

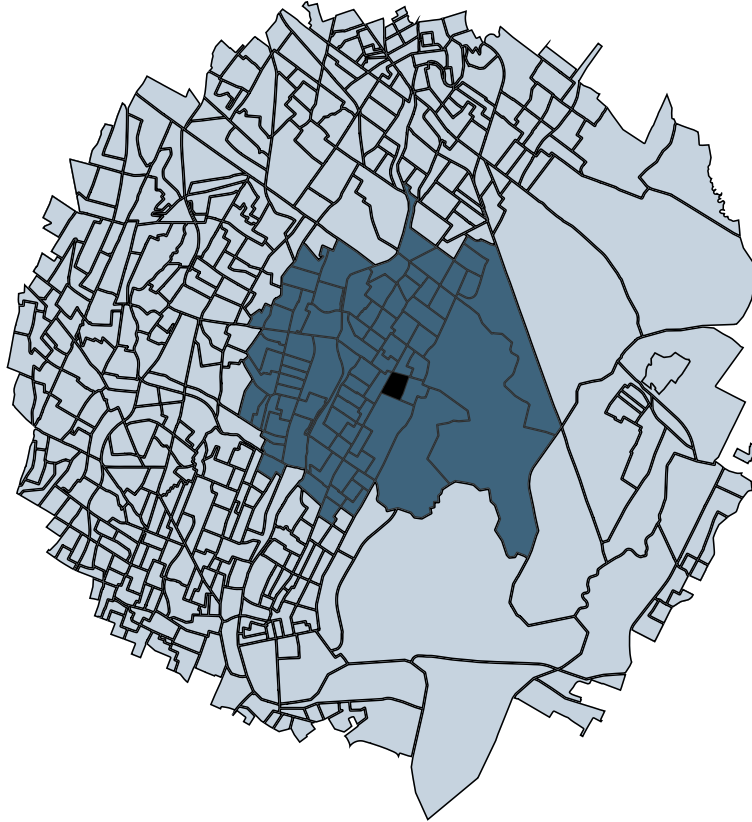
Online Appendix

Check Up Before You Check Out: Retail Clinics and Emergency Room Use

Alexander, Currie, and Schnell (2019)

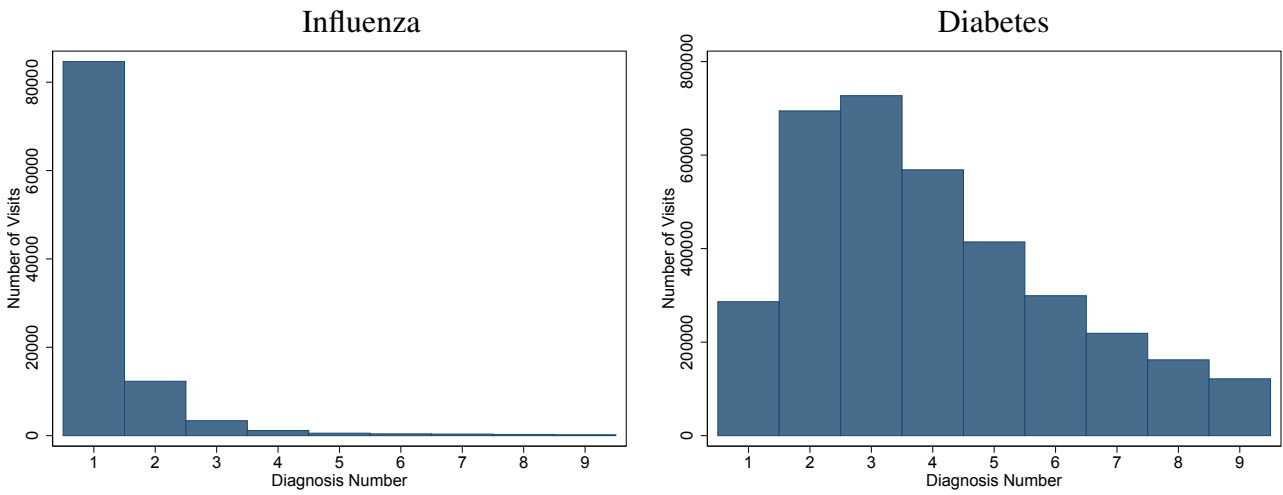
A Supplementary Figures

Figure A1: Retail Clinic Distance Group Example: North Arlington (Newark)



