

Results Tables

Table 1A: Physicians group and physicians characteristics by enrolment model of care – comparing interprofessional teams to non-interprofessional teams to all groups (patient enrolment models) in Ontario based on March 31st, 2015						
	Interprofessional Teams		Non-interprofessional teams		All Ontario physician groups (patient enrolment models) and physicians	
Physicians' Group characteristics						
Groups No. (% of all PEMs)	177	22.8	288	37.0	778	100.0
Number of physicians per group, Mean (SD)	13.11	10.7	8.8	7.6	17	188.9
Years under the capitation model, Mean (SD)	6.00	3.0	4.3	2.6	6	3.3
Physicians characteristics						
Physicians No. (% of all physicians)	2,311	17.1	2,537	18.8	13,480	100.0
Number of patients per physician, Mean (SD)	1,303	638.9	1,517	675.9	1,020	944.6
Sex No. (%)						
Male	1,212	52.4	1,391	54.8	7,270	53.9

Female	1,099	47.6	1,146	45.2	5,864	43.5
Missing	0	0.0	0	0.0	346	2.6
Age group No. (%) in Yrs.						
<40	546	23.6	364	14.4	2,518	18.7
40-64	1,499	64.9	1,773	69.9	7,930	58.8
> 64	232	10.0	373	14.7	2,031	15.1
Missing	34	1.5	27	1.1	1,001	7.4
Country of medical graduation Canada No. (%)						
Yes	1,874	81.1	1,871	73.8	8,974	66.6
No	403	17.4	639	25.2	3,505	26.0
Missing	34	1.5	27	1.1	1,001	7.4
Years in practice No. (%)						
<5	60	2.6	48	1.9	667	5.0
5_15	701	30.3	465	18.3	3,145	23.3
16-25	531	23.0	645	25.4	3,047	22.6
>25	1,019	44.1	1,379	54.4	6,275	46.6
Missing	0	0.0	0	0.0	346	2.6

Table 1B: Patients' characteristics comparing patients in interprofessional teams, non-interprofessional teams, all multi-morbid patients and all Ontarians adults on March 31st, 2003

	Multi-morbid patients in interprofessional teams		Multi-morbid patients in Non-interprofessional teams		All multi-morbid patients in Ontario		All Ontarians	
Patients total	475,611		618,363		2,920,990		9,397,586	

Sex No. (%)								
Males	186,729	39.3	246,882	39.9	1,240,516	42.5	4,576,936	48.7
Female	288,882	60.7	371,481	60.1	1,680,474	57.5	4,820,650	51.3
Missing	-	0.0	-	0.0	-	0.0	-	0.0
Age group, yr. No. (%)								
18-44	138,965	29.2	184,059	29.8	654,813	22.4	4,863,276	51.8
45-64	227,930	47.9	296,914	48.0	1,127,265	38.6	2,981,705	31.7
65-84	107,821	22.7	136,227	22.0	999,353	34.2	1,389,782	14.8
84+	895	0.2	1,163	0.2	139,559	4.8	162,823	1.7
Missing	-	0.0	-	0.0	-	0.0	-	0.0
New OHIP registrants (within 10 years) No. (%)	13,742	2.9	29,981	4.9	157,488	5.4	1,200,951	12.8
Income quintile, No. (%)								
1 (low)	84,198	17.7	101,739	16.5	583,685	20.0	1,799,279	19.2
2	96,387	20.3	115,903	18.7	605,293	20.7	1,884,459	20.1
3	95,925	20.2	125,618	20.3	588,141	20.1	1,892,274	20.1
4	96,214	20.2	132,243	21.4	570,140	19.5	1,903,560	20.3
5 (high)	101,596	21.4	141,926	23.0	565,536	19.4	1,888,811	20.1
Missing	1,291	0.3	934	0.2	8,195	0.3	29,203	0.3
Rurality Index of Ontario, No. (%)								
Major urban (0 to 9)	257,792	54.2	475,286	76.9	2,026,660	69.4	6,698,329	71.3
Semi-urban (10 to 39)	150,810	31.7	111,986	18.1	608,960	20.9	1,852,225	19.7
Rural (≥40)	63,866	13.4	28,970	4.7	260,936	8.9	761,861	8.1
Missing	3,143	0.7	2,121	0.3	24,434	0.8	85,171	0.9
Resource utilization band (RUB), No. (%)								
0 (non-user)	2,157	0.5	2,431	0.4	30,338	1.0	938,240	10.0
1	2,252	0.5	2,595	0.4	11,227	0.4	555,466	5.9
2	23,325	4.9	27,403	4.4	114,781	3.9	1,588,712	16.9
3	306,213	64.4	399,620	64.6	1,691,226	57.9	4,685,817	49.9
4	109,010	22.9	146,389	23.7	734,298	25.1	1,253,298	13.3
5 (very high user)	32,654	6.9	39,925	6.5	339,120	11.6	376,053	4.0
Missing								

