

Table 1 K00K93. Statistics on ED visits for disease of the digestive system (ICD-10 codes: K00 – K93). Toronto, Canada. 2004 – 2015.

Strata	ED visits	Min	Q1	Median	Mean	Q3	Max
All	993,364	78	146	263	231.4	288	360
Female	514,336	36	75	135	119.8	150	202
Male	479,028	32	73	124	111.6	139	189
Warm All	507,627	79	144	262	231.2	286	349
Warm Female	263,423	41	75	135	120.0	150	197
Warm Male	244,204	35	72	123	111.2	138	178
Cold All	485,737	78	147	265	231.7	289	360
Cold Female	250,913	36	76	135	119.7	151	202
Cold Male	234,824	32	74	124	112.0	141	189
Age 0-10 All	66,407	1	11	14	15.5	19	45
Age 0-10 Female	28,915	0	4	6	6.7	9	26
Age 0-10 Male	37,492	0	6	8	8.7	11	29
Age 11-60 All	577,811	37	88	151	134.6	167	225
Age 11-60 Female	298,664	20	45	76	69.6	87	126
Age 11-60 Male	279,147	17	44	71	65.0	81	114
Age 60+ All	349,146	17	46	93	81.4	106	150
Age 60+ Female	186,757	6	25	48	43.5	57	87
Age 60+ Male	162,389	4	22	42	37.8	50	79

Notes. Column labelled as “ED visits” shows the number of ED visits, Warm: April – September, Cold: October – March, Min – minimum, Max –maximum, Q1-25<sup>th</sup> percentile, Q3-75<sup>th</sup> percentile.

	AQHI												CO											
All	1	1	1	1	0	0	-1	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-1
Female	1	1	1	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-1
Male	1	1	1	0	0	0	-1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Warm All	1	1	1	1	1	0	-1	0	1	0	0	0	-1	1	0	1	0	0	0	0	0	0	0	-1
Warm Female	1	0	1	0	0	0	-1	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-1
Warm Male	1	1	1	1	1	0	-1	0	1	0	0	0	-1	0	0	0	0	0	0	0	1	1	0	0
Cold All	1	1	1	0	0	0	0	-1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Cold Female	1	1	1	0	0	0	0	-1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Cold Male	1	1	1	0	0	0	0	-1	0	0	0	0	1	0	0	0	0	0	0	0	0	-1	0	0
Age 0-10 All	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0
Age 0-10 Female	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Age 0-10 Male	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0
Age 11-60 All	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-1
Age 11-60 Female	1	0	1	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	-1
Age 11-60 Male	1	0	1	0	0	0	-1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-1
Age 60+ All	1	1	1	0	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	-1	0	0	0	0
Age 60+ Female	1	1	1	0	0	0	0	0	0	0	0	0	-1	0	0	0	-1	0	0	0	0	0	0	0
Age 60+ Male	1	1	1	0	0	0	0	0	0	0	0	-1	1	0	0	0	0	0	0	0	0	0	0	0

  

	AQHIX												NO2											
All	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	1	0	0	0	0	0	0	0	-1
Female	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	1	0	0	0	0	0	0	0	-1
Male	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	0	1	0	0	0	0	0	0	-1
Warm All	1	1	1	1	1	0	-1	0	0	0	0	-1	1	0	1	0	1	0	-1	-1	0	0	0	-1
Warm Female	1	1	1	0	0	0	-1	0	0	0	0	-1	1	0	1	0	0	0	-1	-1	0	0	0	-1
Warm Male	1	1	1	1	1	0	0	1	0	1	1	-1	1	0	1	0	1	0	-1	0	1	0	0	-1
Cold All	1	1	1	0	0	0	0	-1	0	0	0	-1	1	1	1	1	1	0	0	0	-1	0	0	-1
Cold Female	1	1	1	0	0	0	0	-1	0	0	0	-1	1	1	1	1	0	0	0	0	0	0	0	-1
Cold Male	1	1	1	0	0	0	0	-1	0	0	0	-1	1	1	1	1	1	0	0	0	-1	0	0	-1
Age 0-10 All	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1	0	0	0	0
Age 0-10 Female	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	-1	-1	0	0	0
Age 0-10 Male	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	0	0
Age 11-60 All	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	0	0	0	0	0	0	0	0	-1
Age 11-60 Female	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	0	0	0	0	0	0	0	0	-1
Age 11-60 Male	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	-1
Age 60+ All	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	1	0	0	0	0	0	0	0	-1
Age 60+ Female	1	1	1	0	0	0	0	0	0	0	0	-1	1	1	1	0	0	0	0	0	0	0	0	-1
Age 60+ Male	1	1	1	1	0	0	0	0	0	0	0	-1	1	1	1	1	0	0	0	0	0	0	0	-1

	O3																PM2.5															
All	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	-1	0	0	0	0	0	0	0	0	0	
Female	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Male	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	-1	0	0	0	0	0	0	0	0	
Warm All	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	-1	0	0	0	0	0	0	0	0	
Warm Female	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	
Warm Male	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	0	-1	0	1	0	0	0	1	1	0	0	
Cold All	-1	-1	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	-1	0	-1	0	0	0	0	0	0	
Cold Female	-1	-1	-1	-1	-1	0	0	-1	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	-1	-1	0	0	0	0	0	0	
Cold Male	-1	-1	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	-1	0	-1	0	0	0	0	0	0	0	
Age 0-10 All	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Age 0-10 Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Age 0-10 Male	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	
Age 11-60 All	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	-1	0	0	0	0	0	0	0	0	0	
Age 11-60 Female	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-1	0	0	0	0	0	
Age 11-60 Male	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1	0	0	0	0	0	0	0	0	0	
Age 60+All	-1	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	
Age 60+ Female	-1	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Age 60+ Male	-1	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	

