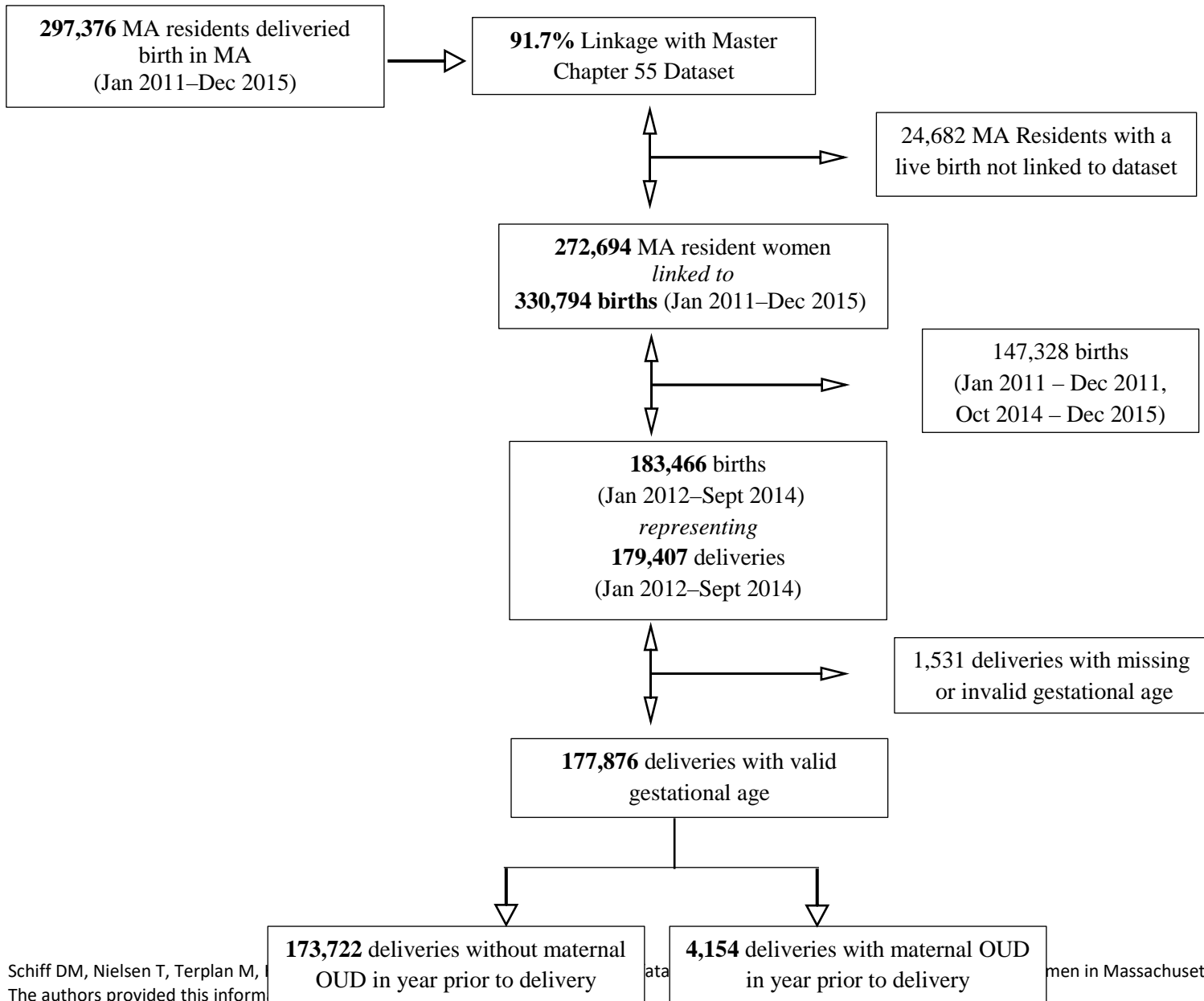


Appendix 1. Defining the study population. OUD, opioid use disorder.



Appendix 2. ICD-CM Codes Used for Identification

Characteristic	ICD9-CM	ICD10-CM
Opioid Use Disorder (abuse and dependence)	30400-30403, 30470-30473, 30550-30553	F1120, F1121, F1110, F11120-F11122, F11129, F1114, F11150, F11151, F11159, F11181, F11182, F11188, F1119-F11222, F11229, F1123, F1124, F11250, F11251, F11259, F11281, F11282, F11288, F1129, F1190-F11922, F11929, F11913, F11914, F11950, F11951, F11959, F11981, F11982, F11989, F1199
Overdose Encounters	96500-96502, 96509, E8500- E8502	
NAS diagnosis	7795, 76062, 76072	P961, P0449

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Appendix 3. Opioid Use Disorder Identification Across Datasets