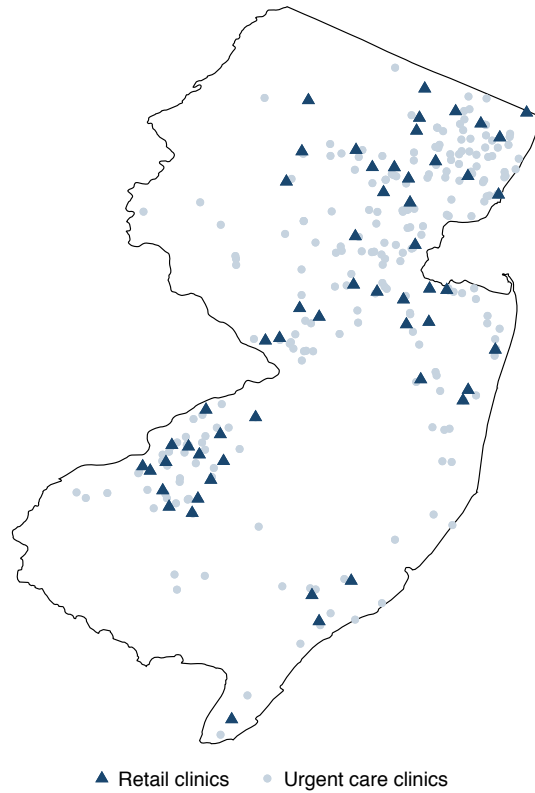
Notes: The above picture displays a close-up of the distance bands used in our primary analysis for the retail clinic located in North Arlington, New Jersey. The black block group contains the North Arlington retail clinic. The rings of block groups are shaded lighter as one moves away from the retail clinic and depict distances of 0–2 miles and 2–5 miles from the retail clinic.

Figure A2: Diagnosis Number of Influenza and Diabetes



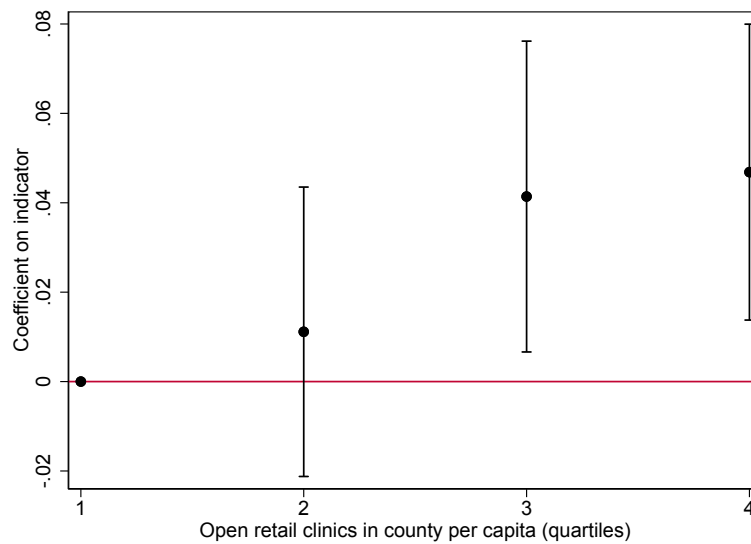
Notes: The above figures depict the frequency of all observed diagnosis positions for influenza and diabetes. That is, each figure considers all ER visits in which the diagnosis in question was recorded and displays the position in which the diagnosis appeared (i.e., “1” denotes the first diagnosis, “2” denotes the second diagnosis, etc.).

