

CCM ED Operational Redesign



Current State Analysis

Flow Analysis: CCM was a community hospital emergency department (ED) with 40,000 visits annually. A nearby hospital with 21,000 annual visits ED abruptly announced that they were closing their doors within 3-months. The CCM ED was already at capacity and uncertain as how to handle this anticipated increase in volume.

The existing ED footprint was challenging. The main ED was located at one end and the fast track, staffed with Advanced Practice Providers (APPs), at the other. Based on modeling, it was estimated that the APPs walked in excess of 500 miles a year to staff cases with the attendings working in the main ED.

Additionally, sicker patients commonly usurped the fast track beds on days where patient demand exceeded departmental capacity.

Operational Redesign

Flow Model Redesign: This ED could not be reconfigured for the anticipated volume increase, regardless of what flow model was in use. Thus, we went on site to identify any usable clinical space co-located to the main ED. We identified an unused 14-bed post-procedure area within 20 steps of the main ED. The main ED was expanded by converting the existing fast track beds to acute care ED beds. Low acuity patients would be managed in the new space, which would be configured as an V345 Intake Area, where ESI 4, 5, and low acuity 3 patients would be directed. Hallway space between the two units was converted to a Results Waiting area.

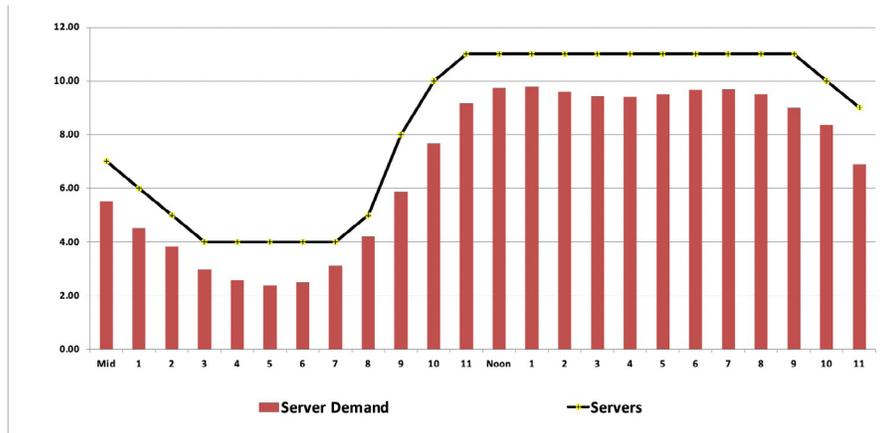
Nurse and medical provider staffing models were developed to match anticipated patient demand and space requirements.

Results are listed in the table below. This redesign project allowed hospital administration to postpone a previously planned ED renovation and improve overall ED throughput while meeting the challenge of a 50% increase in volume.

Proposed 61K MD Staffing

55MD, 42 Scribe, 36 APC

Hour	Hour	S-UTZ
Mid	0:00	79%
1	1:00	75%
2	2:00	77%
3	3:00	74%
4	4:00	65%
5	5:00	60%
6	6:00	62%
7	7:00	78%
8	8:00	84%
9	9:00	73%
10	10:00	77%
11	11:00	83%
Noon	12:00	88%
1	13:00	89%
2	14:00	87%
3	15:00	86%
4	16:00	86%
5	17:00	86%
6	18:00	88%
7	19:00	88%
8	20:00	86%
9	21:00	82%
10	22:00	84%
11	23:00	77%

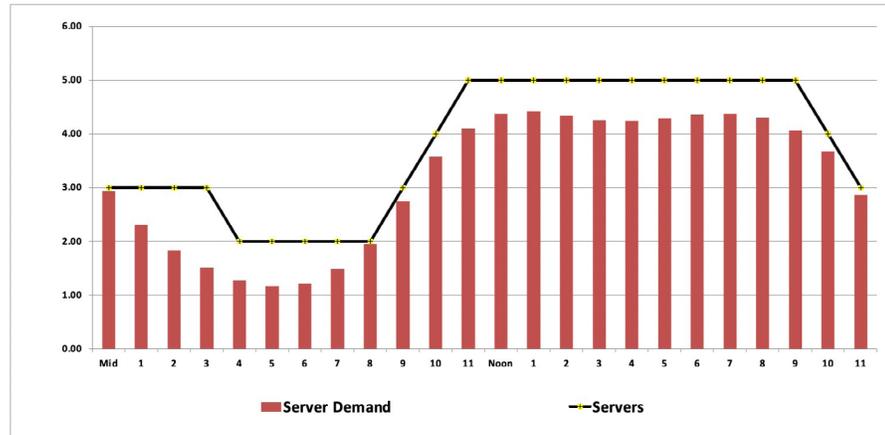


BOARDING WKLD	ON	S1	92.0	S3	0.0	S5	0.0	Cvlat	1	Max Lq	5
% BOARDING EFFECT	100%	S2	109.0	S4	0.0	WFM	0.0	CVst	1	VOL	167
BOARDING HRS/MO	573	% A	FACILITY	RN HRS	201.00	% LPN	0%	\$	\$8,643.00		
ESI MIX	12345	% ESI	FACILITY	LPN HRS	0.00	WFM	0.00	APPH	0.89		
BREAK EFFECT	OFF										

RN Staffing 61K

Main + V345

Hour	Hour	S-UTZ
Mid	0:00	98%
1	1:00	77%
2	2:00	61%
3	3:00	30%
4	4:00	63%
5	5:00	59%
6	6:00	61%
7	7:00	75%
8	8:00	98%
9	9:00	92%
10	10:00	89%
11	11:00	82%
Noon	12:00	88%
1	13:00	88%
2	14:00	87%
3	15:00	85%
4	16:00	85%
5	17:00	86%
6	18:00	87%
7	19:00	87%
8	20:00	86%
9	21:00	81%
10	22:00	92%
11	23:00	95%



BOARDING WKLD	OFF	S1	49.0	S3	96.0	S5	0.0	Cvlat	1	Max Lq	7
% BOARDING EFFECT	0%	S2	12.0	S4	0.0	WFM	42.0	CVst	1	VOL	167
BOARDING HRS/MO	0	% A	FACILITY	MD HRS	55.00	% APP	40%	\$	\$16,530.00		
ESI MIX	12345	% ESI	FACILITY	APP HRS	36.00	WFM	42.00	APPH	2.29		
BREAK EFFECT	OFF										

	Patients / Day	Door to Doc (Avg. Min.)	LOS – Discharged (Min.)	LOS – Admitted (Min.)	LWOT
Pre	112	57	178	400	3%
Post	167	15	128	310	0.9%

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