

**The Impact of Geographic and Social Proximity on Physicians:
Evidence from the Adoption of an Online Health Community**

Appendix

Table A1. Characteristics to Construct Social Proximity Matrix

	Hospital class	Per capital GDP	Per capital physicians	% of mobile phone user	% of students at each education level	Per capital medical institutions	% of 65 years old or older	Per capital beds	% of telephone user
Base	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alternative 1	✓	✓	✓	✓	✓	✓	✓	✓	
Alternative 2	✓	✓	✓	✓	✓	✓	✓		

Table A2. Descriptive Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max
Geographic proximity influence (GPI)	1,532,569	0.0100	1.0030	-1.0735	4.1761
Social proximity influence (SPI)	1,532,569	0.0125	1.0012	-1.2810	4.7251
Competition (COMPT)	1,532,569	0.0059	1.0047	-0.7188	5.7798
Local adoption rate	1,532,569	0.1619	0.1330	0	0.9167
Internet penetration rate	1,532,569	0.2400	0.1494	0	0.4816
Weather[# of rainy days/# of days in a month]	1,532,569	0.3740	0.1572	0	1
Local Marketing Efforts (LocalMarkEff)	1,532,569	8.7891	1.2855	-1.6472	10.6980
Log(Number of new patients+1)	1,532,569	7.2959	3.2345	0	11.0466
Log(Number of votes+1)	1,532,569	0.0002	0.0121	0	1.6094

Table A3. Results of Eq. 1 across Different Specifications

Variables	Add quality signals	Alt. SPI measure 1	Alt. SPI measure 2	Redefined high title	Alt. Competition measure
GPI	0.437* (0.184)	0.422* (0.179)	0.413* (0.178)	0.688** (0.240)	0.432* (0.188)
SPI	-0.335*** (0.058)	-0.340*** (0.060)	-0.325*** (0.056)	-0.387*** (0.069)	-0.342*** (0.058)
COMPT	-0.168*** (0.044)	-0.161*** (0.043)	-0.159*** (0.043)	-0.240*** (0.059)	-0.179*** (0.048)
High Title	0.634*** (0.030)	0.627*** (0.030)	0.625*** (0.030)	0.739*** (0.042)	0.635*** (0.030)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	1,532,569	1,532,569	1,532,569	898,117	1,532,569
Loglikelihood	-16,708	-16,771	-16,769	-9,752	-16,768

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A4. Results of Eq. 2 across Different Specifications

Variables	Add quality signals	Alt. SPI measure 1	Alt. SPI measure 2	Redefined high title	Alt. Competition measure
GPI	-0.630** (0.199)	-0.652*** (0.189)	-0.690*** (0.189)	-0.772** (0.258)	-0.689*** (0.197)
SPI	-0.311*** (0.055)	-0.321*** (0.056)	-0.294*** (0.054)	-0.355*** (0.067)	-0.313*** (0.056)
GPI*COMPT	0.657*** (0.083)	0.672*** (0.084)	0.711*** (0.084)	0.848*** (0.103)	0.690*** (0.085)
SPI*COMPT	-0.346*** (0.057)	-0.350*** (0.057)	-0.375*** (0.056)	-0.481*** (0.072)	-0.350*** (0.059)
COMPT	-0.629*** (0.064)	-0.635*** (0.063)	-0.653*** (0.064)	-0.745*** (0.079)	-0.676*** (0.064)
High Title	0.677*** (0.032)	0.672*** (0.032)	0.672*** (0.032)	0.794*** (0.044)	0.686*** (0.032)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	1,532,569	1,532,569	1,532,569	898,117	1,532,569

Loglikelihood -16662 -16723 -16716 -9707 -16716

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A5. Results of Eq. 3 across Different Specifications

