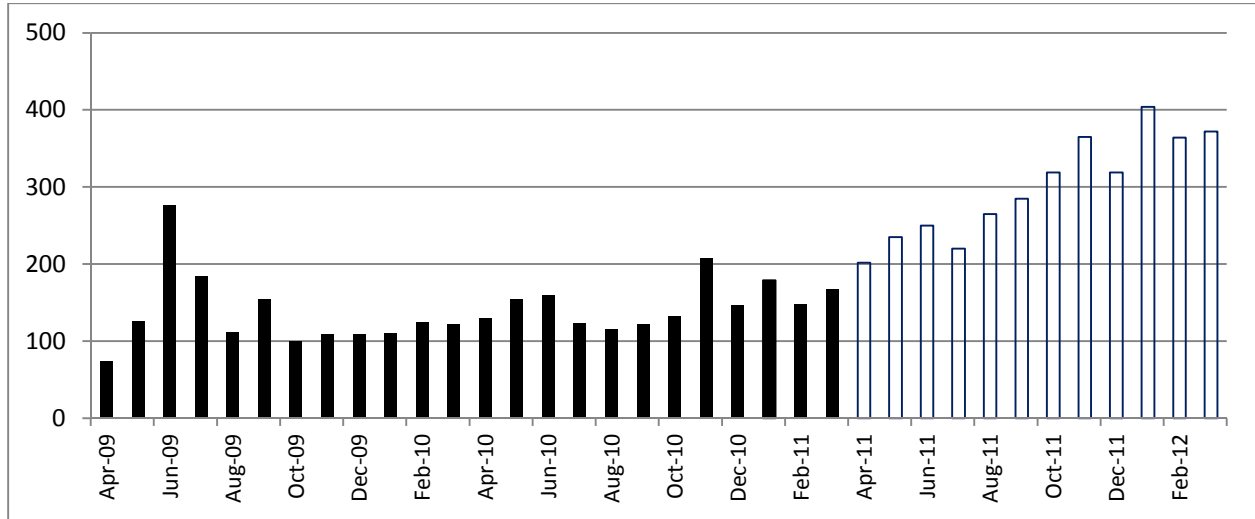


Appendix Tables and Figures

accompanying paper:

“Risk Selection and Cost Shifting in a Prospective Physician Payment System:
Evidence from Ontario”

Figure A1
Number of Patients with Q053 Claims, by Month, April 2009 to March 2012



Note: Shaded columns represent the sample CV patients included in the study.

Figure A2
Distribution of Patients by Age Groups, CV Patients and Non-CV Patients

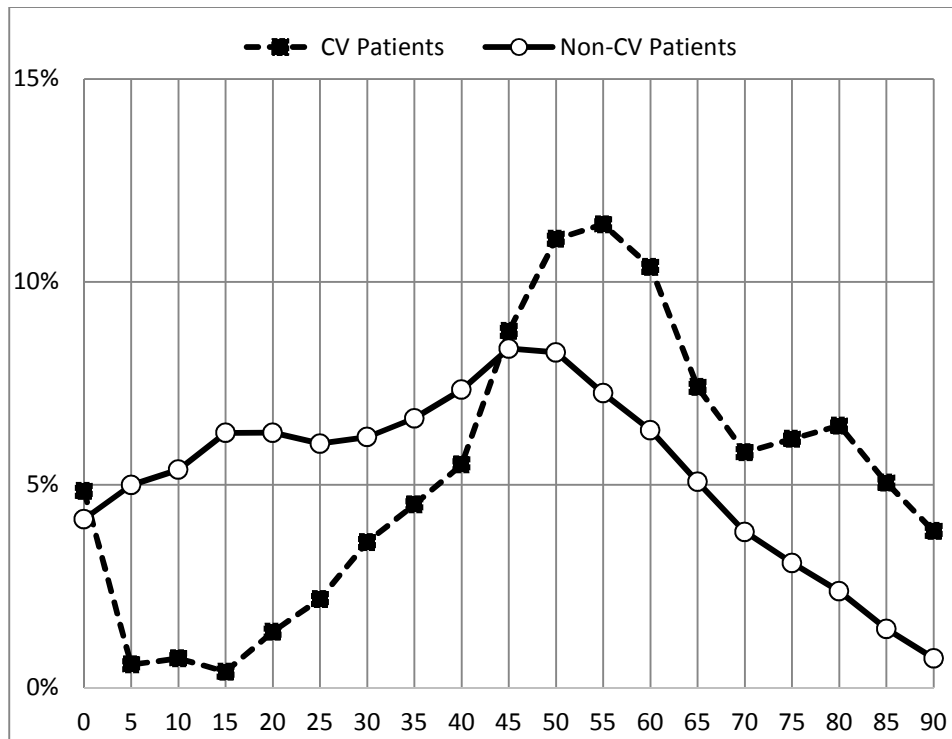


Figure A3
Distribution of Primary Care Expenditures, by Age Groups, CV Patients and Non-CV Patients,
FY2011/12, Females

