

Technical Appendix for Report: Opioid Use and Related Adverse Events in Ontario

This document provides information on the number of individuals in Ontario who were active beneficiaries of the Ontario Drug Benefit (ODB) program, between 2011 to 2015, by county and Local Health Integration Network (LHIN). The number of active beneficiaries of the ODB program was used as the denominator in our calculation of rates of publically-funded opioid prescriptions and users. This document also presents the population estimates in Ontario between 2009 to 2014, obtained from Statistics Canada, by county and LHIN. These population estimates were used as the denominator in our calculation of rates of opioid-related hospital admissions, emergency department visits and deaths. The list of opioid drugs used to define opioid prescriptions and users in the ODB database is also included at the bottom of this document and is presented by the type of opioid.

Active ODB-eligible individuals in Ontario used to calculate opioid user rates, by LHIN

LHIN (ordered by LHIN number)	Number of ODB-Eligible Residents				
	2011	2012	2013	2014	2015
Ontario	2,690,640	2,776,279	2,849,982	2,924,069	3,283,876
Erie St. Clair	156,048	160,202	163,175	166,548	186,689
South West	212,705	218,881	223,758	228,913	264,201
Waterloo Wellington	129,765	134,270	137,736	141,847	168,493
Hamilton Niagara Haldimand Brant	326,005	335,781	343,710	351,365	386,925
Central West	134,227	140,621	147,442	153,690	167,721
Mississauga Halton	172,830	179,598	187,194	194,572	218,641
Toronto Central	227,197	231,384	235,498	239,298	257,943
Central	300,372	312,868	325,118	335,946	373,676
Central East	325,306	337,453	347,362	357,297	389,931
South East	130,247	134,152	136,814	140,092	158,642
Champlain	248,508	257,548	266,595	274,904	328,629
North Simcoe Muskoka	100,393	104,185	107,792	110,764	123,887
North East	145,364	147,933	150,321	153,252	171,554
North West	47,667	48,828	49,982	51,044	58,634

Source: Ontario Drug Policy Research Network

Population estimates in Ontario used to calculate rates of opioid-related hospital admissions, emergency department visits and deaths, by LHIN

LHIN (ordered by LHIN number)	Number of Residents					
	2009	2010	2011	2012	2013	2014
Ontario	12,997,687	13,135,063	13,263,544	13,409,558	13,551,004	13,677,687
Erie St. Clair	641,190	639,160	637,703	638,327	638,230	638,665
South West	943,607	947,879	951,756	957,521	962,660	967,504
Waterloo Wellington	732,020	739,107	746,626	754,937	761,277	767,615
Hamilton Niagara Haldimand Brant	1,377,876	1,388,248	1,397,645	1,409,094	1,421,263	1,432,772
Central West	840,698	854,788	868,107	882,381	898,234	913,504
Mississauga Halton	1,104,469	1,126,484	1,146,092	1,167,543	1,190,431	1,211,015
Toronto Central	1,167,275	1,176,857	1,189,379	1,205,450	1,221,300	1,233,347
Central	1,696,126	1,730,102	1,759,005	1,788,898	1,816,444	1,842,229
Central East	1,515,496	1,530,262	1,544,969	1,564,318	1,582,733	1,598,048
South East	486,953	489,384	490,957	492,277	493,298	494,243
Champlain	1,237,490	1,255,190	1,270,267	1,283,100	1,294,861	1,305,682
North Simcoe Muskoka	444,946	449,211	453,430	459,689	465,833	471,917
North East	571,343	570,490	569,430	568,019	566,672	563,936
North West	238,198	237,901	238,178	238,004	237,768	237,210

Source: Statistics Canada. Table 109-5355 - Estimates of population (2011 Census and administrative data), by age group and sex for July 1st, Canada, provinces, territories, health regions (2015 boundaries) and peer groups, annual (number), CANSIM.

