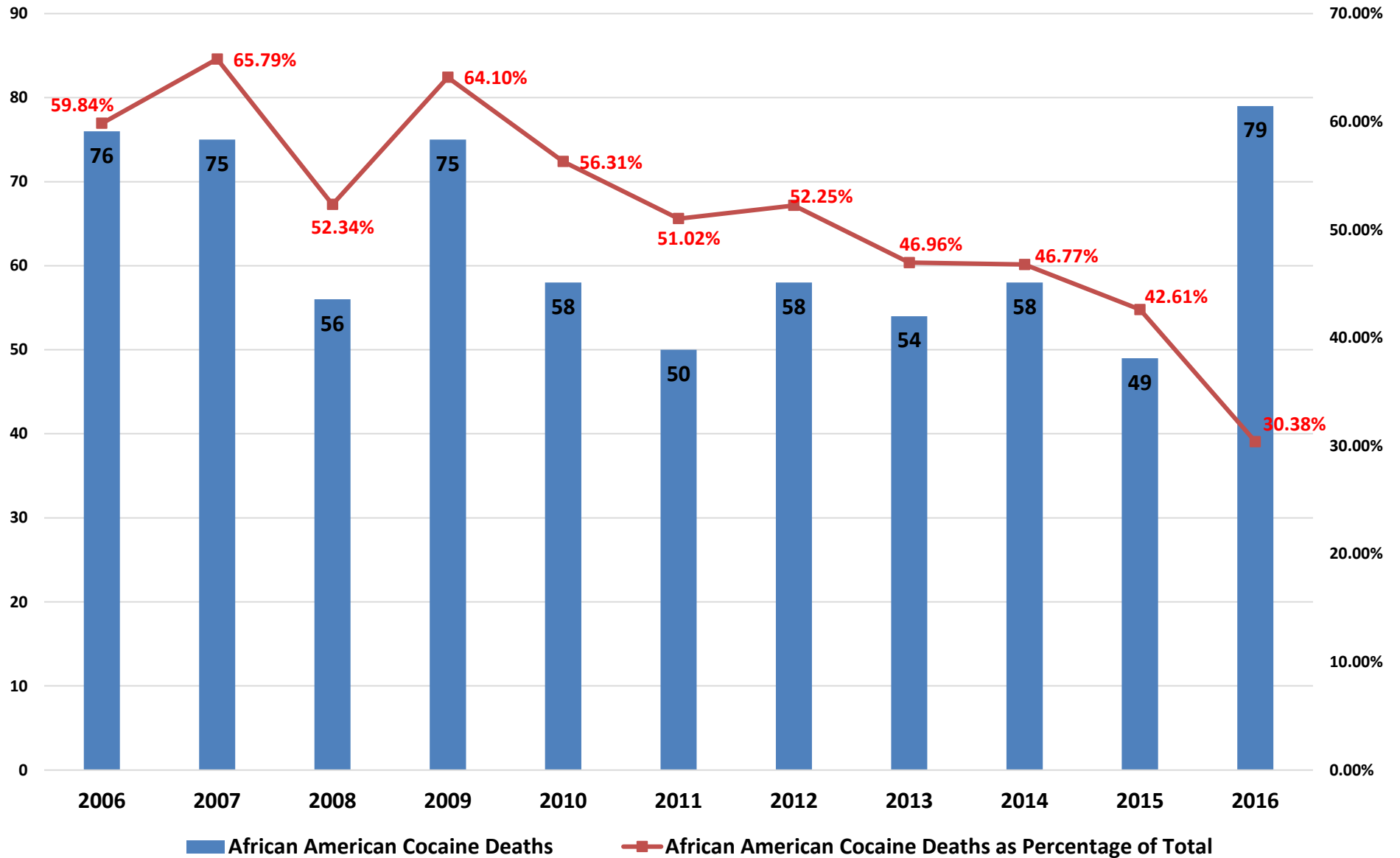
CCMEO Overdose Deaths involving Cocaine 2006-2016 The Re-emergence of Cocaine