Variables	Add quality signals	Alt. SPI measure 1	Alt. SPI measure 2	Redefined high title	Alt. Competition measure
GPI	-0.282 (0.210)	-0.310 (0.200)	-0.337 (0.200)	-0.568* (0.263)	-0.296 (0.208)
GPI*High Title	-0.591*** (0.078)	-0.596*** (0.080)	-0.629*** (0.082)	-0.601*** (0.110)	-0.634*** (0.081)
GPI*COMPT	0.862*** (0.095)	0.841*** (0.096)	0.829*** (0.096)	0.809*** (0.104)	0.897*** (0.097)
GPI*COMPT* High Title	-0.353*** (0.103)	-0.301** (0.104)	-0.218* (0.105)	-0.104 (0.153)	-0.355*** (0.105)
SPI	-0.465*** (0.064)	-0.479*** (0.066)	-0.493*** (0.066)	-0.460*** (0.072)	-0.483*** (0.065)
SPI*High Title	0.372*** (0.057)	0.366*** (0.060)	0.429*** (0.063)	0.625*** (0.081)	0.391*** (0.058)
SPI*COMPT	-0.710*** (0.077)	-0.681*** (0.077)	-0.650*** (0.076)	-0.555*** (0.077)	-0.729*** (0.079)
SPI*COMPT* High Title	0.613*** (0.098)	0.573*** (0.097)	0.484*** (0.096)	0.353* (0.142)	0.630*** (0.100)
COMPT	-0.686*** (0.066)	-0.680*** (0.066)	-0.682*** (0.066)	-0.735*** (0.078)	-0.741*** (0.067)
High Title	0.302*** (0.038)	0.289*** (0.038)	0.282*** (0.039)	0.246*** (0.052)	0.293*** (0.039)
COMPT*High Title	0.044 (0.053)	0.018 (0.053)	-0.008 (0.054)	0.061 (0.082)	0.066 (0.054)
Controls	Yes	Yes	Yes	Yes	Yes
Observations	1,532,569	1,532,569	1,532,569	898,117	1,532,569
Loglikelihood	-16254	-16318	-16309	-9359	-16303

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A6a. Results of Eqs. 1 & 2 with Interactions between LocalMarkEff and Physician Titles

Variables	Full Sample		Matched Sample	
GPI	0.023 (0.176)	-0.688*** (0.176)	-0.006 (0.175)	-0.681*** (0.173)
SPI	-0.287*** (0.066)	-0.170** (0.064)	-0.276*** (0.065)	-0.167** (0.063)
GPI*COMPT		0.704*** (0.083)		0.684*** (0.082)
SPI*COMPT		-0.382*** (0.058)		-0.378*** (0.057)
COMPT	-0.067 (0.045)	-0.628*** (0.059)	-0.057 (0.045)	-0.587*** (0.058)
Chief	-0.387 (0.353)	-0.706 (0.364)	17.731 (4,605)	18.053 (4,874)
Assoc. Chief	1.220*** (0.310)	1.042** (0.319)	19.426 (4,689)	19.951 (4,823)
Attending	0.632* (0.291)	0.649* (0.301)	-1.018 (0.848)	-1.184 (0.881)
LocalMarkEff *Chief	0.106** (0.039)	0.146*** (0.040)	0.140*** (0.039)	0.180*** (0.040)
LocalMarkEff *Assoc. Chief	-0.081* (0.034)	-0.057 (0.035)	-0.049 (0.034)	-0.023 (0.035)
LocalMarkEff *Attending	-0.085** (0.032)	-0.087** (0.033)	-0.064* (0.032)	-0.064 (0.033)
Controls	Yes	Yes	Yes	Yes
Strata FE			Yes	Yes
Observations	1,532,569	1,532,569	1,519,008	1,519,008
Loglikelihood	-16746	-16696	-16218	-16171

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A6b. Results of Eq. 3 with Interactions between LocalMarkEff and Physician Titles

Variables	Full Sample		Matched Sample	
Geographic Proximity Influence	0.105 (0.182)		0.043 (0.181)	
Social Proximity Influence	-0.309*** (0.076)		-0.301*** (0.074)	
Geographic Proximity Influence*Competition	0.733*** (0.094)		0.726*** (0.093)	
Social Proximity Influence*Competition	-0.725*** (0.080)		-0.712*** (0.079)	
Geographic Proximity Influence* Competition*High Title	-0.053 (0.108)		-0.083 (0.107)	
Social Proximity Influence*Competition*High Title	0.561*** (0.100)		0.560*** (0.099)	
Geographic Proximity Influence*High Title	-1.224*** (0.160)		-1.115*** (0.161)	
Social Proximity Influence*High Title	0.349*** (0.060)		0.344*** (0.059)	
Competition *High Title	-0.274*** (0.060)		-0.276*** (0.059)	
Competition	-0.512*** (0.058)		-0.476*** (0.058)	
Chief	-6.467*** (1.030)		13.041 (5,004.6)	

Assoc. Chief	-4.236***	(0.952)	15.424	(4,973.8)
Attending	0.451	(0.291)	-1.324	(0.871)
Local Marketing Efforts*Chief	0.735***	(0.113)	0.696***	(0.111)
Local Marketing Efforts*Assoc. Chief	0.481***	(0.104)	0.445***	(0.102)
Local Marketing Efforts*Attending	-0.069*	(0.032)	-0.055	(0.032)
Controls	Yes		Yes	
Strata FE			Yes	
Observations	1,532,569		1,519,008	
Loglikelihood	-16314		-15790	

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A7a. Results of Eqs. 1 & 2 with Interactions between LocalMarkEff and Hospital Class