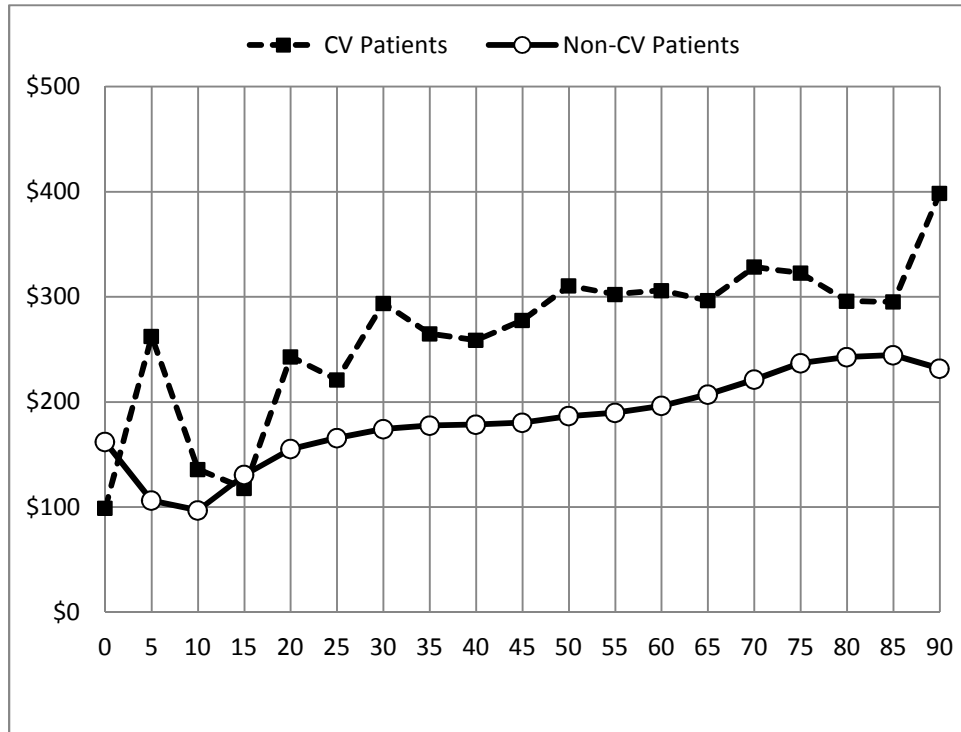


Figure A4
Distribution of Primary Care Expenditures, by Age Groups, CV Patients and Non-CV Patients,
FY2011/12, Males