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



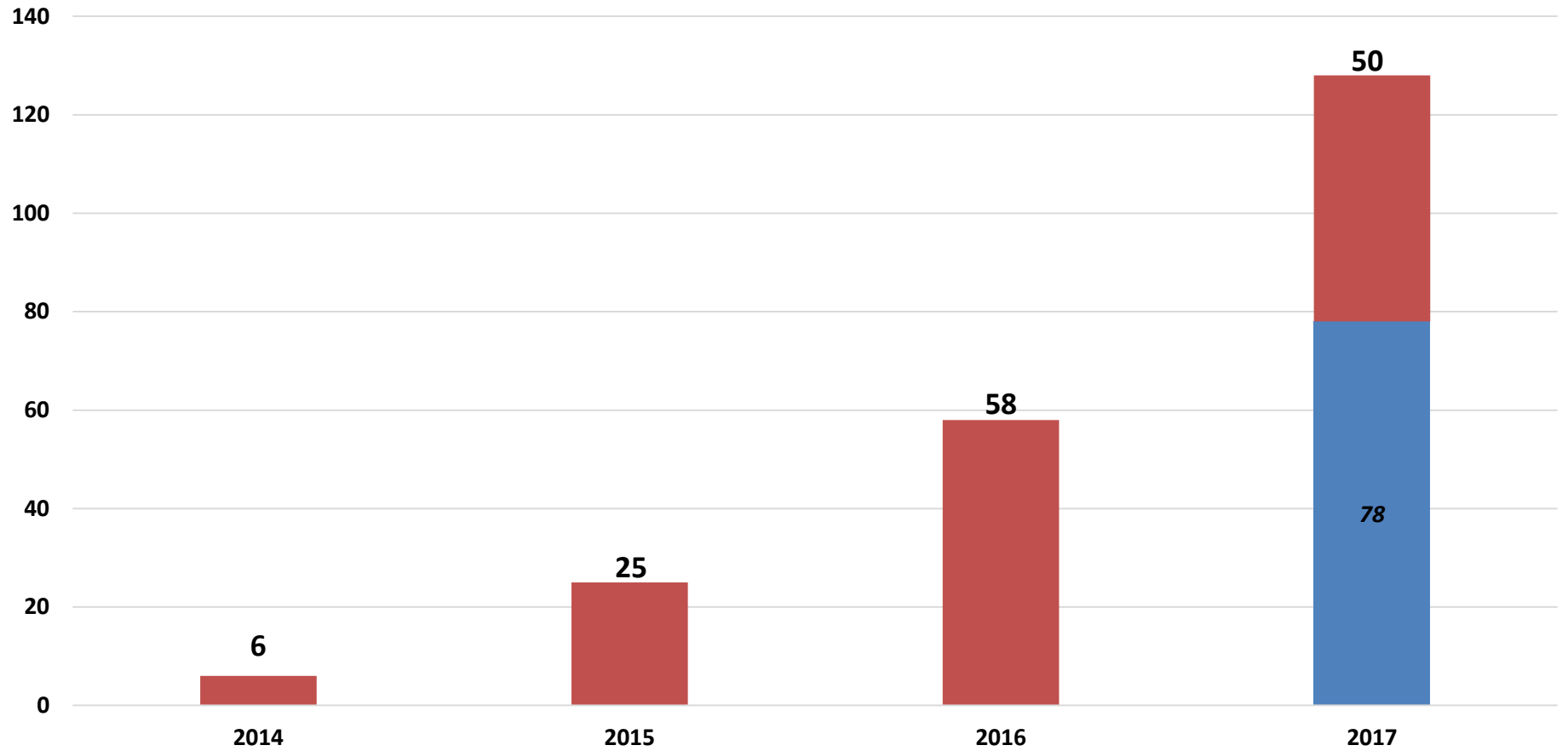
CCMEO Cocaine related Overdose Deaths 2006-2016 Demographic Shift in Cocaine Deaths



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



**CCMEO Fentanyl-related fatalities among
African Americans 2014-2017***
(Blue - Projected for remainder of year as of May 9, 2017)



