

# REDUCING THE LEFT WITHOUT BEING SEEN (LWBS) RATE AND THROUGHPUT TIME MIAMI CHILDREN'S HOSPITAL

Publication Year: 2004

**Summary:** Expansion of hospital ED bed capacity by utilizing existing space near the ED that could be repurposed

**Hospital:** Miami Children's Hospital

**Location:** 3100 S. W. 62nd Avenue  
Miami, FL 33155

**Category:**

- B: Bed Placement
- C: Clinician Initial Evaluation & Throughput

**Key Words:**

- Crowding
- Fast Track
- Left Without Being Seen
- Patient Satisfaction
- Patient Volume
- Queuing
- Rapid Intake
- Wait Times

**Hospital Metrics:**

*(Taken from FY2005 AHA Annual Survey)*

- Annual ED Volume: 82,362
- Hospital Beds: 268
- Ownership: Not-for-profit
- Trauma Level: 2
- Teaching Status: Yes

**Tools Provided:**

- [Selected Hospital Metrics](#)  
This tool is a three-page document with two charts showing the trends of patients that left without being seen and selected daily hospital statistics, and is used by ED staff and management to review the trends over a timeframe.

**Clinical Areas Affected:**

- Emergency Department
- Inpatient Units
- Laboratory
- Radiology
- Triage

**Staff Involved:**

- Administrators
- ED Staff
- Nurses
- Physicians

## Innovation

The hospital expanded ED bed capacity quickly by utilizing existing space in the hospital near the ED that could be repurposed. The ED also implemented several changes involving ancillary services in order to shorten throughput time, including expanding the use of technology in the laboratory and radiology departments. On the hospital level, morning discharges from inpatient units and housekeeping strategies were also implemented.

In 1999, Miami Children's Hospital was experiencing an increasing length of stay in their ED and an increasing number of patients leaving without being seen (LWBS) due to their rapidly increasing ED volume. There was limited physical space within the ED, not enough staff to treat the patients, and low staff morale. The hospital's administration and ED management team saw a need for change. The ED is the entry for Miami Children's Hospital and 50 percent of its inpatient admissions come from the ED. The hospital's mission of top quality patient care and patient safety was being compromised by the long throughput time and number of patients leaving without being seen.

## Results

In 1999 Miami Children's Hospital ED was experiencing a 3.5 hour average throughput time, 5 percent of its patients left without being seen (LWBS), and patient satisfaction was in the 34<sup>th</sup> percentile. These metrics have improved significantly. In 2003 the average ED throughput time dropped to 2 hours and 40 minutes, LWBS dropped to 1 percent and patient satisfaction scores were in the 90<sup>th</sup> percentile (See [Selected Hospital Metrics](#)).

## Innovation Implementation

At the time the project started in 1999 there were 24 ED treatment stations. Dr. Richard Dellerson, the ED's medical director, worked closely with staff from the ED, laboratory, radiology, registration, and administration on expanding capacity, improving flow, and reducing the left without being seen (LWBS) rate and throughput time for the ED.

Adjacent to the ED was an outpatient clinic with 11 rooms. The clinic was moved to a different location and the hospital refurbished the space in three months. Some of the beds were used by the ED and some were used to create a rapid-care center (RCC). There was also a 9 bed sedation unit that was very close to the ED and only open during the week from 8 a.m. to 5 p.m. These beds were taken over by the RCC on week nights after 6 p.m. and on weekends.

Once the additional space was identified, more staff was needed to treat the patients. Dr. Dellerson says that nursing extenders have worked well for them, specifically licensed practical nurses (LPNs) and emergency medical technicians (EMTs). The EMTs take vital signs, start intravenous lines, and apply splints. The LPNs do everything the paramedics do, plus have the ability to give medications. Now finding full-time nursing staff is easier because the environment at the ED has dramatically improved. There also are fewer turnovers.

Physician services were also expanded. Emergency medicine physicians were added to the ED and pediatricians staffed the RCC. The staff at the RCC was also given the ability to treat some of the patients that may fall in the urgent category. This helped decompress the ED at times when it was at capacity and the RCC was slow.

Improved ancillary services were also important to reducing the throughput time in the ED. A pneumatic tube system was installed for laboratory specimens and the test results were automatically uploaded to the patient tracking system. In the radiology department, digital imaging was implemented, eliminating the wait time for film development and delivery. An extra X-ray room was also built.