Patients with Chronic disease								
2 + Co-morbidity No. (%)	475,611	100.0	618,363	100.0	2,920,990	100.0	2,920,990	31.1
3+ comorbidities No. (%)	194,828	41.0	257,141	41.6	1,481,098	50.7	1,481,098	15.8
4+ comorbidities No. (%)	71,285	15.0	95,323	15.4	723,296	24.8	723,296	7.7
5+ comorbidities No. (%)	23,824	5.0	323,368	5.2	344,685	11.8	344,685	3.7

Table 2A: ACSC hospital admissions between April 1st, 2015 and February 28th, 2017 among multi-morbid adults by physician characteristics on identified on March 31st, 2015

	Interprofessional Teams			Non-interprofessional teams			Rate Difference (interprofessional Teams - Non- interprofessional teams)
	Numerator	Denominator	Rate per 100	Numerator	Denominator	Rate per 100	
ACSC admissions and patients totals	11,963	475,611	2.5	13,160	618,363	2.1	0.4
Physicians characteristics							
Sex							
Male	8,183	298,763	2.7	9,547	407,328	2.3	0.4
Female	3,780	176,848	2.1	3,613	210,599	1.7	0.4
Missing					436	0.0	
Age group							
<40	2,013	80,487	2.5	1,098	54,012	2.0	0.5
40-64	8,170	332,177	2.5	9,242	445,990	2.1	0.4
> 64	1,648	58,240	2.8	2,730	114,424	2.4	0.4
Missing	132	4,707	2.8	90	3,937	2.3	0.5
Country of medical graduation Canada							

Yes	9,389	379,843	2.5	9,459	456,855	2.1	0.4
No	2,442	91,061	2.7	3,611	157,571	2.3	0.4
Missing	132	4,707	2.8	90	3,937	2.3	0.5
Years in practice							
<5	246	9,457	2.6	180	6,971	2.6	0.0
5_15	2,650	105,104	2.5	1,464	71,094	2.1	0.4
16-25	2,571	107,080	2.4	3,047	144,860	2.1	0.3
>25	6,496	253,970	2.6	8,460	395,002	2.1	0.5
Missing		-		9	436	2.1	-2.1

Table 2B: ACSC hospital admissions between April 1st, 2015 and March 31st, 2017 among multi-morbid adults by patient characteristics from March 31st, 2003

Patients characteristics							
ACSC admissions and patients totals	11,963	475,611	2.52	13,160	618,363	2.13	0.39
Sex							
Males	5,265	186,729	2.8	5,869	246,882	2.4	0.4
Female	6,698	288,882	2.3	7,291	371,481	2.0	0.3
Missing	-	-		-	-	0.0	
Age group, yr.							
18-44	1,229	138,965	0.9	1,288	184,059	0.7	0.2
45-64	5,213	227,930	2.3	5,665	296,914	1.9	0.4
65+	5,521	108,716	5.1	6,207	137,390	4.5	0.6
Missing		-			-	0.0	
New OHIP registrants (within 10 years)							
Yes	294	13,742	2.1	470	29,981	1.6	0.5
No	11,669	461,869	2.5	12,690	588,382	2.2	0.3

Income quintile							
1 (low)	2,742	84,198	3.3	2,859	101,739	2.8	0.5
2	2,710	96,387	2.8	2,815	115,903	2.4	0.4
3	2,338	95,925	2.4	2,631	125,618	2.1	0.3
4	2,161	96,214	2.2	2,545	132,243	1.9	0.3
5 (high)	1,972	101,596	1.9	2,290	141,926	1.6	0.3
Missing	40	1,291	3.1	20	934	2.1	1
Rurality Index of Ontario							
Major urban (0 to 9)	5,741	257,792	2.2	9,396	475,286	2.0	0.2
Semi-urban (10 to 39)	4,062	150,810	2.7	2,809	111,986	2.5	0.2
Rural (≥40)	2,060	63,866	3.2	881	28,970	3.0	0.2
Missing	100	3,143	3.2	74	2,121	3.5	-0.3
Resource utilization band (RUB)							
0 (non-user)	37	2,157	1.7	56	2,431	2.3	-0.6
1	40	2,252	1.8	27	2,595	1.0	0.8
2	399	23,325	1.7	382	27,403	1.4	0.3
3	6,410	306,213	2.1	7,081	399,620	1.8	0.3
4	3,370	109,010	3.1	3,773	146,389	2.6	0.5
5 (very high user)	1,707	32,654	5.2	1,841	39,925	4.6	0.6
Missing							
Patients with Chronic disease							
2 + Co-morbidity							
Yes	11,963	475,611	2.5	13,160	618,363	2.1	0.4
No	-	-		-	-		
3+ comorbidities							
Yes	7,635	257,141	3.0	8,657	257,141	3.4	-0.4
No	4,328	280,783	1.5	4,503	361,222	1.2	0.3