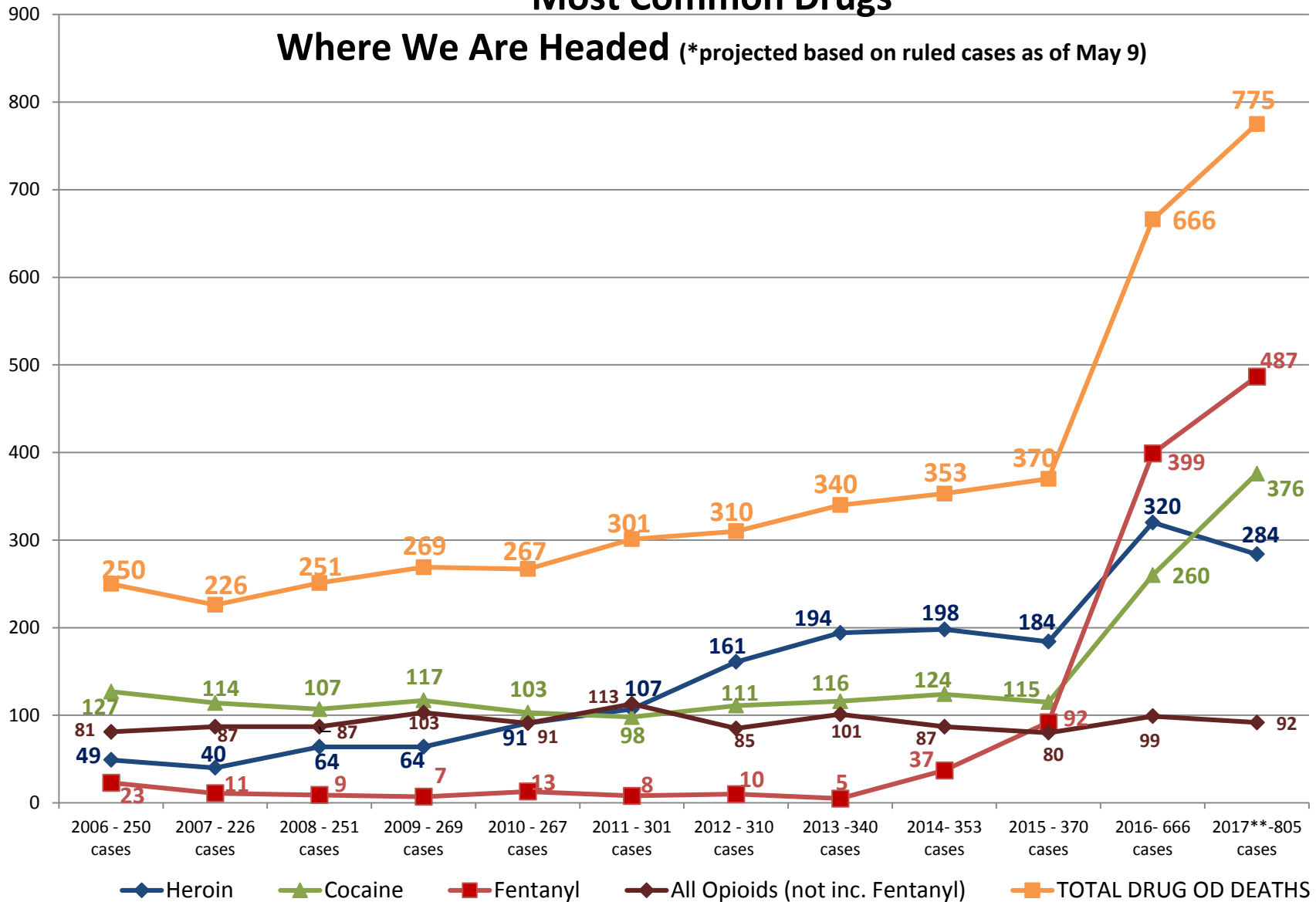
Source: Cuyahoga County Medical
Examiner's Office revised 5-25-17



Cuyahoga County Overdose Deaths 2006-2017*

Most Common Drugs

Where We Are Headed (*projected based on ruled cases as of May 9)