Figure A3: Locations of Urgent Care Clinics in 2017



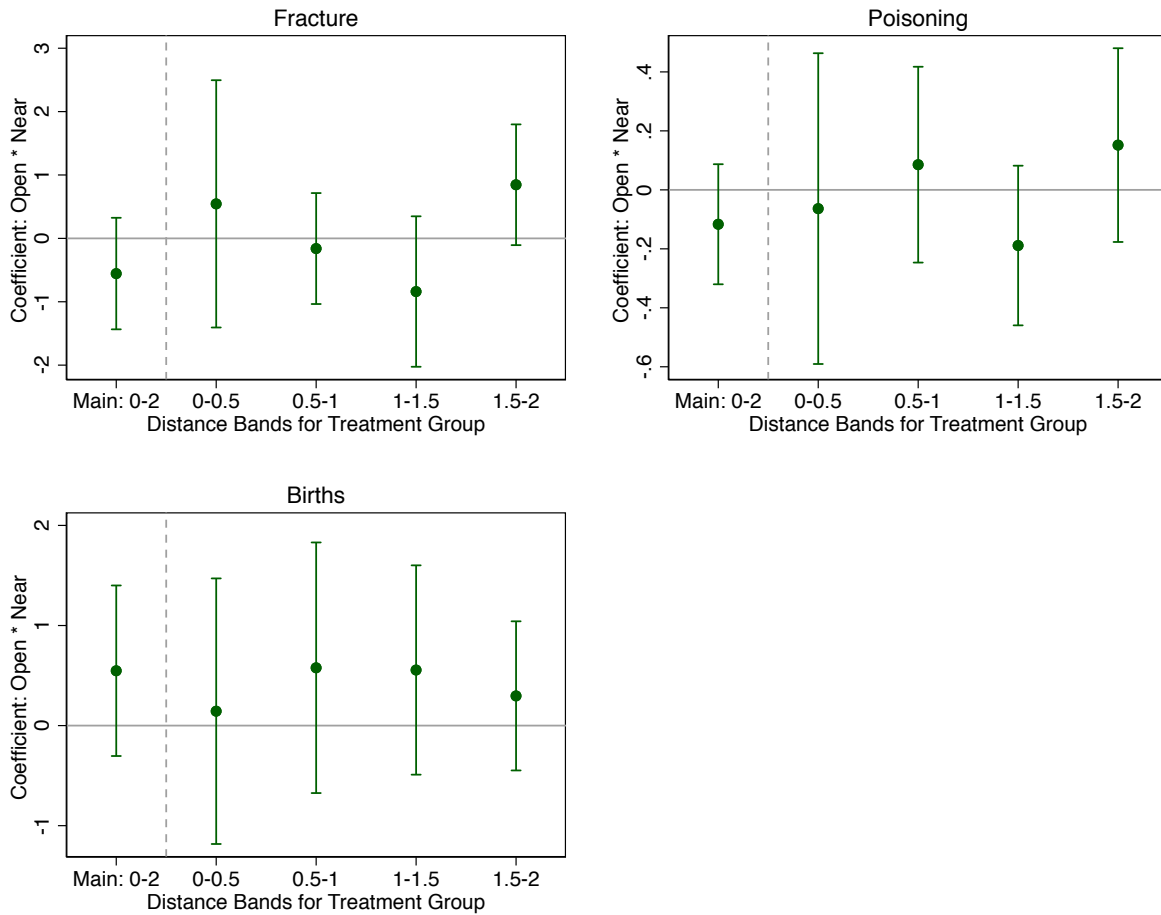
Notes: The above map displays the locations of all retail clinics in our data (triangles) and the locations of all urgent care clinics in 2017 (circles). The locations of urgent care clinics in 2017 were collected by scraping Google maps and verifying that we had identified all branches by visiting the website of each urgent care clinic chain.

Figure A4: Retail Clinics per Capita and the Prevalence of Influenza Vaccinations



Notes: The above figure displays coefficients and 95 percent confidence intervals from a regression of an indicator denoting whether respondents received a flu shot in the past 12 months on indicators for quartiles of the number of open retail clinics per capita in a given county-month. Data on flu shots comes from the SMART BRFSS from 2006–2010; 19 of the 21 counties in New Jersey are in this data. Observations are at the individual level and are weighted using BRFSS sample weights. The average number of open retail clinics per 100,000 people by quartile is 0, 0.13, 0.25, and 0.71. Standard errors are clustered by county.

Figure A5: Emergent, Not Preventable Conditions (Placebo): Varying Distance Bands



Notes: Each coefficient and corresponding 95 percent confidence interval is from a separate regression. All regressions are identical to our main specification except that we vary the distance band used to define the “near” group (0–0.5, 0.5–1, 1–1.5, and 1.5–2 miles) holding fixed the “far” group at 2–5 miles from a retail clinic. Recall that we define the near group as 0–2 miles from a retail clinic in our main specification.

