

Appendix

Exhibit A1. Housing modifications and expected health effects

Categories of improvements	Examples of improvements	Health conditions affected by housing (AHRQ CCS category)
Interior renovations	<ul style="list-style-type: none"> • Adding or repairing stair railings • Non-slip coverings on slick flooring • Covering and insulating heating systems • Repairing faulty waste disposal, plumbing, heating/cooling, and ventilation systems • Repairing or replacing sub-standard roofing • Removal of lead-based paint or asbestos • Installing energy efficient appliances • Re-painting interior walls • New security doors at entrance 	<ul style="list-style-type: none"> • Asthma (128) • Acute respiratory infections including common cold, influenza, tonsillitis, bronchitis, strep throat, and pneumonia (122-126) • Injuries, including abrasions, breaks and sprains, open wounds, falls, burns, firearm injuries, pedestrian and street injuries, and drownings (225-236, 239-240, 244, 2601-2610) • Anxiety, depression and mood disorders (651, 657) • Hypertension (98)
Exterior renovations	<ul style="list-style-type: none"> • Façade renovation • Replacing broken windows • Gardening and landscaping • Installation of exterior lights • Walkways installed or upgraded • Installation of play areas and basketball courts • Installation of security cameras 	

Exhibit A2. Map of renovated buildings and the Community Districts from which comparison enrollees were drawn

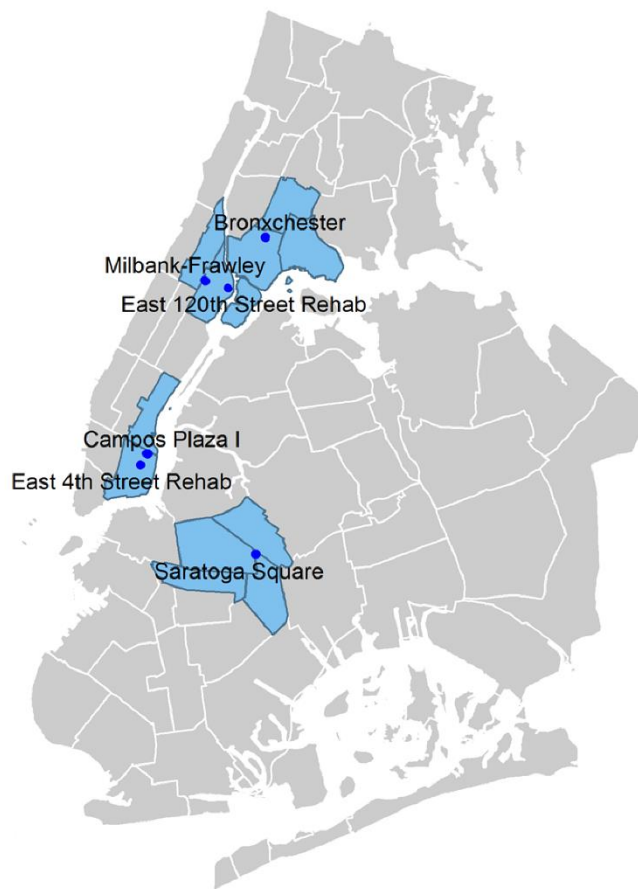


Exhibit A3. Percentage-point changes from 2014 to 2017 or 2018 among people in the treatment and comparison group

	(2014)		(2017)		(2018)		DID estimate	
	Treatment	Comparison	Treatment	Comparison	Treatment	Comparison	2017	2018
N	1,207	1,207	1,207	1,207	1,207	1,207	2,414	2,414
<i>Disease outcomes (at least diagnosis)</i>								
Asthma	10.36	9.94	10.94	11.93	10.36	10.85	-1.41 (1.25)	-0.91 (1.25)
Anxiety or depression	9.20	6.55	11.35	9.86	10.69	10.02	-1.16 (1.21)	-1.99 (1.33)
Injury	11.02	8.53	11.85	11.18	12.35	11.10	-1.82 (1.54)	-1.24 (1.56)
Hypertension (adults)	27.47	27.34	27.47	27.57	28.87	27.34	-0.23 (2.05)	1.40 (2.17)
Acute respiratory infections	13.34	11.85	12.10	12.76	14.25	13.59	-2.15 (1.45)	-0.83 (1.52)
<i>Housing sensitive conditions index</i>								
Composite of 5 conditions (mean)	0.63	0.56	0.66	0.65	0.68	0.65	-0.07* (0.03)	-0.04 (0.04)
At least one of these conditions	46.31	41.43	42.75	41.34	41.42	41.59	-3.48 (2.13)	-5.05** (2.19)
<i>Utilization (at least 1 visit)</i>								
Primary care visit	54.60	51.37	44.98	41.01	41.92	39.52	0.75 (2.23)	-0.83 (2.26)
ED visit	18.89	17.07	18.73	15.73	19.23	16.98	1.16 (1.67)	0.41 (1.71)
Hospitalization	6.30	4.56	6.88	5.88	6.96	6.88	-0.75 (1.06)	-1.66 (1.11)

SOURCE Authors' analysis of New York State Medicaid claims data. NOTES: This is an expanded version of Exhibit 2 in the text, with prevalence rates for outcome years and standard deviations of DID effects, *p<0.10; **p<0.05; ***p<0.01.