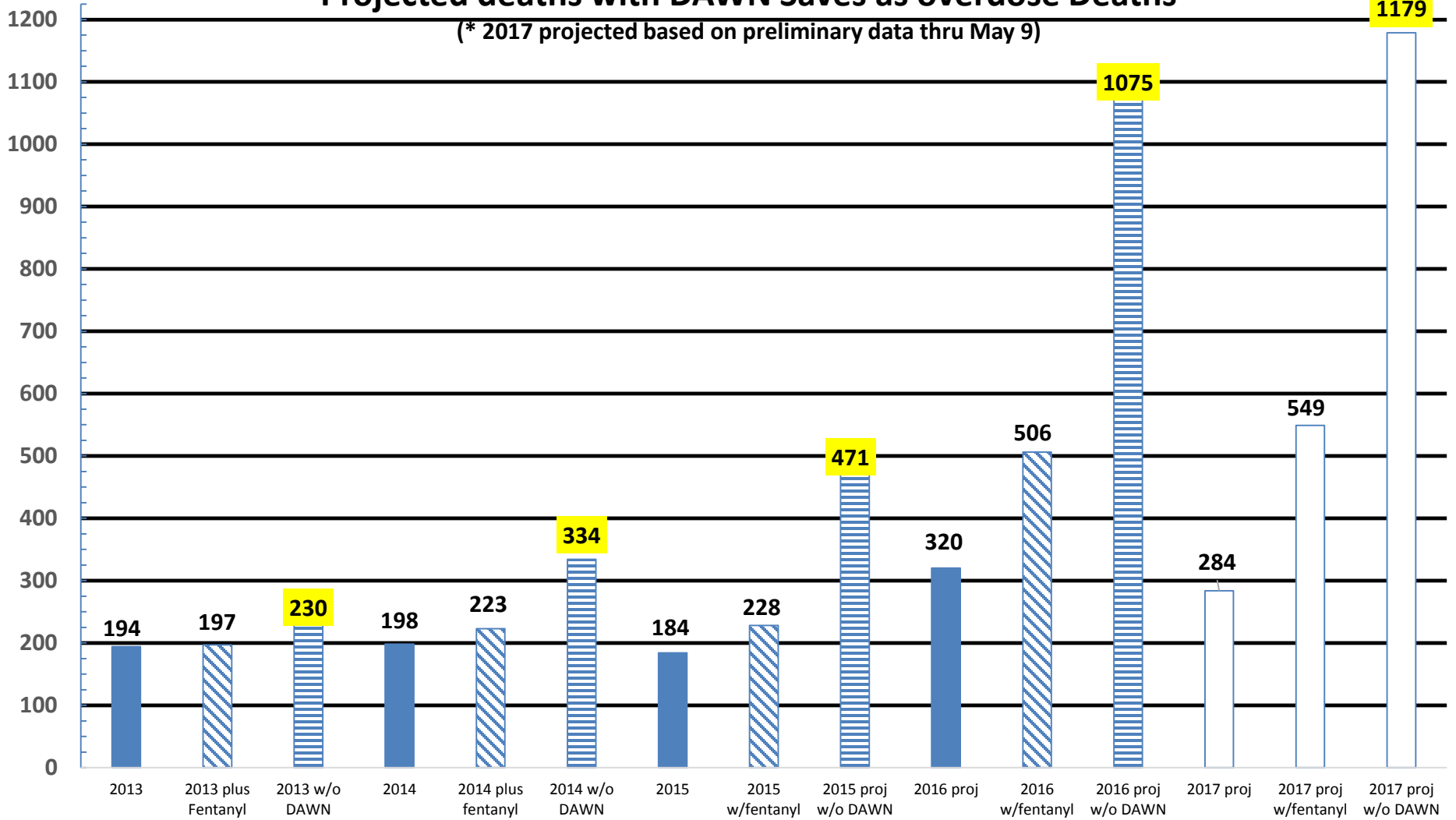


Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



Cuyahoga County Heroin/Fentanyl Related Overdose Deaths 2007-2017*

Projected deaths with DAWN Saves as overdose Deaths



Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



2016 DEMOGRAPHIC ANALYSIS - SUMMARY

FENTANYL	TOTAL	Fentanyl	Fentanyl + Heroin	Fentanyl + Cocaine	Fentanyl + Heroin + Cocaine														
	399	117	141	68	73														
		29.32%	35.34%	17.04%	18.30%														
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+	
	292	107	337	61	1	11	181	172	46	187	157	9	46	3	89	150	125	32	
	73.18%	26.82%	84.46%	15.29%	0.25%	2.76%	45.36%	43.11%	11.53%	46.87%	39.35%	2.26%	11.53%	0.75%	22.31%	37.59%	31.33%	8.02%	
HEROIN	TOTAL	Heroin	Heroin + Fentanyl	Heroin + Cocaine	Heroin + Cocaine + Fentanyl														
	320	72	141	34	73														
		22.50%	44.06%	10.63%	22.81%														
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+	
	228	92	283	36	1	8	138	145	37	136	128	6	38	3	68	116	102	31	
	71.25%	28.75%	88.44%	11.25%	0.31%	2.60%	44.81%	47.08%	12.01%	44.16%	41.56%	1.95%	12.34%	0.97%	22.08%	37.66%	33.12%	10.06%	
COCAINE	TOTAL	Cocaine	Cocaine + Heroin	Fentanyl + Cocaine	Cocaine + Fentanyl + Heroin														
	260	85	34	68	73														
		32.69%	13.08%	26.15%	28.08%														
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+	
	184	76	181	79	0	4	145	82	33	141	79	5	35	5	42	77	104	32	
	70.77%	29.23%	69.62%	30.38%	0.00%	1.54%	55.77%	31.54%	12.69%	54.23%	30.38%	1.92%	13.46%	1.92%	16.15%	29.62%	40.00%	12.31%	

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



2016 DEMOGRAPHIC ANALYSIS - FENTANYL

FENTANYL	TOTAL	Fentanyl	Fentanyl + Heroin	Fentanyl + Cocaine	Fentanyl + Heroin + Cocaine														
	399	117	141	68	73														
		29.32%	35.34%	17.04%	18.30%														
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+	
	292	107	341	58	0	11	177	175	47	182	160	11	46	3	89	150	125	32	
	73.18%	26.82%	85.46%	14.54%	0.00%	2.76%	44.36%	43.86%	11.78%	45.61%	40.10%	2.76%	11.53%	0.75%	22.31%	37.59%	31.33%	8.02%	
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+	
Fentanyl	93	24	100	17	0	5	44	62	11	50	51	5	11	0	26	44	37	10	
	79.49%	20.51%	85.47%	14.53%	0.00%	4.27%	37.61%	52.99%	9.40%	42.74%	43.59%	4.27%	9.40%	0.00%	22.22%	37.61%	31.62%	8.55%	
Fentanyl + Heroin	101	40	128	13	0	5	54	71	16	57	65	3	16	1	32	55	44	9	
	71.63%	28.37%	90.78%	9.22%	0.00%	3.55%	38.30%	50.35%	11.35%	40.43%	46.10%	2.13%	11.35%	0.71%	22.70%	39.01%	31.21%	6.38%	
Fentanyl + Cocaine	49	19	53	15	0	1	42	14	12	41	17	3	7	1	10	28	20	9	
	72.06%	27.94%	77.94%	22.06%	0.00%	1.47%	61.76%	20.59%	17.65%	60.29%	25.00%	4.41%	10.29%	1.47%	14.71%	41.18%	29.41%	13.24%	
Fentanyl + Heroin + Cocaine	49	24	60	13	0	0	37	28	8	34	27	0	12	1	21	23	24	4	
	67.12%	32.88%	82.19%	17.81%	0.00%	0.00%	50.68%	38.36%	10.96%	46.58%	36.99%	0.00%	16.44%	1.37%	28.77%	31.51%	32.88%	5.48%	

