Appendix 1: Supplementary tables

Supplementary Table 1: Alberta Health Services Urban Continuum Area Definition	
Main Delivery Site	**Description**
Urban	5 major urban centres with populations > 25,000 but less and 500,000 (Grand Prairie, Fort McMurray, Red Deer, Lethbridge, Medicine Hat)
Moderate Urban	Local Geographic areas surrounding the 5 urban centres. These areas are typically considered rural given that their populations are low and the Local Geographic areas do not define these areas properly
Metro	Population greater than 500,000. Calgary and Edmonton proper
Moderate Metro	Defined by AHS Local Geography areas immediately surrounding Calgary and Edmonton. These are deemed as commuter communities (live outside of Calgary/Edmonton but commute to Calgary/Edmonton for work and business)
Rural Centre Area	Population of 10,000 to less than 25,000 population (Brooks, Canmore, Wetaskiwin, Camrose, Lloydminster, Cold Lake)
Rural	Populations less than 10,000 and up to 200 kilometres from a Metro or Urban centre. These include towns, villages, hamlets, and agricultural areas
Rural Remote	Greater than 200 kilometres from a Metro or Urban centre. Industries tend to include oil & gas, forestry, hunting/trapping, tourism and sometimes pockets of agriculture

(Alberta Health Services and Alberta Health (2017), Official Standard Geographic Areas, Alberta, Canada).

Supplementary Table 2: Percent of service code use by non-high volume and high volume providers

Code	Total		Non-High Volume		High Volume	
	Obs.	Mean (SD)	Obs.	Mean (SD)	Obs.	Mean (SD)
Limited Visit Fee (03.03A)	3465	51.8 (27.9)	3239	51.4(27.7)	226	57.3 (29.1)
Comprehensive Visit Fee (03.04A)	3465	5.4 (6.0)	3239	5.3(6.0)	226	4.8(5.7)
Complex Care Visit Fee* (03.04J)	3465	0.4 (1.1)	3239	0.4(1.1)	226	*0.7 (1.3)
After-Hours Call-Back (03.03MD)	3465	0.1	3239	0.1	226	0.14
After-Hours Call-Back (03.03MC)	3465	0.07	3239	0.07	226	0.08
After Hours Fee* (03.01AA)	3465	6.6 (10.9)	3239	6.7(11.0)	226	*5.2 (9.3)
Mental Health Visit Fee (08.19G)	3465	1.2(2.9)	3239	1.22(2.8)	226	0.6 (1.3)
Hospital Admission 03.04C	3465	0.4(1.1)	3239	0.4 (1.1)	226	0.4 (0.8)
Pap Smear (13.99BA)	3465	1.3 (2.9)	3239	1.3(2.9)	226	0.8 (2.0)
Time Modifier1 CMPG01*	3465	17.1 (15.1)	3239	17.7 (15.2)	226	*9.4 (11.4)
Time Modifier2 CMPG02*	3465	5.2 (7.0)	3239	5.5 (7.1)	226	*1.7 (3.7)

*Note: * Denotes statistically significant difference (at p=0.05) between high and low volume when adjusting for covariates.*