

Appendix 2

Health care cost regression analyses

Milliman staff found that Westside experienced lower costs per visit for emergency department visits and higher costs per visit for physician office visits than would have been expected in the absence of

the intervention. Effects on inpatient costs per visit were not statistically significant. Findings may reflect differences in the price or intensity of the respective services provided by each clinic.

Figure 1: Difference-in-differences regression results

Implementation year (May to December 2018)				
Response variable				
Total allowed costs				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	191.40	<0.0001	171.27	211.52
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-32.19	0.0008	-50.98	-13.41
Ages 11-15	-15.37	0.1106	-34.26	3.51
Ages 16-plus	-7.54	0.5465	-32.04	16.96
Female	0.00 (ref)			
Male	15.49	0.0294	1.55	29.43
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	134.50	<0.0001	111.87	157.13
Baseline emergency department visits (11-plus)	624.80	<0.0001	519.42	730.19
Westside patient (baseline difference between Westside and Peña)	-72.83	<0.0001	-92.54	-53.12
Time period of interest (control trend)	-54.91	<0.0001	-74.62	-35.20
Westside patient: time period of interest (intervention effect)	34.65	0.0148	6.78	62.53

Figure 1: Difference-in-differences regression results (continued)

Implementation year (May to December 2018)				
Response variable				
Emergency department allowed costs				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	2.27	<0.0001	1.78	2.77
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-1.59	<0.0001	-2.05	-1.13
Ages 11-15	-1.62	<0.0001	-2.08	-1.16
Ages 16-plus	-0.42	0.1736	-1.01	0.18
Female	0.00 (ref)			
Male	0.06	0.7507	-0.29	0.40
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	19.99	<0.0001	19.43	20.54
Baseline emergency department visits (11-plus)	86.82	<0.0001	84.24	89.40
Westside patient (baseline difference between Westside and Peña)	0.06	0.7962	-0.42	0.55
Time period of interest (control trend)	1.12	<0.0001	0.64	1.60
Westside patient: time period of interest (intervention effect)	-1.32	0.0001	-2.01	-0.64

Figure 1: Difference-in-differences regression results (continued)

Implementation year (May to December 2018)				
Response variable				
Inpatient allowed costs				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	40.68	<0.0001	30.83	50.54
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-28.08	<0.0001	-37.28	-18.89
Ages 11-15	-21.74	<0.0001	-30.98	-12.49
Ages 16-plus	-25.84	<0.0001	-37.83	-13.84
Female	0.00 (ref)			
Male	6.91	0.0472	0.08	13.74
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	17.84	0.0016	6.76	28.92
Baseline emergency department visits (11-plus)	60.73	0.0211	9.14	112.32
Westside patient (baseline difference between Westside and Peña)	-17.56	0.0004	-27.21	-7.91
Time period of interest (control trend)	-22.09	<0.0001	-31.74	-12.44
Westside patient: time period of interest (intervention effect)	18.03	0.0096	4.38	31.67

Figure 1: Difference-in-differences regression results (continued)

Implementation year (May to December 2018)				
Response variable				
Evaluation and management allowed costs				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	73.49	<0.0001	70.05	76.92
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-25.82	<0.0001	-29.03	-22.61
Ages 11-15	-24.58	<0.0001	-27.80	-21.35
Ages 16-plus	-16.89	<0.0001	-21.07	-12.70
Female	0.00 (ref)			
Male	-0.35	0.7708	-2.74	2.03
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	29.81	<0.0001	25.95	33.68
Baseline emergency department visits (11-plus)	66.88	<0.0001	48.87	84.89
Westside patient (baseline difference between Westside and Peña)	-24.54	<0.0001	-27.91	-21.17
Time period of interest (control trend)	-24.15	<0.0001	-27.51	-20.78
Westside patient: time period of interest (intervention effect)	9.39	0.0001	4.63	14.15

Figure 2: Difference-in-differences regression results

Program year (January to December 2019)				
Response variable				
Emergency department cost per visit				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	2.27	<0.0001	1.81	2.72
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-1.32	<0.0001	-1.74	-0.89
Ages 11-15	-1.48	<0.0001	-1.91	-1.05
Ages 16-plus	-0.06	0.8189	-0.62	0.49
Female	0.00 (ref)			
Male	-0.06	0.6969	-0.38	0.25
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	18.80	<0.0001	18.28	19.31
Baseline emergency department visits (11-plus)	80.80	<0.0001	78.41	83.19
Westside patient (baseline difference between Westside and Peña)	0.11	0.6423	-0.34	0.55
Time period of interest (control trend)	1.64	<0.0001	1.19	2.09
Westside patient: time period of interest (intervention effect)	-1.82	<0.0001	-2.45	-1.19

Figure 2: Difference-in-differences regression results (continued)

Program year (January to December 2019)				
Response variable				
Inpatient cost per visit				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	26.43	<0.0001	18.85	34.02
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-20.57	<0.0001	-27.65	-13.49
Ages 11-15	-13.89	0.0001	-21.01	-6.78
Ages 16-plus	-15.34	0.0011	-24.57	-6.11
Female	0.00 (ref)			
Male	0.97	0.7185	-4.29	6.22
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	23.22	<0.0001	14.69	31.75
Baseline emergency department visits (11-plus)	67.99	0.0008	28.28	107.70
Westside patient (baseline difference between Westside and Peña)	-7.11	0.0605	-14.54	0.31
Time period of interest (control trend)	-6.45	0.0889	-13.87	0.98
Westside patient: time period of interest (intervention effect)	3.74	0.4848	-6.76	14.25

Figure 2: Difference-in-differences regression results (continued)

Program year (January to December 2019)				
Response variable				
Evaluation and management cost per visit				
Adjusted model (linear regression)				
Predictor variable	Estimate	p-value	Lower confidence limit	Upper confidence limit
Intercept	70.16	<0.0001	66.97	73.35
Ages 1-5 (base level)	0.00 (ref)			
Ages 6-10	-23.25	<0.0001	-26.23	-20.28
Ages 11-15	-20.20	<0.0001	-23.19	-17.20
Ages 16-plus	-14.79	<0.0001	-18.68	-10.91
Female	0.00 (ref)			
Male	-1.14	0.3106	-3.35	1.07
Baseline emergency department visits 0	0.00 (ref)			
baseline emergency department visits (1-10)	27.94	<0.0001	24.36	31.53
Baseline emergency department visits (11-plus)	66.27	<0.0001	49.56	82.97
Westside patient (baseline difference between Westside and Peña)	-23.07	<0.0001	-26.19	-19.94
Time period of interest (control trend)	-24.91	<0.0001	-28.04	-21.79
Westside patient: time period of interest (intervention effect)	9.81	<0.0001	5.39	14.23



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