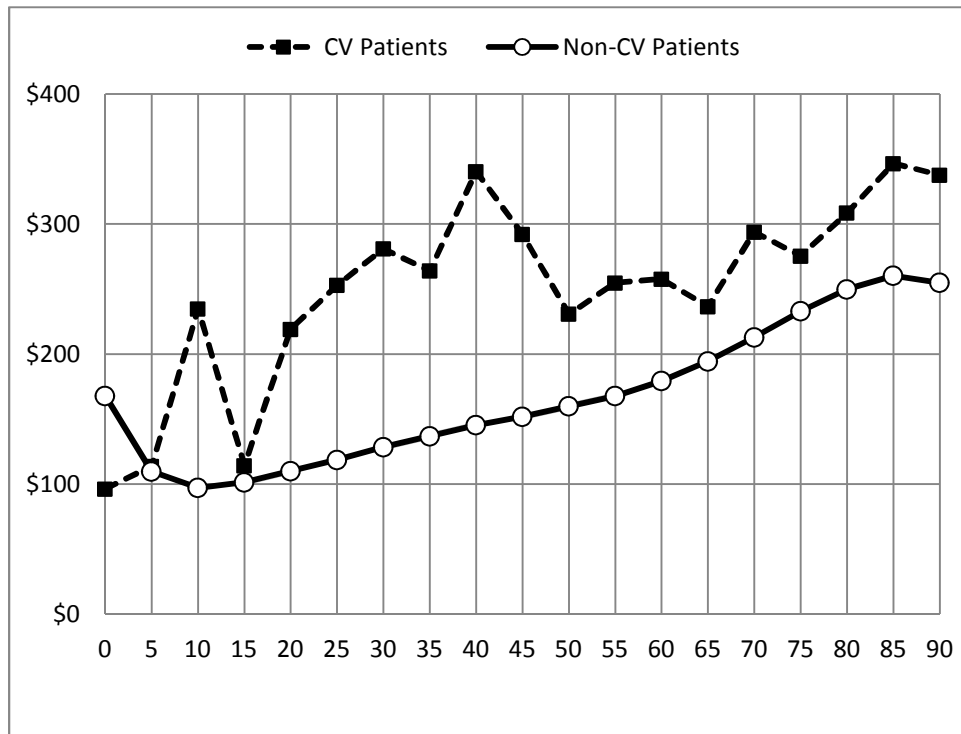


Figure A5

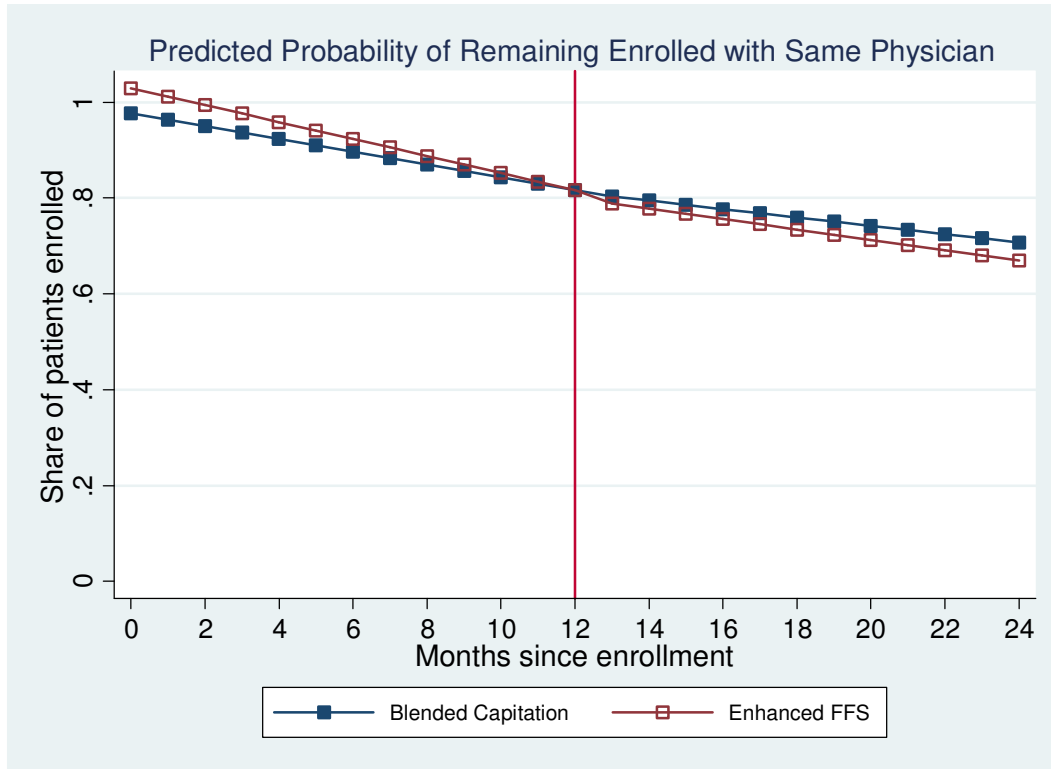


Figure A6

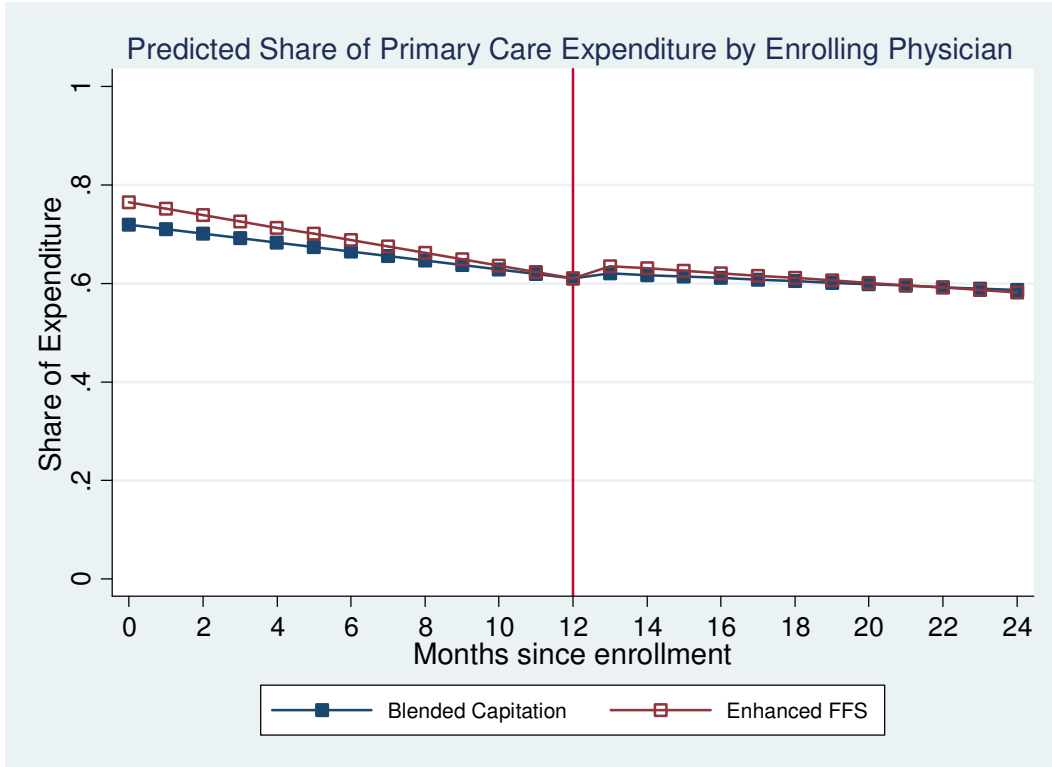
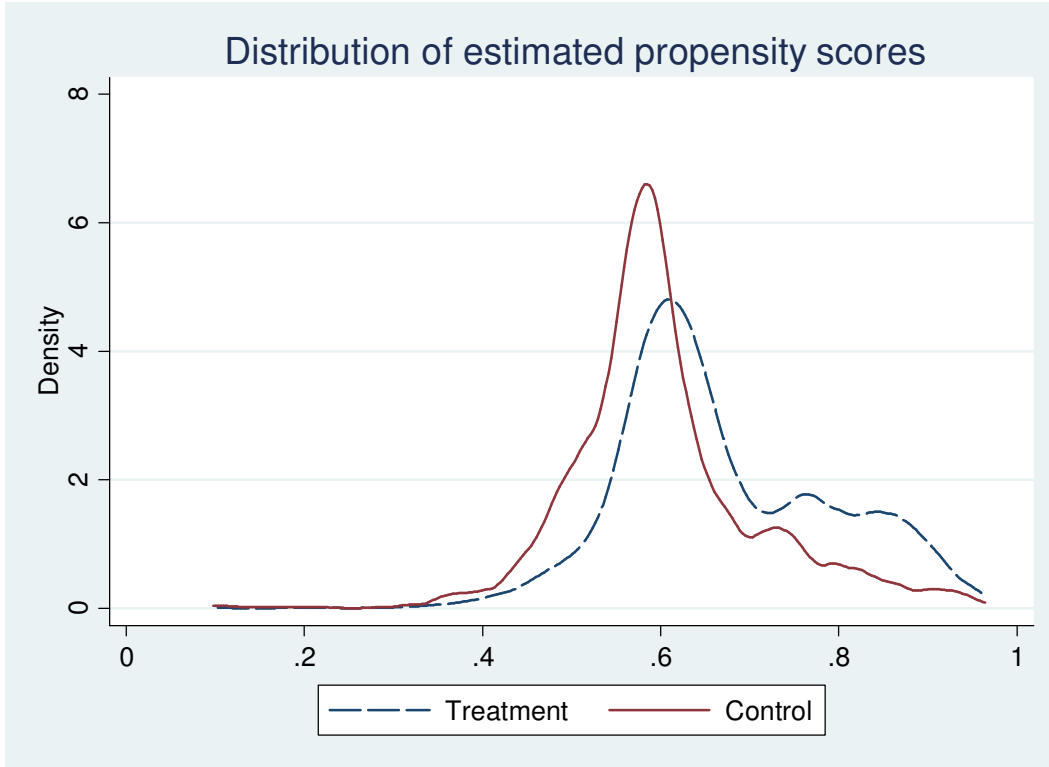
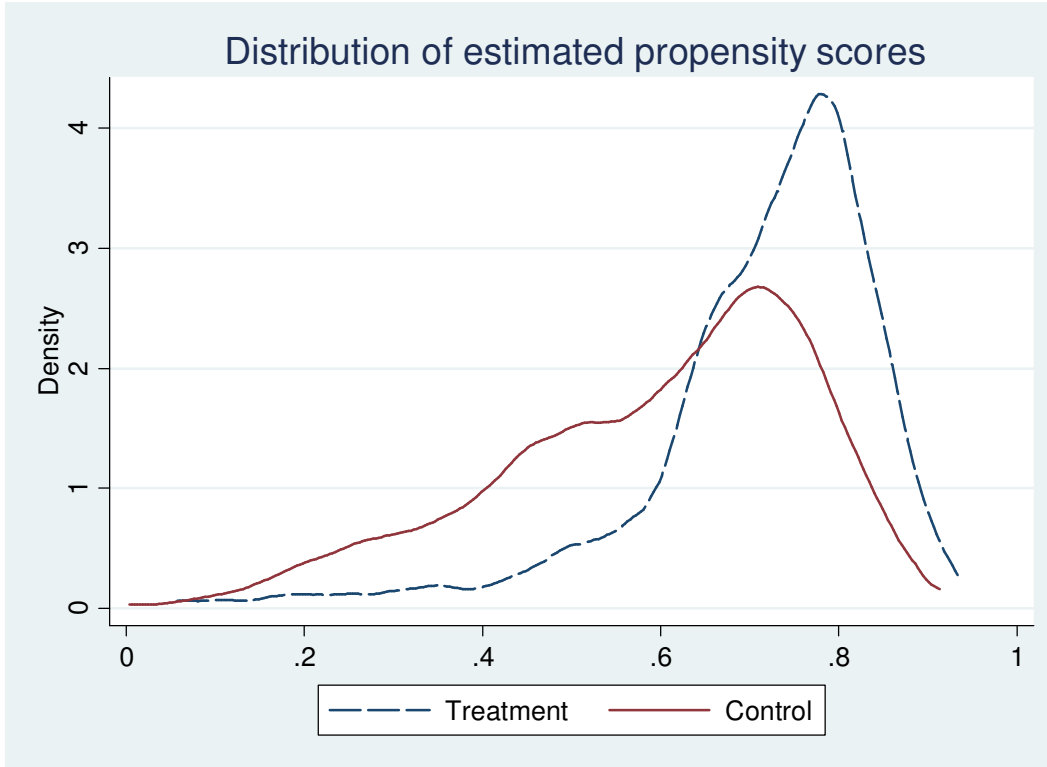


Figure A7



NOTE: The sample includes the CV patients enrolled to either capitation physicians (treatment) or FFS physicians (control) at any time during fiscal 2009/10 and 2010/11. The propensity score matching was done using the following patient-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services and visits, physician fees for services provided, number of visits to Emergency Department, number of hospital admissions, and length of in-patient stay.