Active ODB-eligible individuals in Ontario used to calculate opioid user rates, by county

County	Number of ODB-Eligible Residents				
	2011	2012	2013	2014	2015
Ontario	2,660,691	2,747,553	2,826,534	2,903,559	3,261,025
Algoma District	34,438	35,093	35,507	35,927	40,235
Brant County	30,685	31,764	32,293	32,994	36,389
Bruce County	16,135	16,706	16,960	17,466	20,481
Chatham-Kent Division	29,371	29,770	30,010	30,394	33,808
Cochrane District	18,912	18,952	19,106	19,414	21,228
Dufferin County	9,292	9,678	9,854	10,039	11,586
Durham Regional Municipality	103,442	108,300	112,502	116,174	133,132
Elgin County	20,209	20,774	21,331	21,706	24,222
Essex County	93,863	96,642	98,790	101,282	114,549
Frontenac County	36,433	37,529	38,124	38,867	47,047
Greater Sudbury Division	37,442	38,166	39,253	40,081	46,005
Grey County	25,578	26,235	26,914	27,459	30,622
Haldimand-Norfolk Regional Municipality	26,044	26,820	27,633	28,142	31,216
Haliburton County	6,051	6,203	6,354	6,453	6,993
Halton Regional Municipality	77,869	81,006	83,831	87,022	101,638
Hamilton Division	124,562	127,720	130,329	132,704	146,524
Hastings County	38,262	39,314	39,888	40,784	44,877
Huron County	14,898	15,282	15,612	15,932	17,877
Kawartha Lakes, City of	21,430	22,050	22,606	22,894	24,336
Kenora District	9,465	9,787	10,195	10,451	11,659
Lambton County	32,814	33,790	34,375	34,872	38,332
Lanark County	16,913	17,536	18,149	18,635	21,135
Leeds and Grenville United Counties	26,733	27,598	28,259	29,114	31,947
Lennox and Addington County	10,674	11,000	11,341	11,704	13,691
Manitoulin District	3,810	3,968	3,995	4,142	4,518
Middlesex County	96,420	99,574	101,881	104,411	122,545
Muskoka District Municipality	16,061	16,474	16,981	17,384	19,074
Niagara Regional Municipality	113,535	117,053	120,221	123,204	132,894
Nipissing District	22,995	23,453	23,756	24,340	27,917
Northumberland County	22,541	23,471	24,337	25,105	28,331
Ottawa Regional Municipality	162,937	169,496	175,839	182,219	224,463
Oxford County	23,767	24,366	24,823	25,344	28,859
Parry Sound District	12,690	13,014	13,328	13,712	15,013
Peel Regional Municipality	193,230	202,861	213,723	223,492	247,857
Perth County	15,722	15,974	16,224	16,569	19,642
Peterborough County	38,302	39,649	40,603	41,521	45,618
Prescott and Russell United Counties	18,037	18,702	19,275	19,924	22,170
Prince Edward Division	8,295	8,568	8,765	8,962	9,862
Rainy River District	4,365	4,425	4,497	4,595	4,960
Renfrew County	24,941	25,561	26,250	26,772	30,576
Simcoe County	94,644	98,718	102,304	105,321	117,805
Stormont, Dundas and Glengarry United	32,355	33,070	33,989	34,377	37,278
Sudbury District	5,404	5,555	5,625	5,858	6,736
Thunder Bay District	33,965	34,804	35,478	36,184	42,193
Timiskaming District	9,545	9,544	9,563	9,592	9,724
Toronto Division	562,795	575,242	587,004	598,464	634,124
Waterloo Regional Municipality	90,513	93,488	95,773	98,593	117,707
Wellington County	37,713	39,198	40,373	41,685	49,016
York Regional Municipality	150,537	159,761	168,674	177,252	207,155

Source: Ontario Drug Policy Research Network

Population estimates in Ontario used to calculate rates of opioid-related hospital admissions, emergency department visits and deaths, by county