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



2016 DEMOGRAPHIC ANALYSIS - HEROIN

HEROIN	TOTAL	Heroin	Heroin + Fentanyl	Heroin + Cocaine	Heroin + Cocaine + Fentanyl														
	320	72	141	34	73														
		22.50%	44.06%	10.63%	22.81%														
						Res			Inc				Age						
	Male	Female	White	Black	Other	Hispanic	CLE	Sub	OU	CLE	Sub	OU	?	<18	19-29	30-44	45-60	60+	
	228	92	283	36	1	8	138	145	37	136	128	6	38	3	68	116	102	31	
	71.25%	28.75%	88.44%	11.25%	0.31%	2.60%	44.81%	47.08%	12.01%	44.16%	41.56%	1.95%	12.34%	0.97%	22.08%	37.66%	33.12%	10.06%	
						Res			Inc				Age						
	Male	Female	White	Black	Other	Hispanic	CLE	Sub	OU	CLE	Sub	OU	?	<18	19-29	30-44	45-60	60+	
Heroin	53	19	63	8	1	1	31	33	8	35	24	3	10	1	9	28	19	15	
	73.61%	26.39%	87.50%	11.11%	1.39%	1.39%	43.06%	45.83%	11.11%	48.61%	33.33%	4.17%	13.89%	1.39%	12.50%	38.89%	26.39%	20.83%	
Heroin + Fentanyl	101	40	128	13	0	5	54	71	16	57	65	3	16	1	32	55	44	9	
	71.63%	28.37%	90.78%	9.22%	0.00%	3.55%	38.30%	50.35%	11.35%	40.43%	46.10%	2.13%	11.35%	0.71%	22.70%	39.01%	31.21%	6.38%	
Heroin + Cocaine	25	9	32	2	0	2	16	14	4	18	14	0	2	0	6	10	15	3	
	73.53%	26.47%	94.12%	5.88%	0.00%	5.88%	47.06%	41.18%	11.76%	52.94%	41.18%	0.00%	5.88%	0.00%	17.65%	29.41%	44.12%	8.82%	
Heroin + Cocaine + Fentanyl	49	24	60	13	0	0	37	28	8	34	27	0	12	1	21	23	24	4	
	67.12%	32.88%	82.19%	17.81%	0.00%	0.00%	50.68%	38.36%	10.96%	46.58%	36.99%	0.00%	16.44%	1.37%	28.77%	31.51%	32.88%	5.48%	

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



2016 DEMOGRAPHIC ANALYSIS - COCAINE

COCAINE	TOTAL	Cocaine	Cocaine + Heroin	Fentanyl + Cocaine	Cocaine + Fentanyl + Heroin													
	260	85	34	68	73													
		32.69%	13.08%	26.15%	28.08%													
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+
	184	76	181	79	0	4	145	82	33	141	78	4	37	5	42	77	104	32
	70.77%	29.23%	69.62%	30.38%	0.00%	1.54%	55.77%	31.54%	12.69%	54.23%	30.00%	1.54%	14.23%	1.92%	16.15%	29.62%	40.00%	12.31%
	Male	Female	White	Black	Other	Hispanic	Res CLE	Sub	OU	Inc CLE	Sub	OU	?	Age <18	19-29	30-44	45-60	60+
Cocaine	61	24	36	49	0	1	50	26	9	48	20	1	16	2	5	16	46	16
	71.76%	28.24%	42.35%	57.65%	0.00%	1.18%	58.82%	30.59%	10.59%	56.47%	23.53%	1.18%	18.82%	2.35%	5.88%	18.82%	54.12%	18.82%
Cocaine + Heroin	25	9	32	2	0	2	16	14	4	18	14	0	2	1	6	10	14	3
	73.53%	26.47%	94.12%	5.88%	0.00%	5.88%	47.06%	41.18%	11.76%	52.94%	41.18%	0.00%	5.88%	2.94%	17.65%	29.41%	41.18%	8.82%
Fentanyl + Cocaine	49	19	53	15	0	1	42	14	12	41	17	3	7	1	10	28	20	9
	72.06%	27.94%	77.94%	22.06%	0.00%	1.47%	61.76%	20.59%	17.65%	60.29%	25.00%	4.41%	10.29%	1.47%	14.71%	41.18%	29.41%	13.24%
Fentanyl + Heroin + Cocaine	49	24	60	13	0	0	37	28	8	34	27	0	12	1	21	23	24	4
	67.12%	32.88%	82.19%	17.81%	0.00%	0.00%	50.68%	38.36%	10.96%	46.58%	36.99%	0.00%	16.44%	1.37%	28.77%	31.51%	32.88%	5.48%