Figure A8



NOTE: The sample includes capitation physicians (treatment) and FFS physicians (control) who enrolled any CV patients at any time during fiscal 2009/10 and 2010/11. The propensity score matching was done using the following physician-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services, visits, patients, days of work, the number of enrolled patients, and the average patient complexity.

Figure A9
Probability of Remaining Enrolled with the Same Physician, Sample of Non-CV Patients

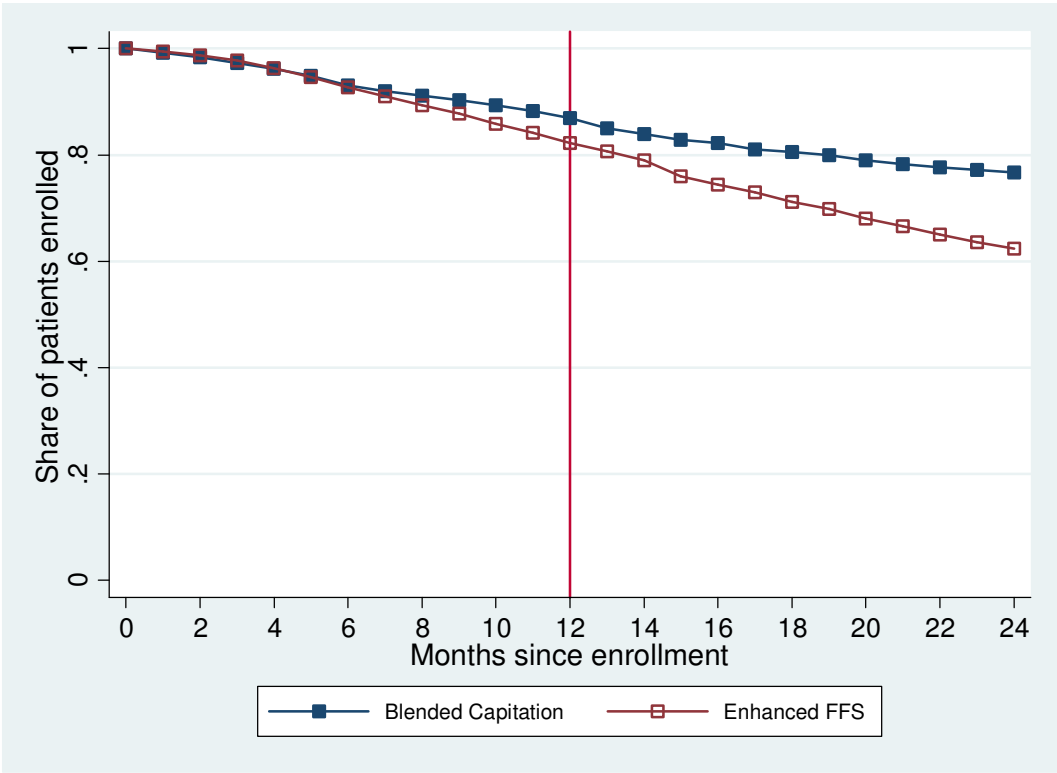


Figure A10
Share of Primary Care Expenditure by Enrolling Physician, Sample of Non-CV Patients

