



Enhancing Value-Based Care with Walk-in Clinic Hours: A PCP Intervention to Decrease Low Acuity Emergency Room Over-Utilization

Derek Baughman, MD; Abdul Waheed, MD, FAAFP; M. Nausherwan Khan, MD; James Nicholson, MD, MS

WellSpan Good Samaritan Hospital Family Medicine Residency Program, Lebanon, Pennsylvania

Background

Emergency department over-utilization (EDU) is a known contributor toward high per-capita healthcare cost in the USA. Although recent literature reports pre-hospital interventions that might decrease low acuity EDU¹, a paucity of literature describes the impact of Walk-in Clinic Hours (WCH) on decreasing EDU.

Project Description & Purpose

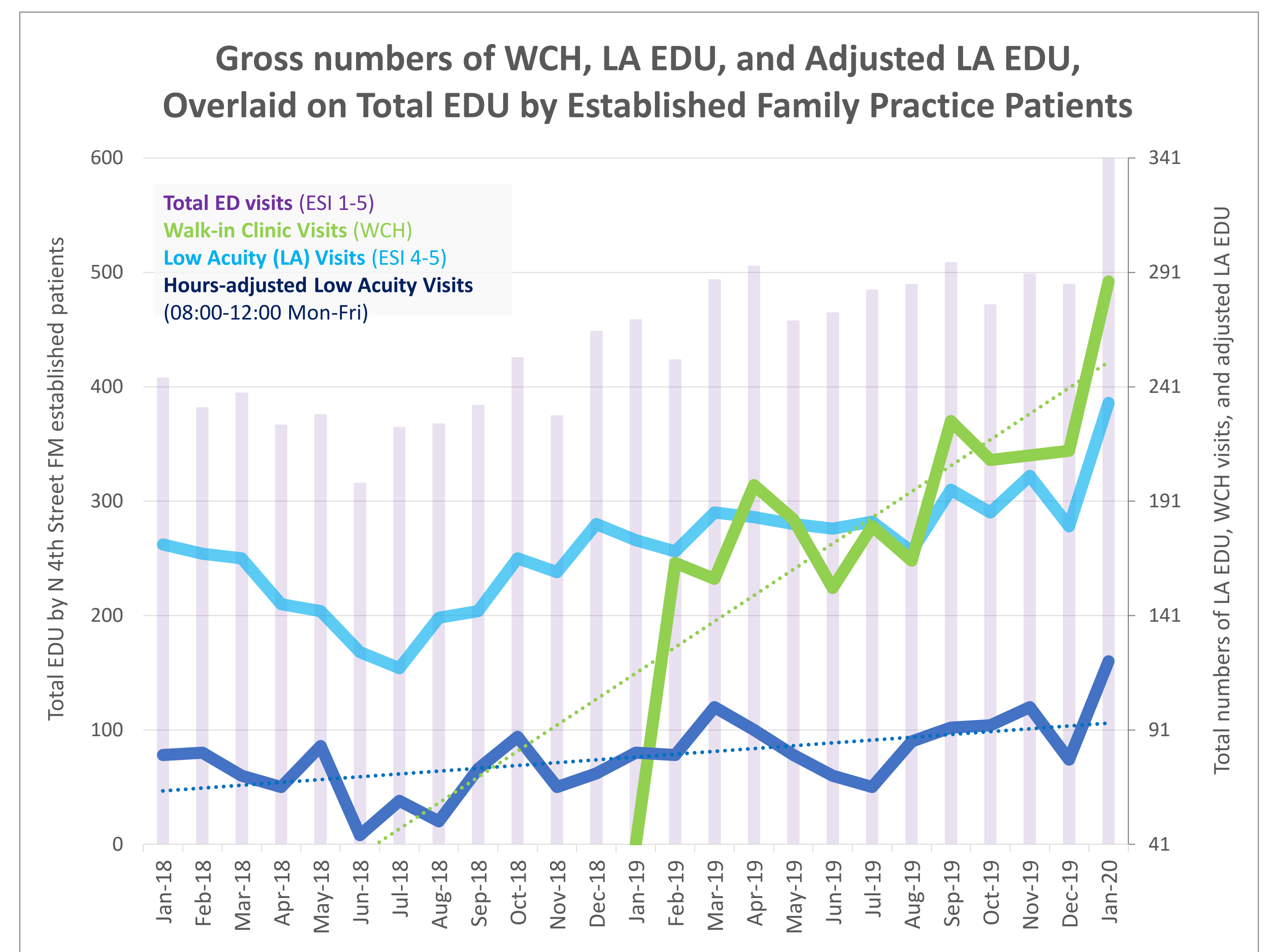
We implemented walk-in clinic hours at our PCP office to evaluate an effect on emergency room visit numbers for low acuity, urgent care in patients at our Family Medicine practice.