	OUD Any time 2011-2015 (n=6,861)		OUD 1 year before or after delivery (n=5,016)		OUD 1 year prior to or at delivery (n=4,154)	
	Identified n (%)	Uniquely identified n (%)	Identified n (%)	Uniquely identified n (%)	Identified n (%)	Uniquely identified n (%)
APCD – OUD Codes	5,290 (77.1)	623 (9.1)	3,091 (61.6)	348 (6.9)	1,731 (41.7)	165 (4.0)
APCD – Methadone TX	1,935 (28.2)	133 (1.9)	1,307 (26.1)	109 (2.2)	976 (23.5)	114 (2.7)
CM – OD Event	466 (6.8)	45 (0.7)	148 (3.0)	20 (0.4)	64 (1.5)	*
CM – OUD Codes	2,787 (40.6)	174 (2.5)	2,094 (41.8)	178 (3.5)	1,772 (42.7)	204 (4.9)
BSAS – Opioid Related Enrollment	3,484 (50.8)	209 (3.0)	2,070 (41.8)	174 (3.5)	1,330 (32.0)	159 (3.8)
BSAS – Methadone Enrollment	1,631 (23.8)	0 (0.0)	951 (19.0)	0 (0.0)	654 (15.7)	0 (0.0)
BSAS – Methadone Service	1,807 (26.3)	*	1,299 (25.9)	*	1,085 (26.1)	23 (0.6)
PDMP – Buprenorphine prescription	3,060 (44.6)	185 (2.7)	2,029 (40.5)	0 (0.0)	1,526 (36.7)	310 (7.5)
MATRIS – Opioid Transport	529 (7.7)	76 (1.1)	161 (3.2)	32 (0.6)	41 (1.0)	*
Death certificate – Overdose death	65 (1.0)	*	13 (0.3)	*	N/A	N/A
Death certificate – History of SA	23 (0.3)	0 (0.0)	*	0 (0.0)	N/A	N/A
DOC – Treated in prison†	389 (5.7)	62 (0.9)	N/A	N/A	N/A	N/A
NAS diagnosis	1,866 (27.2)	328 (4.8)	1,866 (37.2)	409 (8.2)	1,866 (44.9)	515 (12.4)

* Suppressed due to small numbers

† At any time 2011–2015

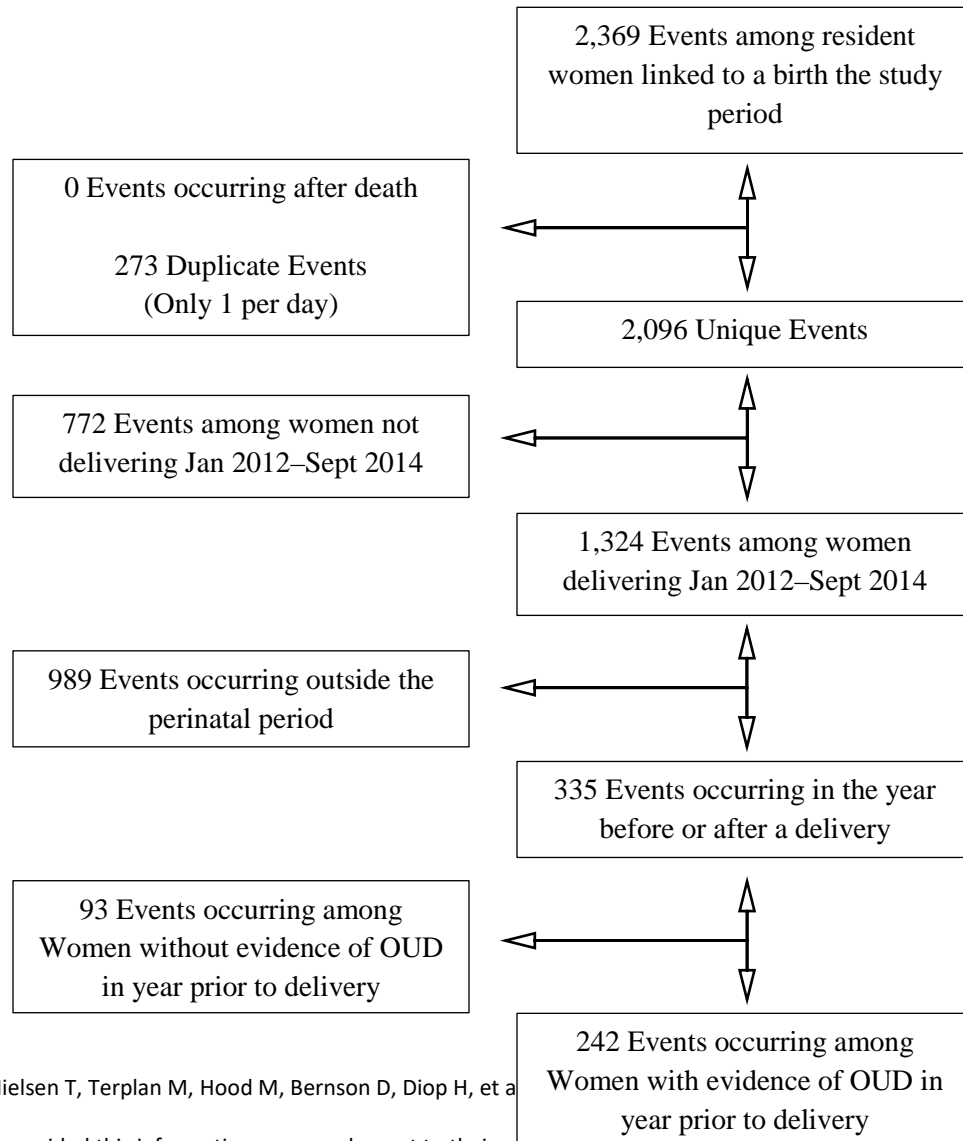
APCD = All Payer Claims Database; BSAS = Bureau of Substance Addiction Services; CM = Casemix Database; DOC = Department of Corrections; MATRIS = Massachusetts Ambulance Trip Record Information System; OD = overdose; NAS = Neonatal abstinence syndrome; OUD = Opioid use disorder; PDMP = Prescription Data Monitoring Program;

