## Appendix 1 (as supplied by the authors): Missing data

Location	p16-known			p16-unknown			
	Toronto n=971	Alberta n=253	All centres n=1282	Toronto n=728	Alberta n=485	All centres n=2361	Overall n=3643
Age	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Sex	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Marital status <sup>3</sup>	24 (2%)	0 (0%)	27 (2%)	10 (1%)	1 (<1%)	296 (13%)	323 (9%)
Urban/rural	1 (<1%)	1 (<1%)	3 (<1%)	1 (<1%)	0 (0%)	5 (<1%)	8 (<1%)
Body mass index	532 (55%)*	4 (2%)	542 (42%)	486 (67%)*	50 (10%)	986 (42%)	1528 (42%)
Charlson comorbidity index	8 (<1%)	1 (<1%)	22 (2%)	16 (2%)	1 (<1%)	1089 (46%)	1111 (30%)
Smoking status <sup>1</sup>	1 (<1%)	0 (0%)	1 (<1%)	12 (2%)	12 (2%)	79 (3%)	80 (2%)
Pack-years	81 (8%)	5 (2%)	93 (7%)	21 (3%)	34 (7%)	554 (23%)	647 (18%)
Alcohol consumption <sup>2</sup>	26 (3%)	12 (5%)	40 (3%)	66 (9%)	22 (5%)	297 (13%)́	337 (9%)
Tumor stage	21 (2%)	3 (1%)	33 (3%)	131 (18%)	10 (2%)	485 (21%)	518 (14%)
Nodal stage	21 (2%)	2 (1%)	30 (2%)	128 (18%)	9 (2%)	464 (20%)	494 (14%)
Overall stage	21 (2%)	1 (<1%)	29 (2%)	128 (18%)	5 (1%)	457 (19%)́	486 (13%)́
Anatomic subsite <sup>4</sup>	49 (5%)	6 (2%)	56 (4%)	26 (4%)	19 (4%)	159 (7%)	215 (6%)
Primary treatment	3 (<1%)	3 (1%)	8 (1%)	2 (<1%)	3 (<1%)	7 (<1%)	15 (<1%)

\*variables that have >50% missing data

<sup>1</sup> current, former, never <sup>2</sup> none/light, moderate/heavy <sup>3</sup> married/common-law, never married/separated/divorced/widow

<sup>4</sup> tonsil, base-of-tongue, other