  

	O3 H8																SO2															
All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-1	0	0	0	0	0	0	0	0	0	
Female	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	-1	-1	0	
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	
Warm All	1	1	1	1	1	0	0	0	0	-1	0	0	0	0	0	1	0	0	0	1	0	-1	-1	0	0	0	0	0	0	0	0	
Warm Female	1	1	1	1	1	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	-1	-1	0	0	0	0	0	-1	0	0	
Warm Male	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	-1	-1	1	0	0	0	0	0	0	0	
Cold All	-1	0	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	-1	-1	0	0	0	0	0	0	-1	
Cold Female	-1	0	0	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	-1	-1	0	0	0	0	0	-1	-1	
Cold Male	-1	0	0	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	-1	0	0	0	0	0	0	0	0	0	
Age 0-10 All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Age 0-10 Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Age 0-10 Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Age 11-60 All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	-1	-1	0	0	0	0	0	0	0	0	
Age 11-60 Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	-1	0	0	0	0	0	-1	0	
Age 11-60 Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	
Age 60+All	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	-1	0	0	0	0	0	0	0	0	-1	
Age 60+ Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	-1	0	
Age 60+ Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Figure 1 K00K93. The map of the results from 2,160 models. red - positive (1), green-negative (-1), both are statistically significant, white – no relations (0). Toronto, Canada. 2004-2015.

Lag	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
AQHI	15	11	15	4	4	1	0	0	2	0	1	1	3	0	0	57
AQHIX	15	15	15	3	5	1	0	0	1	0	0	2	2	0	0	59
CO	13	0	1	0	2	0	0	0	1	1	1	1	2	0	0	22
NO <sub>2</sub>	15	12	15	7	9	1	0	0	1	0	0	1	2	0	0	63
O <sub>3</sub>	0	2	2	3	0	0	0	3	0	1	1	2	0	9	10	33
O <sub>3</sub> H8	3	3	3	3	2	0	0	0	0	0	1	4	1	4	1	25
PM <sub>2.5</sub>	7	3	15	5	5	0	0	0	1	0	1	1	2	1	0	41
SO <sub>2</sub>	3	0	0	0	7	0	0	0	1	0	0	0	2	1	0	14
Total	71	46	66	25	34	3	0	3	7	2	5	12	14	15	11	314

	Lag	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
All		5	3	4	2	2	0	0	0	0	0	0	0	0	1	1	18
Female		5	3	4	1	0	0	0	0	0	0	0	0	0	1	1	15
Male		4	3	4	1	2	0	0	0	0	0	0	0	0	1	1	16
Warm All		6	4	7	4	4	0	0	1	1	0	0	1	0	1	0	29
Warm Female		5	2	5	2	1	0	0	1	0	0	0	0	0	0	0	16
Warm Male		5	5	6	5	5	0	0	1	6	1	0	2	5	2	0	43
Cold All		5	3	4	2	2	0	0	0	0	0	0	0	0	2	1	19
Cold Female		5	3	4	1	1	0	0	0	0	0	0	0	0	2	1	17
Cold Male		5	3	4	2	2	0	0	0	0	0	0	0	0	1	1	18
Age 0-10 All		0	0	0	0	5	0	0	0	0	1	1	2	3	1	0	13
Age 0-10 Female		0	0	0	1	7	3	0	0	0	0	0	1	0	0	2	14
Age 0-10 Male		0	0	1	0	0	0	0	0	0	0	4	6	6	1	0	18
Age 11-60 All		4	2	4	0	1	0	0	0	0	0	0	0	0	1	1	13
Age 11-60 Female		4	2	4	0	1	0	0	0	0	0	0	0	0	0	1	12
Age 11-60 Male		4	2	4	0	0	0	0	0	0	0	0	0	0	1	1	12
Age 60+All		6	4	4	1	0	0	0	0	0	0	0	0	0	0	0	15
Age 60+ Female		3	3	4	0	0	0	0	0	0	0	0	0	0	0	0	10
Age 60+ Male		5	4	3	3	1	0	0	0	0	0	0	0	0	0	0	16
Total		71	46	66	25	34	3	0	3	7	2	5	12	14	15	11	314



Air Pollution:	AQHIX		NO2		O3H8		SO2		Total
	AQHI	CO			O3	PM2.5			
All	4	3	1	5	2	0	2	1	18
Female	3	3	1	4	2	0	2	0	15
Male	3	4	1	4	2	0	2	0	16
Warm All	6	5	2	3	5	5	2	1	29
Warm Female	2	3	1	2	2	4	2	0	16
Warm Male	7	8	2	5	5	7	7	2	43
Cold All	3	3	1	5	2	1	3	1	19
Cold Female	3	3	1	4	2	1	2	1	17
Cold Male	3	3	1	5	1	1	3	1	18
Age 0-10 All	2	1	2	1	3	2	1	1	13
Age 0-10 Female	3	2	1	2	2	2	1	1	14
Age 0-10 Male	3	2	3	2	0	2	4	2	18
Age 11-60 All	2	3	1	3	2	0	1	1	13
Age 11-60 Female	2	3	1	3	1	0	1	1	12
Age 11-60 Male	2	3	1	3	2	0	1	0	12
Age 60+All	3	3	1	4	0	0	3	1	15
Age 60+ Female	3	3	0	3	0	0	1	0	10
Age 60+ Male	3	4	1	5	0	0	3	0	16
Total	57	59	22	63	33	25	41	14	314

Figure 2 K00K93. The scores of the positive statistical significant associations by strata, air pollutants, and lags. Toronto, Canada. 2004 – 2015.