4+ comorbidities							
Yes	4,213	71,285	5.9	4,841	95,323	5.1	0.8
No	7,750	404,326	1.9	8,319	523,040	1.6	0.3
5+ comorbidities							
Yes	1,949	23,824	8.2	2,329	32,368	7.2	1
No	10,014	451,787	2.2	10,831	585,995	1.8	0.4

Table 3A: All cause hospital readmissions among multi-morbid adults between April 1st, 2015 and March 31st, 2017 by physician characteristics based March 31st, 2017

	Interprofessional Teams			Non-interprofessional teams			
	Numerator	Denominator	Rate per 100	Numerator	Denominator	Rate per 100	Rate Difference (interprofessional Teams - Non-interprofessional teams)
All-cause readmissions and patient totals	1,796	11,963	15.0	1,917	13,160	14.6	0.4
Sex No. (%)							
Male	1,231	8,183	15.0	1,375	9,547.00	14.4	0.6
Female	565	3,780	14.9	542	3,613.00	15.0	-0.1
Missing	0	0	0.0	0	0.00	0.0	0
Age group No. (%) in Yrs.							
<40	320	2,013	15.9	156	1,098.00	14.2	1.7
40-64	1,208	8,170	14.8	1,346	9,242.00	14.6	0.2
65+	255	1,648	15.5	404	2,730.00	14.8	0.7
Missing	13	132	9.8	11	90.00	12.2	-2.4

Country of medical graduation Canada No. (%)							
Yes	1,405	9,389	15.0	1,369	9,459.00	14.5	0.5
No	378	2,442	15.5	537	3,611.00	14.9	0.6
Missing	13	132	9.8	11	90.00	12.2	-2.4
Years in practice No. (%)							
<5	36	246	14.6	24	189.00	12.7	1.9
5_15	406	2,650	15.3	204	1,464.00	13.9	1.4
16-25	385	2,571	15.0	437	3,047.00	14.3	0.7
>25	969	6,496	14.9	1,252	8,460.00	14.8	0.1
Missing	0	0	0.0	0	0.00	0.00	0
Table 3B: All cause hospital readmissions between April 1st, 2015 and March 31st, 2017 among multi-morbid adults by patient characteristics from March 31st, 2003							
Patients characteristics							
All cause readmissions and patient totals	1,796	11,963	15.0	1,917	13,160	14.6	0.4
Sex No. (%)							
Males	807	5,265	15.3	893	5,869	15.2	0.1
Female	989	6,698	14.8	1,024	7,291	14.0	0.8
Missing		-			-		0
Age group, yr. No. (%)							
18-44	159	1,229	12.9	156	1,288	12.1	0.8
45-64	774	5,213	14.8	787	5,665	13.9	0.9
65+	863	5,521	15.6	974	6,207	15.7	-0.1
Missing							
New OHIP registrants (within 10 years) No. (%)							
Yes	36	294	12.2	78	470	16.6	-4.4

No	1,760	11,669	15.1	1,839	12,690	14.5	0.6
Income quintile, No. (%)							
1 (low)	404	2,742	14.7	453	2,859	15.8	-1.1
2	423	2,710	15.6	396	2,815	14.1	1.5
3	D/S	D/S	D/S	D/S	D/S	D/S	D/S
4	349	2,161	16.1	360	2,545	14.1	2
5 (high)	294	1,972	14.9	340	2,290	14.8	0.1
Missing	D/S	D/S	D/S	D/S	D/S	D/S	D/S
Rurality Index of Ontario, No. (%)							
Major urban (0 to 9)	886	5,741	15.4	1403	9,396	14.9	0.5
Semi-urban (10 to 39)	D/S	D/S	D/S	D/S	D/S	D/S	D/S
Rural (≥40)	310	2,060	15.0	115	881	13.1	1.9
Missing	D/S	D/S	D/S	D/S	D/S	D/S	D/S
Resource utilization band (RUB), No. (%)							
0 (non-user)	D/S	D/S	D/S	D/S	D/S	D/S	D/S
1	6	40	15.0	7	27	25.9	-10.9
2	56	399	14.0	54	382	14.1	-0.1
3	D/S	D/S	D/S	D/S	D/S	D/S	D/S
4	524	3,370	15.5	534	3,773	14.2	1.3
5 (very high user)	289	1,707	16.9	302	1,841	16.4	0.5
Missing							
Patients with Chronic disease							
2 + Co-morbidity No. (%)							
yes	1,796	11,963	15.0	1,917	13,160	14.6	0.4
No	0	0		0	-		0