B Supplementary Tables

Table A1: ER Visits for Diabetes: Most Common Primary Diagnosis

	Frequency	Percent	Cumulative
Diabetes mellitus (250)	285,743	8.43	8.43
Respiratory system/other chest symptoms (786)	160,203	4.73	13.16
General symptoms (780)	110,206	3.25	16.41
Other chronic ischemic heart disease (414)	107,351	3.17	19.58
Heart failure (428)	99,258	2.93	22.50
Other abdomen/pelvis symptoms (789)	74,681	2.20	24.71
Other cellulitis/abscess (682)	74,015	2.18	26.89
Other urinary tract disorder (599)	65,540	1.93	28.83
Cardiac dysrhythmias (427)	62,913	1.86	30.68
Other & unspecified back disorder (724)	57,266	1.69	32.37
Complications peculiar to certain spec. proc. (996)	53,709	1.58	33.96
Acute myocardial infarct ion (410)	50,227	1.48	35.44
Pneumonia, organism unspecified (486)	50,044	1.48	36.91
Chronic bronchitis (491)	45,409	1.34	38.25
Asthma (493)	447,66	1.32	39.58
Septicemia (038)	38,190	1.13	40.70
Fluid/electrolyte disorder (276)	36,838	1.09	41.79
Symptoms involving head/neck (784)	35,801	1.06	42.85
Osteoarthritis & allied disorders (715)	35,629	1.05	43.90
Acute renal failure (584)	33,229	0.98	44.88
Cerebral artery occlusion (434)	32,516	0.96	45.84
Renal/ureteral calculus (592)	29,667	0.88	46.71
Essential hypertension (401)	29,252	0.86	47.57
Cataract (366)	28,985	0.86	48.43
Other soft tissue disorders (729)	27,886	0.82	49.25
GI system symptoms (787)	27,513	0.81	50.06

Notes: The above table displays the most common primary diagnoses for hospital visits with any diabetes diagnosis recorded. Each row lists the description; the corresponding ICD-9 code is provided in parentheses.

Table A2: Retail Clinics and Average Total List Charges per ER Visit: Untrimmed Prices

	Primary Care Treatable					
	(1) UTI	(2) Conjunct.	(3) URTI	(4) Pharyngitis	(5) Otitis	(6) Sprain/strain
Open	-395.296 (238.492)	19.133 (60.257)	95.019 (89.273)	98.999 (78.603)	19.033 (59.055)	41.350 (91.355)
Near	-558.780** (277.772)	7.663 (123.013)	-8.919 (168.253)	-46.836 (104.878)	-20.802 (110.351)	-19.700 (104.651)
Open*Near	905.354* (497.536)	143.456 (222.295)	559.304* (312.668)	247.509 (214.166)	354.167 (217.185)	240.182 (211.697)
Mean per 100k	12,923.133	1,243.078	3,962.525	1,806.083	1,853.398	2,685.709
Mean Pop.	175,121	175,121	175,121	175,121	175,121	175,121
R-Squared	0.080	0.039	0.070	0.132	0.077	0.348
Observations	51,480	51,480	51,480	51,480	51,480	51,480

	Emergent, Preventable		Placebo: Emergent, Not Preventable		
	(1) Influenza	(2) Diabetes	(3) Fracture	(4) Poisoning	(5) Births
Open	-287.840 (980.343)	-320.411 (350.802)	-141.135 (375.408)	218.898 (526.280)	75.842 (455.458)
Near	-2,170.106 (1,317.644)	-489.617 (430.300)	-412.890 (325.474)	-531.935 (444.661)	-250.671 (220.417)
Open*Near	1,863.661 (1,238.487)	824.956 (667.641)	389.204 (478.281)	877.355 (643.447)	331.799 (371.440)
Mean per 100k	8,047.146	34,139.164	17,807.590	15,996.564	23,167.043
Mean Pop.	175,121	175,121	175,121	175,121	175,121
R-Squared	0.037	0.394	0.120	0.052	0.534
Observations	51,480	51,480	51,480	51,480	51,480

*** p<0.01, ** p<0.05, * p<0.1

Notes: Observations are at the retail clinic–distance band–week level and are population weighted. The dependent variable in each regression is the average total list charges per ER visit for a given condition. All regressions include month-by-year and retail clinic fixed effects; additional controls include population density, fraction black, a quadratic in median household income, and the age structure at the retail clinic–distance band level and distance to the nearest hospital at the retail clinic–year level. The near (far) group includes block groups that are 0–2 (2–5) miles from a retail clinic. “UTI” denotes urinary tract infections; “URTI” denotes upper respiratory tract infections. Standard errors are clustered by retail clinic.