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



AGENCY IMPACTS – CASE INVESTIGATIONS (By month and doctor)

2014	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
	21.6	21.9	21.9	15.6	17.3	20.9	29	10.9	25	18.6	21	15.9	239.6
	0	0	0	0	0	0	0	6	29	29	29.3	31.6	124.9
	27.1	12	18.6	17	27.4	18.3	7.3	24.7	13.7	14.4	17.3	16.9	214.7
	24.4	33	17	20.1	12.6	25.4	27.1	17.7	19.7	14.9	13.4	19.4	244.7
	6.7	14.9	8.3	10.4	17	7.7	24.9	15.4	13.3	11	10.3	18.1	158
								27	18	21	19	22	107
	21.7	11	15.1	27.7	29.7	18.1	25.1	18.6	26.3	16	15.7	18	243
	26	25	18.3	22.3	20	2.3							113.9
	26.3	20.9	19.6	20.4	18.6	20.4	29	16	10.6	27.1	14.9	13.1	236.9
TOTAL	153.8	138.7	118.8	133.5	142.6	113.1	142.4	136.3	155.6	152	140.9	155	1682.7
2015	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
	28.3	10.3	25.3	15.1	18.4	17	33.4	23.6	18.6	28.3	22.4	14.9	255.6
	26.3	21.1	23.6	27.4	34	31.3	29.1	25.4	20	23.7	19.7	18.6	300.2
	18.9	11.4	19.3	13.7	24.3	16.1	19.1	22.7	19.6	8.1	18.4	25.3	216.9
	26.4	24.1	20.7	10.9	25	31	22.3	28.6	22.3	27.4	20.7	18.7	278.1
	12.1	8.6	13.9	19.9	10.4	17.9	9.6	5	15.7	12.9	9	24.4	159.4
							17	23	20	22	21	20	123
	24	20	21	26.1	22.6	17.7	0.9						132.3
							25	23	14	19	21	24	126
	16.7	22.6	18.4	26.1	19.3	28.4	18.4	19.4	25.6	25	24	11.3	255.2
	22.4	20.9	12.7	11.3									67.3
TOTAL	175.1	139	154.9	150.5	154	159.4	174.8	170.7	155.8	166.4	156.2	157.2	1914
2016	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	TOTAL
	23.4	11	26.6	18.9	22.7	35.1	33.9	32	28.1	29.7	35.3	29.1	325.8
							23	27	22	31	21	26	150
	22.4	26.3	22.1	20.6	32.3	31.3	27.4	37.9	26.1	29	23.7	36	335.1
	26.4	8	22.9	14.9	37.6	25.4	0	37.6	20.1	18.9	22.7	18.3	252.8
	16.1	29	29.3	19	9.3	38.1	40.6	39.6	33.4	30.7	32.9	19.4	337.4
	9.3	11.3	12.9	17.1	24	11.6	29.1	21.4	13	25	15.4	37	227.1
	26	26	32.3	29.4	15.6	0	0	0	0	0	0	0	129.3
	24.4	29.9	28.9	22.7	22.1	0.9	0	0	0	0	0	0	128.9
	17	26.3	16.3	17.9	28.3	31.9	34.3	25	36.3	31.4	31.6	22	318.3
TOTAL	165	167.8	191.3	160.5	191.9	174.3	188.3	220.5	179	195.7	182.6	187.8	2204.7

Note: 2016 caseload increased 16.196%

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



AGENCY IMPACTS - DRUG CHEMISTRY

MEDICAL EXAMINER / CCFRSL														
Drug Chemistry 2016	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
Submissions	424	483	495	524	562	493	299	514	570	502	476	431	5773	
Submissions Completed	420	400	546	397	687	494	303	518	441	595	469	414	5684	
Completed from Previous Month/s	83	92	166	93	228	116	109	111	77	205	107	124	1511	
Submissions Pending (Backlog)	69	69	66	220	110	57	112	119	158	119	115	106	1320	
10 day Completion (%)	95.7	95.5	84.4	85.8	74.2	91.8	75.2	82.2	91.6	80.6	89.3	88.4	86.23	
5 day Completion (%)	83.1	70.5	69.9	69	56.9	80	72.6	74.7	82.7	70.5	71.6	78.9	73.37	
Average TAT	3.6	3.9	5.9	5.9	8	7.5	7.2	5.1	4.3	7.4	5.9	6.6	5.94	
Items Processed	1412	665	1321	1056	1438	1176	988	1289	1085	1623	1228	1296	14577	

MEDICAL EXAMINER / CCFRSL	2015													
Drug Chemistry	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
Submissions	436	377	489	495	373	392	400	396	467	475	415	425	5140	
Submissions Completed	450	366	501	462	400	400	372	400	393	419	344	618	5125	
Completed from Previous Month/s	53	42	52	38	69	46	39	67	63	137	193	273	1072	
Submissions Pending (Backlog)	23	31	3	58	34	3	0	0	71	93	214	27	557	
10 day Completion (%)	97	93	94	97	95	97	80	98	94	81	65	71	1063	
5 day Completion (%)	82	79	87	89	85	88	36	93	69	48	43	41	840.2	
Average TAT	3	4	3	3	3	3	5	3	5	6	7	9	53.9	
Items Processed	863	655	968	1063	931	946	825	884	680	1164	769	1124	10872	

Note: 2016 caseload increased 10.96% & items processed in those cases has increased by 34.07%.