Another important change the ED made was to streamline registration. While the patient was being triaged, registration staff captured basic information. Once the patient was placed in a treatment room, the registration staff completed the registration. Like registration, admitting also needed attention. The hospital developed a plan to get ED patients to the floor quickly. This included physicians discharging their patients in the morning instead of the afternoon and housekeeping improving the speed of cleaning a room.

### **Advice and Lessons Learned**

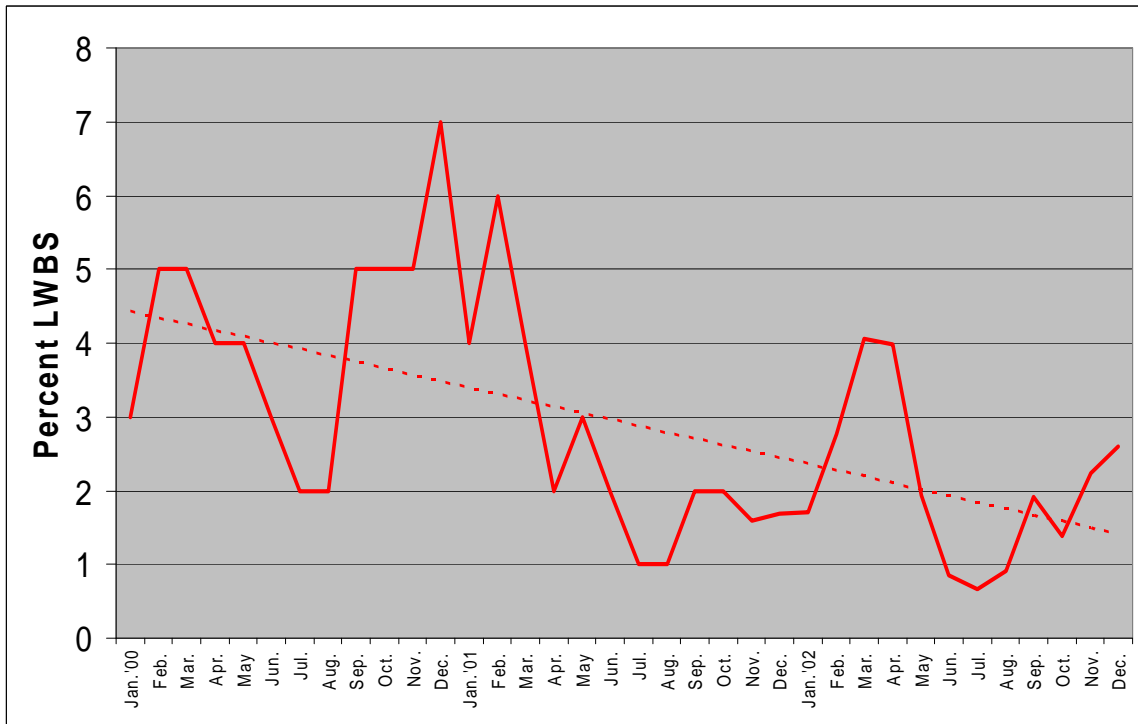
Dr. Dellerson points out that when implementing change, it is very important to consider all the possible ramifications. He also says it is important to make the simple changes first. It helps create buy-in from the staff.

### **Tools to Download**

#### Selected Hospital Metrics

This tool is a three-page document with two charts showing the trends of patients that left without being seen and selected daily hospital statistics, and is used by ED staff and management to review the trends over a timeframe.

Miami Children's Hospital  
Patients Who Left Without Being Seen  
(January 2000 to December 2002)