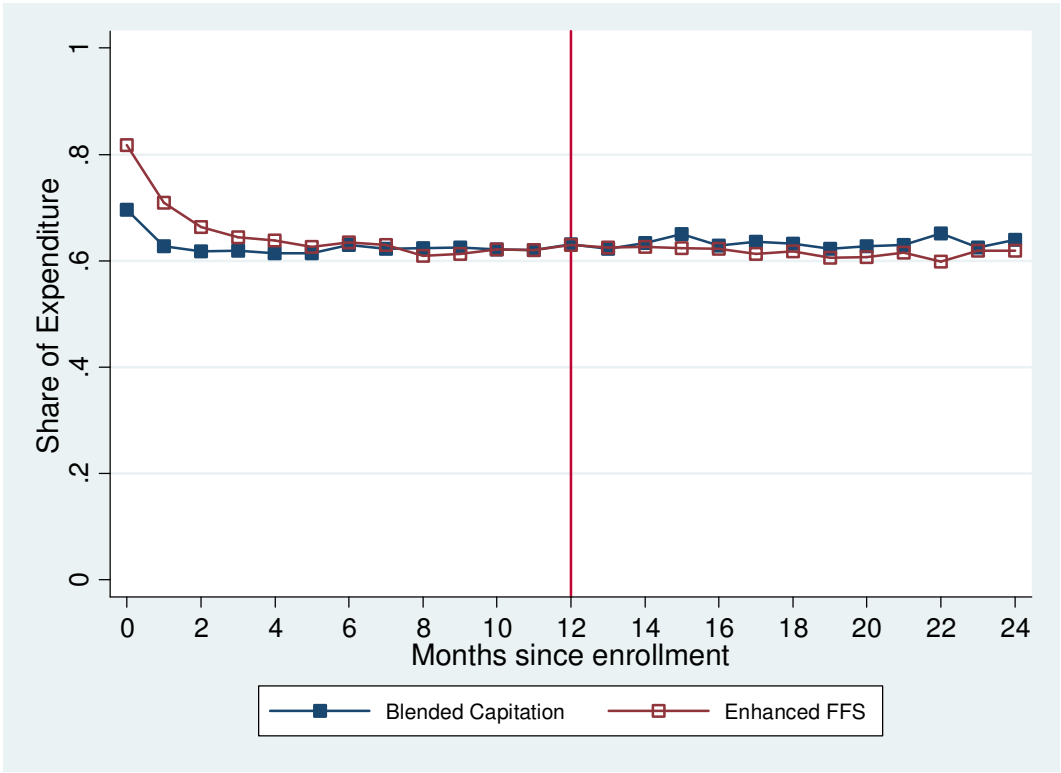


Table A1
Distribution of Patients by Age and Sex, CV and Non-CV Patients

Age Group	CV Patients				Non-CV All Patients			
	Females	Males	Total	% Total	Females	Males	Total	% Total
0	86	76	162	4.8%	198,621	207,427	406,048	4.2%
5	6	13	19	0.6%	238,017	249,978	487,995	5.0%
10	9	15	24	0.7%	257,989	267,209	525,198	5.4%
15	9	4	13	0.4%	305,611	308,203	613,814	6.3%
20	32	14	46	1.4%	317,024	297,168	614,192	6.3%
25	57	16	73	2.2%	323,623	264,037	587,660	6.0%
30	83	37	120	3.6%	340,014	263,471	603,485	6.2%
35	94	57	151	4.5%	357,750	291,085	648,835	6.6%
40	106	78	184	5.5%	386,925	330,892	717,817	7.3%
45	167	127	294	8.8%	432,242	384,429	816,671	8.4%
50	216	154	370	11.1%	423,890	383,879	807,769	8.3%
55	228	154	382	11.4%	372,716	336,697	709,413	7.3%
60	173	174	347	10.4%	324,960	295,396	620,356	6.3%
65	133	115	248	7.4%	259,188	236,693	495,881	5.1%
70	115	79	194	5.8%	199,775	175,392	375,167	3.8%
75	99	106	205	6.1%	163,609	136,560	300,169	3.1%
80	121	95	216	6.5%	133,182	98,749	231,931	2.4%
85	105	64	169	5.1%	89,629	51,670	141,299	1.4%
90	90	39	129	3.9%	49,609	20,960	70,569	0.7%
TOTAL	1,929	1,417	3,346	100.0%	5,174,374	4,599,895	9,774,269	100%

Table A2
Basic Results with No Control FFS Group

Variable	OLS		FIXED EFFECTS	
	Enrolment	Share of PCE	Enrolment	Share of PCE
Constant	0.8416*** (0.0087)	0.6385*** (0.0118)	0.8452*** (0.0039)	0.6219*** (0.0074)
Trend	-0.0133*** (0.0008)	-0.0058*** (0.0012)	-0.0133*** (0.0008)	-0.009*** (0.0011)
TrendxAfter	0.0069*** (0.0016)	0.0025 (0.0024)	0.0045*** (0.0014)	0.0059*** (0.0022)
After	-0.0094 (0.0061)	0.0096 (0.0145)	-0.0048 (0.0052)	0.013 (0.0132)
Observations	41,617	16,355	41,617	16,355
Patients	1,955	1,922	1,955	1,922

NOTES

All models include only patients enrolled to physicians in blended capitation models. The sample for enrolment includes all patients enrolled using Q053 in fiscal 2009/10 and 2010/11, excluding those who deceased over the period or those with multiple Q053 claims, with monthly observations limited to 24 months after the enrolment. The sample for share of PCE (primary care expenditures) includes the same sample as the enrollment sample, except that it is limited to months when the patient is enrolled to the same physician who claimed Q053 and provided the patient received any services in the given month. ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively.

Table A3
Specification Checks: Sex, Age, Fixed Month Effects

Variable	Parameter from eq. (1)	Enrolment		Share of PCE		Enrolment		Share of PCE		Fixed Month Effects	
		Female	Male	Female	Male	Age > 58	Age ≤ 58	Age > 58	Age ≤ 58	Enrolment	Share of PCE
Constant	γ_0	0.8189*** (0.0044)	0.8139*** (0.0053)	0.626*** (0.0076)	0.5881*** (0.0089)	0.7696*** (0.0054)	0.8529*** (0.0042)	0.6013*** (0.0089)	0.6181*** (0.0077)	0.8069*** (0.0144)	0.6743*** (0.0217)
Trend	γ_1	-0.017*** (0.0014)	-0.018*** (0.0017)	-0.013*** (0.0018)	-0.013*** (0.0021)	-0.022*** (0.0017)	-0.014*** (0.0014)	-0.014*** (0.0022)	-0.012*** (0.0017)	-0.018*** (0.0014)	-0.015*** (0.002)
Trend×After	γ_2	0.0072*** (0.0023)	0.0066** (0.0028)	0.0065* (0.0037)	0.0102** (0.0047)	0.0107*** (0.0028)	0.0036 (0.0023)	0.008* (0.0045)	0.008** (0.0038)	0.0085*** (0.0019)	0.0067** (0.003)
After	γ_3	-0.025*** (0.01)	-0.0071 (0.0121)	0.0338 (0.0214)	0.0237 (0.0259)	-0.0068 (0.0114)	-0.027*** (0.0104)	0.04 (0.0247)	0.0209 (0.0221)	-0.0172** (0.0077)	0.0293* (0.0167)
Trend×Capitation	γ_5	0.0034** (0.0017)	0.0059*** (0.002)	0.0059*** (0.0023)	0.0009 (0.0027)	0.0066*** (0.0021)	0.0024 (0.0017)	0.0044 (0.0027)	0.0033 (0.0023)	0.0044*** (0.0013)	0.0035** (0.0017)
Trend×Capitation×After	γ_6	-0.0007 (0.0029)	-0.0048 (0.0035)	-0.0031 (0.0046)	-0.0008 (0.006)	-0.0051 (0.0035)	-0.0002 (0.0029)	-0.0016 (0.0057)	-0.0026 (0.0047)	-0.0023 (0.0022)	-0.0015 (0.0036)
Capitation×After	γ_7	0.0209* (0.0121)	0.0018 (0.0145)	-0.026 (0.0273)	-0.0044 (0.0334)	0.0026 (0.0142)	0.0219* (0.0123)	-0.0381 (0.0316)	0.0017 (0.0284)	0.0094 (0.0093)	-0.0156 (0.0211)
Observations		38,537	27,471	15,753	10,637	28,397	37,611	12,001	14,389	66,008	26,390
Patients		1,785	1,289	1,755	1,251	1,362	1,712	1,322	1,684	3,074	3,006