Table A3: Retail Clinics and Average Total List Charges per ER Visit: Residualized Prices

	Primary Care Treatable					
	(1) UTI	(2) Conjunct.	(3) URTI	(4) Pharyngitis	(5) Otitis	(6) Sprain/strain
Open	-280.392 (197.169)	29.458 (69.217)	154.586 (133.758)	52.962 (79.129)	54.008 (78.472)	-6.126 (85.581)
Near	-677.494*** (223.223)	-82.697 (111.229)	-131.861 (153.679)	-144.213 (108.170)	-104.856 (112.123)	-112.172 (114.621)
Open*Near	952.289** (397.480)	161.852 (208.919)	615.495** (302.572)	305.274 (221.984)	346.609 (222.429)	274.012 (233.502)
Mean per 100k	-11.948	29.194	210.073	25.170	105.067	26.844
Mean Pop.	175,121	175,121	175,121	175,121	175,121	175,121
R-Squared	0.044	0.016	0.047	0.123	0.064	0.281
Observations	51,476	51,477	51,473	51,477	51,473	51,474

	Emergent, Preventable		Placebo: Emergent, Not Preventable		
	(1) Influenza	(2) Diabetes	(3) Fractures	(4) Poisonings	(5) Births
Open	4,019.556 (2,848.726)	-22.988 (436.149)	-51.293 (263.449)	166.862 (429.721)	186.730 (466.919)
Near	-370.052 (4,649.174)	-451.070 (457.218)	-569.792* (294.849)	104.494 (624.785)	-258.234 (252.725)
Open*Near	-7,730.023 (5,222.984)	1,090.283 (914.503)	472.349 (526.075)	376.180 (810.051)	456.116 (500.814)
Mean per 100k	-1,192.490	-152.406	-33.930	155.379	36.936
Mean Pop.	175,121	175,121	175,121	175,121	175,121
R-Squared	0.046	0.247	0.065	0.030	0.376
Observations	51,480	51,479	51,471	51,472	51,475

*** p<0.01, ** p<0.05, * p<0.1

Notes: Observations are at the retail clinic–distance band–week level and are population weighted. The dependent variable in each regression is the average total list charges per ER visit for a given condition residualized from hospital fixed effects and an indicator for whether the patient was admitted. All regressions include month-by-year and retail clinic fixed effects; additional controls include population density, fraction black, a quadratic in median household income, and the age structure at the retail clinic–distance band level and distance to the nearest hospital at the retail clinic–year level. The near (far) group includes block groups that are 0–2 (2–5) miles from a retail clinic. “UTI” denotes urinary tract infections; “URTI” denotes upper respiratory tract infections. Standard errors are clustered by retail clinic.

Table A4: Retail Clinics and ER Visits: Fraction Privately Insured

	Primary Care Treatable					
	(1) UTI	(2) Conjunct.	(3) URTI	(4) Pharyngitis	(5) Otitis	(6) Sprain/strain
Open	0.009 (0.006)	0.004 (0.010)	0.002 (0.008)	0.011 (0.010)	0.007 (0.011)	0.006 (0.006)
Near	0.007 (0.008)	0.015* (0.009)	0.011 (0.007)	0.029*** (0.010)	0.019* (0.010)	0.005 (0.006)
Open*Near	-0.003 (0.008)	-0.008 (0.009)	0.008 (0.008)	-0.015 (0.010)	-0.000 (0.010)	0.003 (0.006)
Mean	0.335	0.433	0.443	0.472	0.484	0.439
Mean Pop.	175,121	175,121	175,121	175,121	175,121	175,121
R-Squared	0.168	0.151	0.378	0.310	0.372	0.468
Observations	48,988	36,658	49,097	45,456	46,292	51,064
	Emergent, Preventable		Placebo: Emergent, Not Preventable			
	(1) Influenza	(2) Diabetes	(3) Fracture	(4) Poisoning	(5) Births	
Open	-0.010 (0.019)	0.006 (0.005)	-0.001 (0.007)	0.009 (0.008)	-0.001 (0.008)	
Near	0.016 (0.017)	-0.002 (0.005)	0.002 (0.006)	0.017** (0.008)	0.023** (0.009)	
Open*Near	-0.007 (0.020)	0.004 (0.006)	0.010* (0.005)	-0.012 (0.009)	0.012 (0.009)	
Mean	0.486	0.267	0.432	0.407	0.630	
Mean Pop.	175,121	175,121	175,121	175,121	175,121	
R-Squared	0.116	0.299	0.356	0.124	0.505	
Observations	16,583	51,345	50,975	41,727	50,115	

*** p<0.01, ** p<0.05, * p<0.1

Notes: Observations are at the retail clinic–distance band–week level and are population weighted. The dependent variable in each regression is the fraction of ER visits for a given condition made by patients with private insurance. All regressions include month-by-year and retail clinic fixed effects; additional controls include population density, fraction black, a quadratic in median household income, and the age structure at the retail clinic–distance band level and distance to the nearest hospital at the retail clinic–year level. The near (far) group includes block groups that are 0–2 (2–5) miles from a retail clinic. “UTI” denotes urinary tract infections; “URTI” denotes upper respiratory tract infections. Standard errors are clustered by retail clinic.