3+ comorbidities No. (%)							
yes	1,226	7,635	16.1	1,335	8,657	15.4	0.7
No	570	4,328	13.2	582	4,503	12.9	0.3
4+ comorbidities No. (%)							
yes	697	4,213	16.5	770	4,841	15.9	0.6
No	1,099	7,750	14.2	1,147	8,319	13.8	0.4
5+ comorbidities No. (%)							
yes	344	1,949	17.7	378	2,329	16.2	1.5
No	1,452	10,014	14.5	1,539	10,831	14.2	0.3

D/S refers to data suppressed for observations with a count between 1 and 5 and have been suppressed to comply with Personal Health Information Protection Act privacy legislation

Table 4: Association between enrolment in an interprofessional team-based model and ACSC admissions and all cause hospital readmissions post intervention April 1st, 2015 to March 31st, 2017

	Interprofessional team ACSC Admissions (Reference: Non-Interprofessional teams)		
	OR	95% CI	P-Value
Unadjusted (null model)	1.19	1.16 1.22	<.0001
Adjusted* for:			
Physician group characteristics	1.15	1.12 1.18	<.0001
Group and physician characteristics	1.17	1.13 1.18	<.0001
Group, physician and patients	1.07	1.04 1.18	<.0001

	Interprofessional team readmissions (Reference: non-teams)		
	OR	95% CI	P-Value
Unadjusted (null model)	1.31	0.98 1.75	0.073
Adjusted* for:			
Physician group characteristics	1.17	0.86 1.60	0.323
Group and physician characteristics	1.17	0.84 1.60	0.323
Group, physician and patients	1.20	0.84 1.65	0.260

*Adjustment used physician groups and physicians' characteristics from March 31st, 2015 (post-intervention) and patients' characteristics from March 31st, 2003 (pre-intervention)

Table 5: Difference in differences model: difference in change over time in ACSC admissions and all cause readmissions between interprofessional teams and non-interprofessional teams from pre-intervention (April 1st, 2003 to March 31st, 2005) to post-intervention (April 1st, 2015 to March 31st, 2017) periods.

	Interprofessional Teams						Non- Interprofessional teams							
	2015-17		2003-05		Difference (2015 to 2017 – 2003 to 2005)		2015-17		2003-05		Difference (2015 to 2017 – 2003 to 2005)		Difference in differences (diff. Teams – diff. non-teams)	
	Rate per 100	P-value	Rate per 100	P-value	Rate per 100	P-value	Rate per 100	P-value	Rate per 100	P-value	Rate per 100	P-value	Rate per 100	P-value
Unplanned ACSC admission														
Unadjusted model	2.52	<.0001	1.07	<.0001	1.44	<.0001	2.13	<.0001	0.84	<.0001	1.29	<.0001	0.15	0.0008
*Adjusted for physician group characteristics	2.48	<.0001	1.06	<.0001	1.42	<.0001	2.15	<.0001	0.85	<.0001	1.30	<.0001	0.12	0.0008
*Adjusted for physician group and physician characteristics	2.43	<.0001	1.04	<.0001	1.39	<.0001	2.07	<.0001	0.82	<.0001	1.25	<.0001	0.14	0.0011
*Adjusted for physician group and physician and patient characteristics	2.31	<.0001	0.97	<.0001	1.34	<.0001	2.20	<.0001	0.86	<.0001	1.34	<.0001	0.00	0.0016
Unplanned all cause hospital readmission														
Unadjusted model	17.71	<.0001	10.90	<.0001	6.81	0.0002	14.26	<.0001	11.96	<.0001	2.30	0.2191	4.51	0.1066
*Adjusted for physician group characteristics	17.36	<.0001	10.66	<.0001	6.70	0.0002	14.55	<.0001	12.21	<.0001	2.34	0.219	4.36	0.1062
*Adjusted for physician group and physician characteristics	20.30	<.0001	12.73	<.0001	7.57	0.0003	16.76	<.0001	14.39	<.0001	2.37	0.2806	5.20	0.0972
*Adjusted for physician group and physician and patient characteristics	12.38	<.0001	7.48	<.0001	4.90	0.0003	9.67	<.0001	8.20	<.0001	1.47	0.2798	3.43	0.0975
*Adjustment used physician groups and physicians' characteristics from March 31 st , 2015 (post-intervention) and patients' characteristics from March 31 st , 2003 (pre-intervention)														