NOTES

All models include patient fixed effects. The sample for enrolment includes all patients enrolled using Q053 in fiscal 2009/10 and 2010/11, excluding those who deceased over the period or those with multiple Q053 claims, with monthly observations limited to 24 months after the enrolment. The sample for share of PCE (primary care expenditures) includes the same sample as the enrollment sample, except that it is limited to months when the patient is enrolled to the same physician who claimed Q053 and provided the patient received any services in the given month. ***, **, and * indicate significance at 1%, 5%, and 10% levels, respectively. The coefficient γ_4 from Eq. (1) is absorbed in the fixed effects.

Table A4
 Specification checks:
 Inclusion of Patients with Multiple Q053 claims

Variable	Parameter from eq. (1)	Enrollment	Share of PCE
Constant	γ_0	0.8154*** (0.0033)	0.6098*** (0.0058)
Trend	γ_1	-0.0178*** (0.0011)	-0.0127*** (0.0014)
Trend×After	γ_2	0.0070*** (0.0018)	0.0078*** (0.0029)
After	γ_3	-0.0172** (0.0077)	0.0292* (0.0164)
Trend×Capitation	γ_5	0.0043*** (0.0013)	0.0036** (0.0017)
Trend×Capitation×After	γ_6	-0.0022 (0.0023)	-0.0015 (0.0036)
Capitation×After	γ_7	0.01169 (0.0033)	-0.0185 (0.0211)
Observations		66,557	66,557
Patients		3,094	3,094

NOTES: Both models also include patient fixed effects. The sample for enrollment includes all the patients enrolled using Q053 in fiscal years 2009/10 and 2010/11, excluding those who deceased during the period, with monthly observations limited to 24 months after the enrollment. The sample for the share of PCE (primary care expenditure) includes the same sample as the enrollment sample, except that it is limited to the months when the patient is enrolled with the same physician who claimed Q053 and provided the patient received any services in the given month. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. The coefficient γ_4 from Eq. (1) is absorbed in the fixed effects.

Table A5
Probability of de-enrolment by reason

Variable	Enrolment ended at/for:		
	Physician Request	Patient Request	Other Reasons
Constant	0.0503*** (0.0022)	0.0317*** (0.0016)	0.0587*** (0.0020)
Trend	0.004*** (0.0007)	0.0031*** (0.0006)	0.0068*** (0.0008)
Trend×After	0.0005 (0.0013)	-0.0018** (0.0009)	-0.0019 (0.0013)
After	0.0346*** (0.0068)	0.0046 (0.0036)	-0.0042 (0.0047)
Trend×Capitation	0.0011 (0.0008)	-0.0006 (0.0007)	-0.0026*** (0.0009)
Trend×Capitation×After	-0.0016 (0.0016)	0.0013 (0.0011)	0.0004 (0.0015)
Capitation×After	-0.0032 (0.0027)	-0.0008 (0.0045)	0.0049 (0.0055)
Observations	57,157	57,157	57,157
Patients	2,656	2,656	2,656

NOTES: All models also include patient fixed effects. The sample includes all the patients enrolled using Q053 in fiscal years 2009/10 and 2010/11, excluding those who deceased during the period, with monthly observations limited to 24 months after the enrollment. Enrollments ending at physician request are identified by termination reasons 35 and 44, at patient request: 56 and 57, and all other codes are classified as other reasons. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table A6
Comparison of Selected Patient-Specific Covariates in Fiscal 2008/9,
Before and After Propensity Score Matching

Covariate	Treatment	Control	
		Unmatched	Matched
Male	42%	41%	44%
Age	53.3	55.8***	53.3
Toronto Local Health Integration Area	3%	6%***	3%
Rurality	16.1	7.9***	16.1
Physician Fees	\$1,317	\$1,609***	\$1,347
Annual Services	39.7	46.8***	40.1
Annual Visits	20.4	23.6***	20.8
Annual ED Visits	0.2	0.4***	0.2
Annual Hospital Admissions	0.3	0.3	0.3
Average Length of Inpatient Stay	1.5	1.6	1.5

NOTES

The sample includes the CV patients enrolled to either capitation physicians (treatment) or FFS physicians (control) at any time during fiscal 2009/10 and 2010/11. The propensity score matching was done using the following patient-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services and visits, physician fees for services provided, number of visits to Emergency Department, number of hospital admissions, and length of in-patient stay. *** indicates a difference in pairwise mean at 1% significance level. Rurality is measured by Rurality Index Ontario, where the index ranges between 0 and 100, with higher values indicating more rural areas.