County	Number of Residents					
	2009	2010	2011	2012	2013	2014
Ontario	12,997,687	13,135,063	13,263,544	13,409,558	13,551,004	13,677,687
Algoma District	120,076	119,808	119,344	118,549	117,885	116,986
Brant County	138,136	138,972	139,939	140,895	142,241	143,262
Bruce County	67,222	67,541	67,764	67,829	67,958	68,053
Chatham-Kent Division	108,799	107,490	106,682	106,259	105,998	105,874
Cochrane District	84,475	83,800	83,276	82,835	82,583	82,006
Dufferin County	57,489	58,014	58,528	58,757	59,435	60,729
Durham Regional Municipality	610,018	619,053	626,765	636,121	645,055	653,220
Elgin County	89,236	89,592	89,843	90,160	90,367	90,534
Essex County	400,311	399,887	399,665	401,138	401,742	402,806
Frontenac County	151,863	153,126	154,322	154,953	156,008	157,004
Greater Sudbury Division	165,266	164,823	164,853	165,074	165,234	164,820
Grey County	94,994	95,016	94,769	94,918	95,228	95,170
Haldimand-Norfolk Regional Municipality	112,110	111,992	111,848	111,444	111,431	111,556
Haliburton County	17,006	17,167	17,385	17,736	17,825	17,928
Halton Regional Municipality	493,623	506,718	517,159	528,454	539,958	549,769
Hamilton Division	527,652	531,663	535,602	540,940	546,600	551,659
Hastings County	137,849	138,074	138,351	138,307	138,354	138,315
Huron County	60,909	60,677	60,522	59,520	59,258	58,908
Kawartha Lakes, City of	75,276	75,018	74,942	75,469	75,660	75,755
Kenora District	68,711	69,003	69,639	69,894	70,092	70,179
Lambton County	132,080	131,783	131,356	130,930	130,490	129,985
Lanark County	66,287	66,990	67,274	67,353	67,509	67,784
Leeds and Grenville United Counties	101,702	101,874	101,752	101,855	101,621	101,395
Lennox and Addington County	42,345	42,786	42,872	43,623	43,610	43,754
Manitoulin District	13,213	13,306	13,336	13,443	13,487	13,422
Middlesex County	446,874	449,928	452,845	457,663	461,783	465,668
Muskoka District Municipality	60,618	60,927	61,095	61,523	61,970	62,357
Niagara Regional Municipality	440,802	441,842	442,803	444,352	445,495	447,380
Nipissing District	87,030	87,364	87,551	87,505	87,494	87,521
Northumberland County	83,732	83,823	84,060	84,611	85,193	85,698
Ottawa Regional Municipality	883,741	899,016	912,248	924,166	935,810	946,344
Oxford County	106,997	107,826	108,674	109,737	110,155	111,048
Parry Sound District	42,814	43,086	43,154	43,146	42,961	42,783
Peel Regional Municipality	1,293,927	1,318,153	1,340,528	1,364,732	1,391,479	1,416,605
Perth County	77,163	77,105	77,127	77,553	77,815	78,004
Peterborough County	137,517	138,315	138,494	138,831	139,337	139,626
Prescott and Russell United Counties	85,402	86,743	87,780	88,601	88,906	89,258
Prince Edward Division	25,846	25,855	25,804	25,588	25,567	25,404
Rainy River District	21,198	20,988	20,877	20,547	20,352	20,196
Renfrew County	103,021	103,489	104,078	104,141	104,178	104,246
Simcoe County	449,419	454,109	458,930	465,835	472,570	479,331
Stormont, Dundas and Glengarry United	115,245	115,468	115,557	115,531	115,260	115,018
Sudbury District	22,189	22,026	21,633	21,367	21,133	20,789
Thunder Bay District	150,611	150,242	150,016	149,925	149,693	149,207
Timiskaming District	33,958	33,945	33,929	33,738	33,526	33,237
Toronto Division	2,654,359	2,676,148	2,704,622	2,741,169	2,777,211	2,804,604
Waterloo Regional Municipality	512,438	517,720	523,753	529,513	534,132	538,473
Wellington County	211,384	213,187	214,694	217,233	218,926	220,928
York Regional Municipality	1,014,754	1,043,585	1,065,504	1,086,095	1,104,429	1,123,089