Exhibit A4. Percentage-point changes from 2014 to 2017 or 2018 among vulnerable populations

	Children		Older adults		History of chronic disease	
	2017	2018	2017	2018	2017	2018
N	699	699	556	556	1,230	1,230
<i>Disease outcomes (at least 1 diagnosis)</i>						
Asthma	-1.44 (2.54)	0.27 (2.57)	-2.16 (2.21)	-2.16 (2.54)	0.00 (1.90)	-1.14 (1.92)
Anxiety or depression	-0.27 (1.88)	-5.12** (2.35)	-4.68* (2.45)	-3.96 (2.75)	-0.98 (2.02)	-2.76 (2.30)
Injury	-1.12 (3.21)	-3.14 (3.06)	0.36 (2.90)	-1.44 (3.18)	-2.11 (2.50)	0.98 (2.44)
Hypertension (adults)	-	-	1.80 (4.73)	4.32 (4.85)	0.46 (3.08)	0.46 (3.32)
Acute respiratory infections	-3.47 (2.91)	-4.62 (3.04)	2.16 (2.54)	0.00 (2.97)	-1.46 (2.16)	-0.65 (2.36)
<i>Housing sensitive conditions index (4 for children; 5 for adults)</i>						
Composite of conditions	-0.06 (0.06)	-0.13** (0.06)	-0.03 (0.08)	-0.03 (0.09)	-0.04 (0.06)	-0.03 (0.06)
At least 1 of these conditions	-5.75 (3.89)	-10.34** (4.14)	1.44 (4.69)	-0.72 (4.80)	-2.11 (3.19)	-6.67** (3.24)
<i>Utilization (at least 1 visit)</i>						
Primary care visit	9.87** (4.43)	3.25 (4.38)	-1.44 (4.19)	-1.80 (4.33)	-3.09 (3.24)	-6.02 (3.24)
ED visit	-0.61 (3.48)	0.57 (3.60)	0.36 (2.99)	4.32 (3.08)	0.98 (2.44)	0.49 (2.51)
Hospitalization	-2.28* (1.34)	-3.42** (1.33)	0.00 (2.74)	0.00 (3.05)	-0.16 (1.79)	-2.11 (1.90)

SOURCE: Authors' analysis of New York State Medicaid claims data. NOTES *p<0.10; **p<0.05; ***p<0.01

Exhibit A5. Percentage-point changes from 2014 to 2017 or 2018, with and without control for Real Estate Assessment Center (REAC) score

	Original		Controlling for REAC score	
	2017	2018	2017	2018
N	2,414	2,414	1,714	1,714
<i>Disease outcomes (1+ diagnosis)</i>				
Asthma	-1.41 (1.25)	-0.91 (1.25)	-0.70 (1.49)	-0.35 (1.52)
Anxiety & depression	-1.16 (1.21)	-1.99 (1.33)	0.12 (1.40)	-1.87 (1.57)
Injuries	-1.82 (1.54)	-1.24 (1.56)	-1.05 (1.78)	-1.28 (1.89)
Hypertension (adults)	-0.23 (2.05)	1.40 (2.17)	-1.35 (2.33)	0.68 (2.50)
Acute respiratory infections	-2.15 (1.45)	-0.83 (1.52)	-3.03* (1.70)	-3.15* (1.79)
<i>Housing sensitive conditions index</i>				
Composite of 5 conditions	-0.07* (0.03)	-0.04 (0.04)	-0.06 (0.04)	-0.06 (0.04)
At least 1 of these conditions	-3.48 (2.13)	-5.05** (2.19)	-3.62 (2.53)	-6.18** (2.59)
<i>Utilization (1+ visit)</i>				
Primary care visit	0.75 (2.23)	-0.83 (2.26)	2.22 (2.66)	0.93 (2.63)
ED visit	1.16 (1.67)	0.41 (1.71)	0.58 (1.94)	-1.05 (2.02)
Hospitalization	-0.75 (1.06)	-1.66 (1.11)	0.23 (1.26)	-1.98 (1.30)

SOURCE: Authors' analysis of New York State Medicaid claims data. *p<0.10;

p<0.05; *p<0.01