Table A7
Main Results, using Patient-Specific Covariates Propensity Score Matching

Variable	Enrolment		Cost Share	
	P-score weighted	P-score between 0.4 and 0.8	P-score weighted	P-score between 0.4 and 0.8
Constant	0.8258*** (0.0056)	0.8147*** (0.0039)	0.6008*** (0.0096)	0.5917*** (0.0069)
Trend	-0.0151*** (0.0019)	-0.0173*** (0.0021)	-0.0116*** (0.0026)	-0.0135*** (0.0016)
Trend×After	0.0054* (0.0029)	0.0055*** (0.0021)	0.0093** (0.0046)	0.0088*** (0.0035)
After	0.0008 (0.0094)	0.0010 (0.0082)	0.0085 (0.0309)	0.0288 (0.0186)
Trend×Capitation	0.0021 (0.0020)	0.0040*** (0.0015)	0.0021 (0.0028)	0.0038* (0.0021)
Trend×Capitation×After	-0.0004 (0.0033)	0.00001 (0.0027)	-0.0025 (0.0051)	-0.0008 (0.0043)
Capitation×After	-0.0081 (0.0110)	-0.0060 (0.0103)	0.0079 (0.0340)	-0.0231 (0.0244)
Observations	48,756	47,372	19,787	19,512
Patients	2,283	2,210	2,230	2,160

NOTES

All models also include patient fixed effects. The samples are defined as for the main results in the paper. P-score weighted is the weighted fixed effects regression model, where the weights come from the propensity score matching that uses the following patient-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services and visits, physician fees for services provided, number of visits to Emergency Department, number of hospital admissions, and length of in-patient stay. P-score between 0.4 and 0.8 is the un-weighted fixed effects regression model that limits the sample to treatment and control patients with the estimated propensity scores between 0.4 and 0.8. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table A8
Comparison of Selected Physician-Specific Covariates in Fiscal 2008/9,
Before and After Propensity Score Matching

Covariate	Treatment	Control	
		Unmatched	Matched
Age	47.3	48.3	48.1
Male	65%	67%	64%
Toronto	4%	8%**	3%
Services	8,560	11,384***	9,068
Patients	2,131	2,463**	2,234
Visits	6,041	7,735***	6,294
Days	247	247	249
Roster	1,241	1,290	1,301
Patient complexity	1.140	1.127	1.131

NOTES

The sample includes capitation physicians (treatment) and FFS physicians (control) who enrolled any CV patients at any time during fiscal 2009/10 and 2010/11. The propensity score matching was done using the following physician-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services, visits, patients, days of work, the number of enrolled patients, and the average patient complexity. *** indicates a difference in pairwise means at 1% significance level.

Table A9
Main Results, using Physician-Specific Covariates Propensity Score Matching

Variable	Enrolment		Cost Share	
	P-score weighted	P-score between 0.4 and 0.8	P-score weighted	P-score between 0.4 and 0.8
Constant	0.8272*** (0.0081)	0.8191*** (0.0055)	0.5839*** (0.0110)	0.5629*** (0.0097)
Trend	-0.0156*** (0.0029)	-0.0161*** (0.0017)	-0.0077** (0.0030)	-0.0144*** (0.0020)
Trend×After	0.0098*** (0.0032)	0.0067*** (0.0026)	-0.0025 (0.0053)	0.0093** (0.0047)
After	-0.0090 (0.0180)	0.0025 (0.0098)	0.0260 (0.0454)	0.0124 (0.0277)
Trend×Capitation	0.0038 (0.0031)	0.0033 (0.0021)	-0.0023 (0.0036)	0.0042 (0.0028)
Trend×Capitation×After	-0.0047 (0.0048)	0.0006 (0.0033)	0.0096 (0.0062)	-0.0029 (0.0061)
Capitation×After	0.0040 (0.0216)	-0.0228 (0.0161)	0.0087 (0.0495)	0.0256 (0.0356)
Observations	27,106	23,853	10,828	9,378
Patients	1,259	1,098	1,231	1,072

NOTES

All models also include patient fixed effects. The samples are defined as for the main results in the paper. P-score weighted is the weighted fixed effects regression model, where the weights come from the propensity score matching that uses the following physician-specific covariates, all measured as of fiscal 2008/9: age, sex, residence in Toronto Local Health Integration Area, number of annual services, visits, patients, days of work, the number of enrolled patients, and the average patient complexity. P-score between 0.4 and 0.8 is the un-weighted fixed effects regression model that limits the sample to treatment and control physicians with the estimated propensity scores between 0.4 and 0.8. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.