MEDICAL EXAMINER / CCFRSL	2014													
Drug Chemistry	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
Cases Submitted	487	489	555	600	590	578	585	609	636	548	344	478	6499	
Cases Completed	436	488	593	616	577	539	639	549	503	666	453	451	6510	
Cases Pending (Backlog)	71	74	0	5	6	29	11	93	188	32	21	31		
10 day Completion (%)	98	98	98	99	98	98	98	96	73	36	83	90	88.75	
5 day Completion (%)	90	82	92	96	92	92	88	72	40	6	46	70	72.17	
Average TAT	2.4	3.4	2.5	1.9	2.3	2.3	2.9	5.5	7.5	12.9	6.1	4	4.48	
Items Processed	857	1135	1282	1485	1008	800	1334	1014	882	1270	975	941	12983	

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



AGENCY IMPACTS - TOXICOLOGY

MEDICAL EXAMINER / CCFRSL	2016												
Toxicology	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Cases Submitted	291	292	308	260	292	289	289	349	305	313	304	273	3565
Cases Completed	329	260	257	246	337	271	268	348	296	275	265	261	3413
Cases Pending (Backlog)	258	300	357	378	337	358	383	388	398	448	493	511	
Avg TAT (Days) - ALL	32	31	34	37	38	34	40	41	35	43	45	43	37.75
90% Completion (Days)	59	55	55	57	60	59	59	59	59	59	59	64	58.67
Avg TAT (Days) - POS	51	44	46	49	47	48	50	51	45	54	57	56	49.83
Avg TAT (Days) - NEG	7	4	7	8	12	6	10	12	7	7	12	15	8.917

MEDICAL EXAMINER / CCFRSL	2015												
Toxicology	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Cases Submitted	292	255	249	279	280	270	282	292	272	276	278	258	3283
Cases Completed	289	271	222	362	255	269	249	324	355	301	280	310	3487
Cases Pending (Backlog)	302	328	280	317	395	367	441	434	366	344	350	308	
Avg TAT (Days) - ALL	27	42	23	39	45	59	35	50	52	41	35	41	40.75
90% Completion (Days)	58	86	58	104	118	113	82	102	90	76	62	65	84.5
Avg TAT (Days) - POS	45	61	46	57	65	65	56	68	63	56	55	56	57.75
Avg TAT (Days) - NEG	9	8	9	8	12	28	11	17	10	8	8	9	11.417

Note: 2016 Caseload increased 8.6%

MEDICAL EXAMINER / CCFRSL	2014												
Toxicology	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Cases Submitted	256	241	238	260	253	229	255	232	273	246	223	319	3025
Cases Completed	303	221	363	288	199	232	212	219	382	308	338	258	3323
Cases Pending (Backlog)	281	311	201	195	260	273	316	344	259	239	161	273	
Avg TAT (Days) - ALL	35	42	36	31	33	35	38	50	48	41	29	29	37
90% Completion (Days)	58	63	58	57	51	63	70	89	78	74	50	58	66
Avg TAT (Days) - POS	45	54	53	40	42	49	52	70	59	48	39	39	49
Avg TAT (Days) - NEG	19	15	12	7	8	16	14	13	14	10	8	7	12

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



AGENCY IMPACTS - HOMICIDES

Statistics & Records	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Homicides 2016													
City of Cleveland	10	6	6	9	10	8	14	15	15	19	17	15	144
Suburban Cuyahoga County	1	6	4	3	3	1	1	4	1	6	2	0	32
Out of County	0	0	0	1	0	0	1	0	1	0	0	0	3
Unknown	1	1	1	0	0	1	0	0	0	1	0	1	6
TOTAL	12	13	11	13	13	10	16	19	17	26	19	16	185

MEDICAL EXAMINER / CCFRSL	2015													
Statistics & Records	JAN	FEB	MAR	APR	MAY	JUNE	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	
Homicides														
City of Cleveland	5	8	9	10	8	14	18	12	21	13	8	3	129	
Suburban Cuyahoga County	5	4	2	3	0	1	2	0	0	2	3	3	25	
Out of County	0	1	0	1	1	0	0	0	0	1	1	0	5	
Unknown	0	0	0	0	0	0	0	0	0	0	1	0	1	
TOTAL	10	13	11	14	9	15	20	12	21	16	13	6	160	

Note: Represents increase of 25 homicides (+15 in Cleveland, +7 in suburbs and -2 Out of County, +5 unknown incident origin) in 2016