Miami Children's Hospital  
Daily Statistics, October 2002

<b>ED DAILY STATISTICS: OCTOBER, 2002</b>									
	<b>Date</b>	<b>ED/RCC Pt. Vol.</b>	<b>So.Dade Vol.*</b>	<b>ALOS</b>	<b>RCC ALOS</b>	<b>Non- Urgent ALOS</b>	<b># of LWBS</b>	<b>% of LWBS</b>	<b># of Admissions</b>
Tues., 10/	1	207	16	144	110	110	1	0%	20
Wed., 10/2	2	207	9	160	101	124	3	1%	26
Thrs., 10/	3	190	9	148	88	97	2	1%	21
Fri., 10/	4	209	15	127	94	104	0	0%	20
Sat., 10/	5	239	22	132	115	124	3	1%	22
Sun., 10/	6	254	19	138	88	121	3	1%	15
Mon., 10/	7	231	16	152	132	132	0	0%	22
Tues., 10/	8	208	21	141	120	120	1	0%	25
Wed., 10/9	9	247	19	162	128	130	3	1%	22
Thrs., 10/10	10	186	16	141	102	105	2	1%	25
Fri., 10/11	11	204	16	148	92	111	2	1%	22
Sat., 10/12	12	238	23	129	101	116	3	1%	20
Sun., 10/	13	228	28	123	104	103	3	1%	20
Mon., 10/	14	255	17	156	121	121	4	2%	20
Tues., 10/	15	218	19	136	101	110	1	0%	24
Wed., 10/	16	203	15	169	131	136	2	1%	26
Thrs., 10/	17	225	16	170	105	138	8	4%	22
Fri., 10/	18	218	12	150	144	138	7	3%	23
Sat., 10/	19	262	21	122	101	96	1	0%	23
Sun., 10/	20	239	29	142	102	123	6	3%	20
Mon., 10/	21	266	18	155	122	113	5	2%	27
Tues., 10/	22	217	15	146	126	125	3	1%	28
Wed., 10/	23	229	23	148	117	128	8	3%	18
Thrs., 10/	24	226	18	157	129	137	5	2%	23
Fri., 10/	25	185	16	144	104	107	2	1%	17
Sat., 10/	26	259	20	144	132	132	5	2%	24
Sun., 10/	27	267	21	157	133	146	2	1%	23
Mon., 10/	28	245	23	187	108	123	4	2%	27
Tues., 10/	29	221	11	141	102	104	0	0%	25
Wed., 10/	30	214	8	149	93	118	5	2%	20
Thrs., 10/	31	172	7	130	112	113	2	1%	13
<b>Mthly Total</b>									
<b>Avg.</b>									
		225	17	147	112	120	3	1%	22
		6969	538				96	1.38%	683

\* So. Dade facility patient volume # is independent from ED/RCC patient volume #.

Miami Children's Hospital  
Daily Statistics, October 2001

<b>ED DAILY STATISTICS: OCTOBER, 2001</b>							
<b>Date</b>	<b>Pt. Volume</b>	<b>ALOS</b>	<b>RCC ALOS</b>	<b>Non-Urgent ALOS</b>	<b># of LWBS</b>	<b>% of LWBS</b>	<b># of Admissions</b>
Mon., 10/1	219	157	135	133	7	3%	18
Tues., 10/2	197	160	96	93	4	2%	16
Wed., 10/3	199	167	129	122	0	0%	25
Thrs., 10/4*	213	180	161	155	5	2%	24
Fri., 10/5	204	192	173	174	2	1%	20
Sat., 10/6	234	163	139	141	6	3%	19
Sun., 10/7	279	166	152	153	7	3%	21
Mon., 10/8	257	179	149	143	6	2%	20
Tues., 10/9**	193	197	145	140	4	2%	21
Wed., 10/10	203	202	184	174	10	5%	23
Thrs., 10/11	258	180	157	158	21	8%	22
Fri., 10/12	222	172	145	165	6	3%	9
Sat., 10/13	260	175	156	162	11	4%	16
Sun., 10/14	278	191	195	190	7	3%	16
Mon., 10/15	264	204	162	165	8	3%	25
Tues., 10/16	218	160	125	126	0	0%	21
Wed., 10/17	243	213	198	184	6	2%	21
Thrs., 10/18	206	202	154	184	4	2%	22
Fri., 10/19	203	170	134	130	2	1%	25
Sat., 10/20	236	125	106	109	0	0%	11
Sun., 10/21	276	144	122	127	2	1%	22
Mon., 10/22	224	187	135	141	1	0%	21
Tues., 10/23	218	175	125	133	3	1%	14
Wed., 10/24	227	172	126	139	1	0%	27
Thrs., 10/25	219	175	156	150	3	1%	20
Fri., 10/26	198	166	102	152	5	3%	17
Sat., 10/27	277	156	123	123	4	1%	17
Sun., 10/28	288	154	135	123	1	0%	20
Mon., 10/29	257	202	152	157	5	2%	24
Tues., 10/30	174	154	124	131	5	3%	18
Wed., 10/31	168	129	95	99	3	2%	16
<b>Monthly Total</b>							
<b>Avg.</b>	<b>229</b>	<b>173</b>	<b>142</b>	<b>144</b>	<b>5</b>	<b>2%</b>	<b>20</b>
	7112				149	2.10%	611