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Appendix 4. Identifying opioid-related overdose events. OUD, opioid use disorder.



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and postpartum women in Massachusetts. *Obstet Gynecol*

Appendix 5. Conversion Table for Mapping Monthly Pharmacotherapy Data to Time Periods of Interest and Estimating the Number of Person-Days in Denominator of Rates

GA (wks)	12	11	10	9	8	7	6	5	4	3	2	1	Delivery	1	2	3	4	5	6	7	8	9	10	11	12	
20-21	Year Prior							1st Trim			2nd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
22-23	Year Prior							1st Trim			2nd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
24-26	Year Prior							1st Trim			2nd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
27-28	Year Prior							1st Trim			2nd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
29-31	Year Prior					1st Trim			2nd Trim			3rd	0-3 months			4-6 months			7-9 months			10-12 months				
32-33	Year Prior					1st Trim			2nd Trim			3rd			0-3 months			4-6 months			7-9 months			10-12 months		
34-35	Year Prior				1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
36-37	Year Prior				1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months			
38-39	Year Prior			1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months				
40-42	Year Prior		1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months					
43-44	Year Prior		1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months					
45-46	Year Prior		1st Trim			2nd Trim			3rd Trim			0-3 months			4-6 months			7-9 months			10-12 months					

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Appendix 6: Number and rate of overdose events relative to time of delivery among 4,154 women who delivered a live birth with evidence of OUD in year prior to delivery.

	All overdose events				Overdose events on pharmacotherapy				Overdose events not on pharmacotherapy			
	count	person days	Rate (per 100,000 person days), 95% CI		count	person days	Rate (per 100,000 person days) , 95% CI		count	person days	Rate (per 100,000 person days) , 95% CI	
Overall	242	3,028,975	7.99	(7.01-9.06)	49	1,105,959	4.43	(3.28-5.86)	193	1,923,016	10.04	(8.67-11.56)
Year prior to conception	39	401,292	9.72	(6.91-13.29)	*	*	3.74	(1.02-9.57)	*	*	11.89	(8.28-16.54)
1st Trimester (0-12 wks)	31	348,936	8.88	(6.04-12.61)	*	*	4.79	(1.56-11.18)	*	*	10.63	(6.94-15.58)
2nd Trimester (13-28 wks)	15	464,702	3.23	(1.81-5.32)	*	*	1.20	(0.15-4.35)	*	*	4.35	(2.32-7.44)
3rd Trimester (≥29 wks)	*	*	3.32	(1.59-6.10)	*	*	4.08	(1.32-9.51)	*	*	2.80	(0.91-6.53)
0-3 months	28	377,820	7.41	(4.92-10.71)	*	*	3.17	(1.03-7.41)	*	*	10.44	(6.62-15.67)
4-6 months	26	377,354	6.89	(4.50-10.10)	*	*	1.31	(0.16-4.74)	*	*	10.67	(6.84-15.88)
7-9 months	46	376,927	12.2	(8.93-16.28)	*	*	6.74	(3.23-12.40)	*	*	15.75	(11.03-21.80)
10-12 months	47	380,664	12.35	(9.07-16.42)	16	147,621	10.84	(6.20-17.60)	31	233,043	13.3	(9.04-18.88)

*For all values where the overdose counts per time period were less than 11, dataset privacy requirements required suppression of cells and any cells that could allow for calculation of a specific suppressed value.