Source: Statistics Canada. Table 051-0062 - Estimates of population by census division, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011, annual (persons)

Opioid drugs used to define opioid users and prescriptions in the ODB database, by type of opioid

Opioid Drug Groups	Products Included (Brand and Generic Names)
Immediate Release Combination Agent	292
	AC & C
	ACETOPHEN COMP W/COD
	ANCASAL
	APO-OXYCODONE/ACET
	ATASOL-15
	ATASOL-30
	CORYPHEN COD
	EMPRACET-30
	EMPRACET-60
	ENDOCET
	ENDODAN
	EXDOL-15
	EXDOL-30
	FIORINAL-C
	NOVO-GESIC CODEINE
	OXYCODONE-ACET
	PERCOCET
	PERCODAN
	PMS-ACET W/COD
	PMS-OXYCODONE-ACET
	RATIO-EMTEC
	RATIO-LENOLTEC #2
	RATIO-LENOLTEC #3
	RATIO-LENOLTEC #4
	RATIO-OXYCOCET
	RATIO-OXYCODAN
RATIO-TECNAL C	
SANDOZ-OXYCODONE/ACET	
TYLENOL W/CODEINE	
Immediate Release Single Agent	642
	APO-HYDROMORPHONE
	BUTORPHANOL
	CAMPHORATED OPIUM
	CODEINE
	CODEINE PHOS
	CODEINE PHOSPHATE
	DARVON-N
	DEMEROL
	DILAUDID
	DILAUDID HP
	DILAUDID HP-PLUS
	DILAUDID XP
	DONNAGEL PG
	FENTANYL CITRATE
	HYDROMORPHONE HCL
	HYDROMORPHONE HP 10
	HYDROMORPHONE HP 20
	HYDROMORPHONE HP 50
	LERITINE
	M.O.S.
	MEPERIDINE
	MORPHINE
	MORPHINE HP
	MORPHINE SULFATE

	MS-IR
	NOVO-PROPOXYN
	NUMORPHAN
	OPIUM BELLADONNA
	OXY.IR
	PMS-HYDROMORPHONE
	PMS-OPIUM BELLADONNA
	PMS-OXYCODONE
	RATIO-CODEINE
	RATIO-CODEINE PHOSPHATE
	RATIO-MORPHINE
	STADOL NS
	STATEX
	SUFENTA
	SUFENTANIL CITRATE
	SUPEUDOL
	TALWIN
	TEVA-HYDROMORPHONE
Long-Acting Codeine	CODEINE CONTIN
Long-Acting Fentanyl	APO-FENTANYL MATRIX
	CO FENTANYL
	DURAGESIC
	DURAGESIC MAT
	MYLAN-FENTANYL MATRIX
	PMS-FENTANYL MTX
	RAN-FENTANYL
	RAN-FENTANYL MATRIX
	SANDOZ-FENTANYL MTX
TEVA-FENTANYL	
Long-Acting Hydromorphone	HYDROMORPH CONTIN
	PALLADONE XL
Long-Acting Morphine	KADIAN
	M.O.S.-SR
	M-ESLON
	MS CONTIN
	ORAMORPH SR
	PMS-MORPHINE SULFATE SR
	SANDOZ-MORPHINE SR
	TEVA-MORPHINE SR
Long-Acting Oxycodone	OXYCONTIN
	OXYNEO
Opioid Maintenance Therapy	METHADONE
	METHADONE COMPOUNDING FOR MMT
	METHADOSE
	MYLAN-BUPRENORPH/NALOXON
	SUBOXONE
TEVA-BUPRENORPHINE/NALOX	
Other	LEVO DROMORAN
	METADOL
	METHADONE
	METHADONE SOLUTION