Variables	Full Sample				Matched Sample			
GPI	0.119	(0.170)	-0.571***	(0.173)	0.078	(0.169)	-0.582***	(0.171)
SPI	-0.328***	(0.064)	-0.222***	(0.061)	-0.316***	(0.063)	-0.215***	(0.061)
GPI*COMPT			0.647***	(0.083)			0.631***	(0.082)
SPI*COMPT			-0.356***	(0.059)			-0.352***	(0.058)
COMPT	-0.088*	(0.043)	-0.598***	(0.059)	-0.074	(0.043)	-0.559***	(0.058)
LocalMarkEff *Level 3A	0.321***	(0.074)	0.317***	(0.076)	0.319***	(0.073)	0.315***	(0.074)
LocalMarkEff *Level 3	0.181*	(0.087)	0.100	(0.087)	0.178*	(0.085)	0.102	(0.086)
LocalMarkEff *Level 2A	0.159*	(0.076)	0.160*	(0.078)	0.162*	(0.075)	0.164*	(0.077)
Controls	Yes		Yes		Yes		Yes	
Strata FE					Yes		Yes	
Observations	1,532,569		1,532,569		1,519,008		1,519,008	
Loglikelihood	-16751		-16703		-16207		-16163	

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

Table A7b. Results of Eq. 3 with Interactions between LocalMarkEff and Hospital Class

Variables	Full Sample		Matched Sample	
Geographic Proximity Influence	-0.217	(0.183)	-0.251	(0.182)
Social Proximity Influence	-0.365***	(0.070)	-0.354***	(0.069)
Geographic Proximity Influence*Competition	0.881***	(0.097)	0.872***	(0.096)
Social Proximity Influence*Competition	-0.748***	(0.079)	-0.745***	(0.078)
Geographic Proximity Influence*Competition*High Title	-0.375***	(0.104)	-0.394***	(0.103)
Social Proximity Influence*Competition*High Title	0.642***	(0.099)	0.656***	(0.098)
Geographic Proximity Influence*High Title	-0.629***	(0.079)	-0.600***	(0.081)
Social Proximity Influence*High Title	0.379***	(0.058)	0.375***	(0.057)
Competition *High Title	0.068	(0.053)	0.049	(0.054)
Competition	-0.674***	(0.063)	-0.633***	(0.062)
Local Marketing Efforts*Level 3A	0.324***	(0.075)	0.321***	(0.074)
Local Marketing Efforts*Level 3	0.100	(0.087)	0.099	(0.085)
Local Marketing Efforts*Level 2A	0.162*	(0.078)	0.167*	(0.076)
Controls	Yes		Yes	
Strata FE			Yes	
Observations	1,532,569		1,519,008	
Loglikelihood	-16282		-15740	

Note: Standard errors in parentheses *** p<0.001, ** p<0.01, * p<0.05

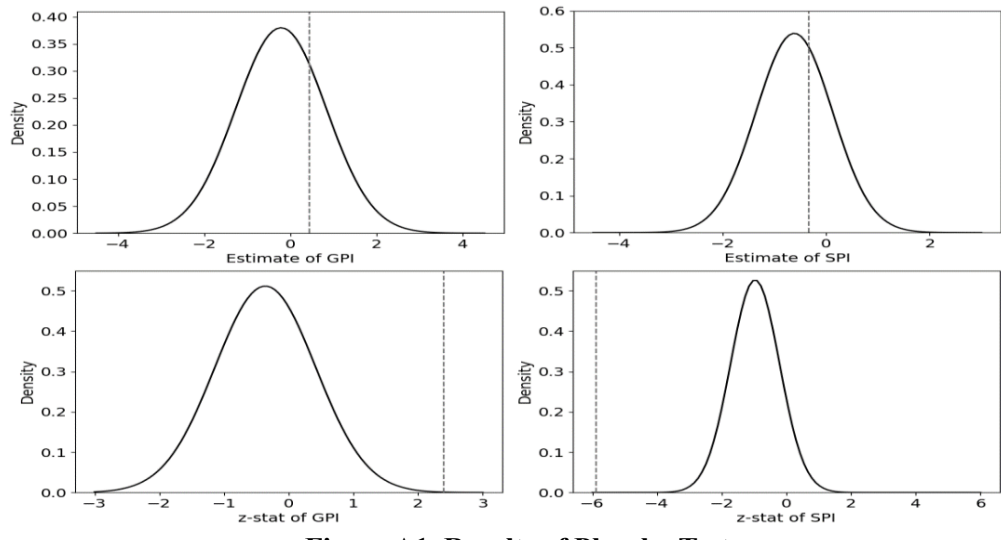


Figure A1. Results of Placebo Test