	2014												
City of Cleveland	8	8	6	8	14	9	6	5	12	12	15	5	108
Suburban Cuyahoga County	3	1	3	3	0	4	1	0	1	4	0	2	22
Out of County	1	1	0	0	0	0	0	1	0	0	0	1	4
Unknown	0	0	0	1	1	0	1	0	0	0	0	1	4
TOTAL	12	10	9	12	15	13	8	6	13	16	15	9	138

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



WHAT WE KNOW

Fentanyl Substances Date 1st Encountered

Acetylfentanyl	2/10/16
Furanylfentanyl	3/7/16
Butyrylfentanyl	3/23/16
Beta-Hydroxythiofentanyl	3/23/16
U-47700	5/9/16
4-ANPP	8/2/16
Para-Fluorofentanyl	8/29/16
Meta-Fluorofentanyl	8/29/16
Carfentanil	September 2016
Valeryl Fentanyl	10/25/16
Acrylfentanyl	11/7/16
para-Chloroisobutyryl Fentanyl	11/7/16
para-Fluorobutyryl Fentanyl	1/17/17
ortho-Fluorobutyryl Fentanyl	1/17/17
meta- Fluorobutyryl Fentanyl	1/17/17
Isobutyryl Fentanyl	2/16/17
Fluoroisobutyryl Fentanyl	2/16/17
Methoxyacetylfentanyl	4/19/17

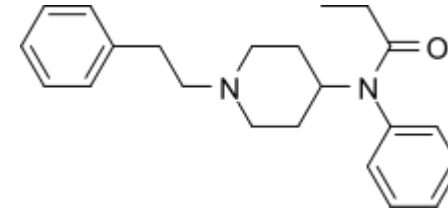


Figure 1 Fentanyl molecule

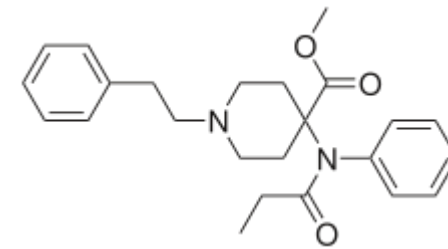


Figure 2 Carfentanil molecule

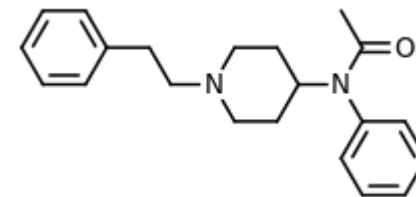


Figure 3 Acetyl fentanyl molecule

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



Comparison of Heroin Overdose Deaths: Cuyahoga County, OH	2012 Overall Deaths, N=160	2013 Overall Deaths, N= 194	2014 Overall Deaths, N=198
INCIDENT INFORMATION, n(%)			
Using drugs with others	19 (11.9%)	23 (11.9%)	15 (7.8%)
Others present but not using	94 (58.8%)	113 (58.3%)	127 (64.1%)
EMS response	152 (95.0%)	191 (98.5%)	188 (95.0%)
Naloxone administered	36 (22.5%)	54 (27.8%)	59 (29.8%)
Paraphernalia present	81 (50.6%)	103 (53.1%)	99 (50.0%)
BACKGROUND INFORMATION, (%)			
Previous illicit drug use	129 (80.6%)	185 (95.4%)	158 (79.8%)
Intravenous drug use	78 (48.8%)	120 (61.9%)	63 (31.8%)
Period of abstinence	46 (28.8%)	60 (30.9%)	33 (16.7%)
Veteran	---	23 (11.9%)	5 (2.5%)
Level of Education	---	---	HS 99 (50%) None 47(23.7%) Some40(20.2%)

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17



Comparison of Heroin Overdose Deaths: Cuyahoga County, OH	2012 Overall Deaths, N=160	2013 Overall Deaths, N= 194	2014 Overall Deaths, N=198
Previous medical treatment	75 (46.9%)	125 (64.4%)	62 (31.3%)
Previous mental health history	---	88 (45.4%)	94 (47.5%)
Previous detoxification treatment	49 (30.6%)	93 (47.9%)	59 (29.8%)
Previous incarcerations	29 (18.1%)	78 (40.2%)	44 (22.2%)
Previous arrests	32 (20.0%)	83 (42.8%)	46 (23.2%)
Previous other legal contact (parole)	23 (14.4%)	73 (37.6%)	29 (14.7%)
Enrolled in Drug Court	---	6 (3.1%)	2 (1.0%)
OARRS report on file	---	141 (72.7%)	143 (72.2%)
History of doctor shopping	---	51 (36.2%)	26 (22.2%)
Pharmacy shopping (new)	---	---	16 (13.8%)
RECOMMENDATIONS, n(%)			
Education	97 (60.6%)	145 (74.7%)	126 (63.6%)
Project DAWN	96 (60.0%)	120 (61.9%)	113 (57.1%)
OARRS	---	51 (26.3%)	31 (15.7%)

Source: Cuyahoga County Medical Examiner's Office revised 5-25-17