Table A5: Retail Clinics and ER Visits: Difference-in-Difference using 0–2 Mile Distance Bands Only

	Primary Care Treatable					
	(1) UTI	(2) Conjunct.	(3) URTI	(4) Pharyngitis	(5) Otitis	(6) Sprain/strain
Open	-0.258 (0.346)	-0.028 (0.168)	-0.022 (0.576)	-0.895** (0.433)	-0.158 (0.210)	0.106 (0.773)
Mean per 100k	14.265	3.349	22.952	9.772	9.941	38.242
Mean Pop.	57,656	57,656	57,656	57,656	57,656	57,656
R-Squared	0.345	0.314	0.668	0.524	0.459	0.616
Observations	25,740	25,740	25,740	25,740	25,740	25,740

	Emergent, Preventable		Placebo: Emergent, Not Preventable		
	(1) Influenza	(2) Diabetes	(3) Fracture	(4) Poisoning	(5) Births
Open	-0.226 (0.162)	-1.784 (1.173)	0.521 (0.471)	0.077 (0.185)	0.745* (0.401)
Mean per 100k	1.735	72.132	27.070	4.829	18.686
Mean Pop.	57,656	57,656	57,656	57,656	57,656
R-Squared	0.391	0.747	0.346	0.229	0.210
Observations	25,740	25,740	25,740	25,740	25,740

*** p<0.01, ** p<0.05, * p<0.1

Notes: Observations are at the retail clinic–week level and are population weighted. The dependent variable in each regression is the number of ER visits for a given condition per 100,000 people. All regressions include month-by-year and retail clinic fixed effects; additional controls include distance to the nearest hospital at the retail clinic–year level. Only block groups within two miles of a retail clinic are included. “UTI” denotes urinary tract infections; “URTI” denotes upper respiratory tract infections. Standard errors are clustered by retail clinic.

Table A6: Distribution of Total List Charges per ER Visit by Diagnosis

	p5	p25	p50	p75	p95	Mean	Std. Dev.	Count
Influenza	495	1054	1787	3348	29425	6688.63	25927.55	82,676
Diabetes	895	3258	14527	42429	116862	32402.23	53472.52	3,389,333
Urinary tract infection	663	1396	2934	9220	53504	11773.92	26540.98	660,532
Conjunctivitis	293	513	785	1193	3145	1222.62	2364.37	178,601
URTI/sinusitis/bronchitis	373	776	1335	2387	12420	3322.52	9624.29	1,220,564
Pharyngitis	352	680	1046	1659	4446	1708.13	3428.79	528,145
Otitis	322	575	913	1415	6003	1728.56	4434.3	535,466
Sprains & strains	555	1034	1589	2378	7997	2666.38	7047.24	1,673,502
Poisonings	404	1086	2847	12874	64116	14797.16	41404.47	204,605
Fractures	802	1477	2523	11990	78526	17611.13	53310.2	1,120,181
Births	9108	15311	20730	27729	42460	22939.67	14193.1	854,560

Notes: The above table presents summary statistics for total list charges by diagnosis across ER visits.

Table A7: CVS MinuteClinic Price List

	Posted price
General medical exams	89
Minor illnesses	89-129
Minor injuries	89-129
Adeno test (viral pink eye)	25
Blood sugar test	25
Flu test (A/B)	35
Strep test (rapid)	35
Diabetes monitoring	79-99
Diabetes screening (glucose)	59-69
Influenza vaccine (high dose)	69.99
Influenza vaccine (seasonal)	44.99

Notes: The above prices come from www.cvs.com/minuteclinic; last accessed May 2017. Minor illnesses include urinary tract and bladder infections, upper respiratory infections, sore and strep throat, and earaches and ear infections. Minor injuries include sprains, strains, and joint pain. High dose influenza vaccines contain more antigen and are intended to create a stronger immune response; these vaccines are available for people aged 65 years and older (CDC).