Methodology

An ecological cohort study included established patients (defined as having a PCP visit within 3-years²) at a Family Medicine residency program's PCP office. ESI³ scores defined acuity as low (4-5) or high (1-3) to measure EDU from 01/2018-01/2020. EDU rates were calculated using rolling established census as a denominator. ED visit times were matched to WCH (08:00-12:00, M-F) and T-tests compared statistically significant monthly visit data for EDU and rolling census (pre- and post-implementation of WCH).

Results

Despite gross increase of EDU and near doubling of office census, low acuity rates decreased. The average visit cost for a tier 1 ED visit was \$437; the corresponding average low acuity outpatient visit was \$91.



	2018	2019	2018-2019	p-value	Legend
Adjusted monthly LA EDU	69.8	87.8	1979	0.006	tLA: total low acuity
Monthly avg LA (aLA)	152	186	170	0.0001	aLA: average low acuity
Monthly avg HA (aHA)	232	302	268	0.0000002	tHA: total high acuity
Monthly avg EDU (aEDU)	384	489	438	0.0000005	aHA: average high acuity
Monthly avg census (aC)	5,763	8,042	6948	0.0000003	tEDU: total Emergency Department Utilization
tLA/tEDU	39.6%	38.1%	-1.51%		aEDU: average Emergency Department Utilization
aLA/aEDU	39.6%	38.1%	-1.51%		
tLA/aC	31.7%	30.1%	-1.60%		
aLA/aC	2.6%	2.3%	-0.33%		

Discussion

WCH significantly reduced EDU rates and provided a more cost-effective approach to low acuity care. At nearly 1/5th the cost, we demonstrate the potential for per capita cost reduction by managing low acuity visits in the PCP setting, which also alludes to the ambulatory setting's capacity to facilitate urgent care need. This is consistent with other studies on EDU mitigation that have shown the creation of additional non-ED capacity, use of patient education, managed care, pre-hospital diversions, and patient navigators^{3,4,5}. Financial implications for expanding WCH to augment appropriate low acuity diversions verses investing savings from the intervention to overhead costs of WCH itself is an important consideration. This neighbors our other limitations which include retrospective design and lack of randomization.

Conclusion

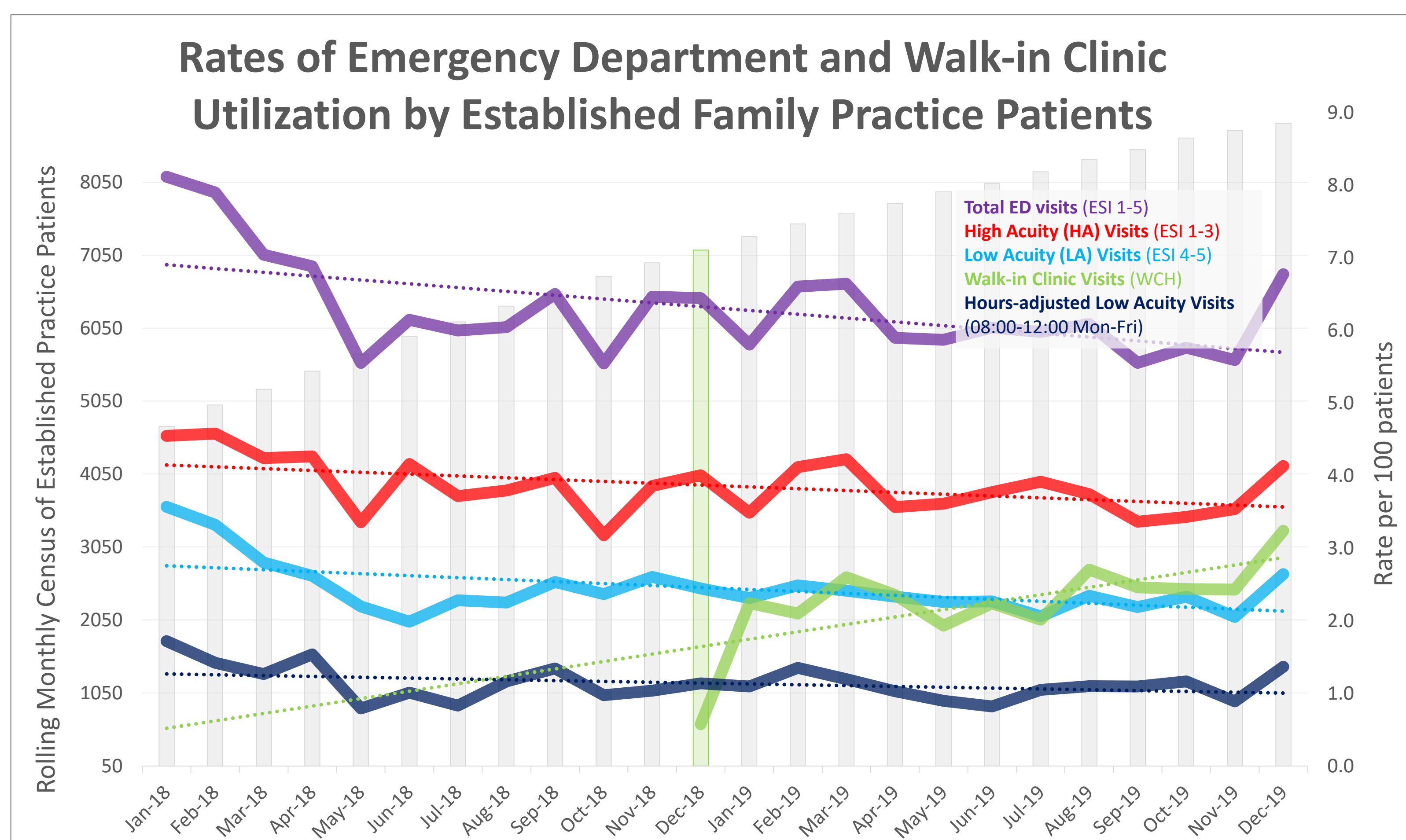
As an intervention, WCH was associated with decreased rates of low acuity ED utilization in patients at our PCMH demonstrating the potential for per-capita cost reduction in urgent care. As value-based care is the progression of modern healthcare, efforts to facilitate increased ambulatory management for low acuity care is a sound financial incentive for health systems.

Future Plans

Future aims might measure the intervention effect across multiple healthcare sites, randomizing offering, or not offering WCH to measure statistical significance in EDU; evidence that would support increasing implementation within health systems.

References

- Morgan S, et al. (2013). Non-ED Interventions to Reduce EDU: A Systematic Review. *Aca EM*, 20(10), 969-985. doi: 10.1111/acem.12219
- Dept. of HHS Centers for Medicare & Medicaid Services. (2017). Evaluation and Management Services [Ebook] (p. 18).
- Gilboy N, et al. (2012). *Emergency Severity Index Implementation Handbook [E bk]* (4 ed.). Agency for Healthcare Research and Quality.
- Doran, K, et al. (2013). An Intervention Connecting Low-Acuity ED Patients With Primary Care: Effect on Future Primary Care Linkage. *A Of EM*, 61(3), 312-321.e7. doi: 10.1016/j.annemergmed.2012.10.021
- Krumperman K, et al. Two types of prehospital systems interventions that triage LA patients to all sites of care. *S Med J*. 2015;108:381-386.



Date	Total High Acuity (ESI 1-3)	Total Low Acuity (ESI 4-5)	Adjusted LA EDU visits*	Gross ED visits (established patients)	Rolling Census (established patients)	Gross Walk-in Visits	Rate of HA (per 100 est pts)	Rate of LA (per 100 est pts)
Jan-18	236	172	80	408	4423		5.3	3.9
Feb-18	214	168	81	382	4705		4.5	3.6
Mar-18	229	166	71	395	4998		4.6	3.3
Apr-18	221	146	66	367	5211		4.2	2.8
May-18	233	143	84	376	5460		4.3	2.6
Jun-18	191	125	45	316	5691		3.4	2.2
Jul-18	247	118	60	365	5937		4.2	2.0
Aug-18	228	140	51	368	6133		3.7	2.3
Sep-18	241	143	74	384	6351		3.8	2.3
Oct-18	260	166	88	426	6547		4.0	2.5
Nov-18	215	160	66	375	6759		3.2	2.4
Dec-18	268	181	72	449	6945		3.9	2.6
Jan-19	285	174	81	459	7118	41	4.0	2.4
Feb-19	255	169	80	424	7304	164	3.5	2.3
Mar-19	308	186	101	494	7478	157	4.1	2.5
Apr-19	322	184	91	506	7615	198	4.2	2.4
May-19	277	181	80	458	7761	183	3.6	2.3
Jun-19	286	179	71	465	7917	153	3.6	2.3
Jul-19	303	182	66	485	8033	180	3.8	2.3
Aug-19	321	169	86	490	8192	165	3.9	2.1
Sep-19	313	196	92	509	8356	226	3.7	2.3
Oct-19	286	186	93	472	8498	209	3.4	2.2
Nov-19	297	202	101	499	8655	211	3.4	2.3
Dec-19	310	180	78	490	8760	213	3.5	2.1
Jan-20	366	234	121	600	8855	287	4.1	2.6
Total 2018	2,783	1,828	838	4,611				
average 2018	232	152	69.8	384	5,763		4.1	2.7
Total post intervention average	3,929	2,422	1,141	6,351		2,387		
average	302	186	87.8	489	8,042	184	3.8	2.3

*LA EDU by established patients counted only for the 08:00-12:00 Mon-Fri timeframe