Using Data to Increase Capacity in Ambulatory Care

Session #156, February 22, 2017
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Speaker Introduction

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Chief Operating Officer
Nor-Lea Hospital District
Dan Hamilton

Has no real or apparent conflicts of interest to report.
• Who we are
• Our population boom
• How we used data to increase capacity
• The bottom line improvement
• How we used data to inform our new clinic design
Learning Objectives

• Explain how Real-time Locating Systems (RTLS) gather operational data such as wait times, room utilization, provider time with patients, etc.

• Recognize how operational data can be used to engage staff for process and workflow improvement

• Discuss specific, data-based improvements that can increase capacity in an ambulatory setting
Improved Patient, Staff & Provider Satisfaction

Reduced days to receive appointment in order to provide quicker Treatment

We implemented a system to automatically collect Electronic Data on operations

Increased access and capacity to improve the health of our Patient Population

The Savings realized allowed our clinic to be profitable for the first time in its history
Who We Are

• 25-bed critical access hospital in Lovington, New Mexico
• Serving 110,000 people in SE New Mexico & West Texas
Who We Are

- 500 Employees
- 48 Full-time Providers
Who We Are

- Four rural health clinics in Lovington, Tatum & Hobbs
- Free-standing pediatric specialist clinic in Hobbs

Lovington Medical Clinic 2012 Vital Statistics
- 15,900 Square Feet
- 25 Exam Rooms
- 6 Providers
Our Population Boom

Price of Oil Per Barrel

$100

$80

$65

32,000 visits

38,000 visits

57,000 visits

2010

2011

2012
Patient Satisfaction

- 2010: 79%
- 2011: 54%
- 2012: 24%

- 30-60 days to receive an appointment
- 20-45 minutes just to get registered
- 1-2 hour wait in the lobby
### Staff & Physician Satisfaction

<table>
<thead>
<tr>
<th>Year</th>
<th>Staff</th>
<th>Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>93%</td>
<td>78%</td>
</tr>
<tr>
<td>2011</td>
<td>Staff 72%</td>
<td>41%</td>
</tr>
<tr>
<td>2012</td>
<td>Staff 68%</td>
<td>28%</td>
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</tbody>
</table>
What We Tried

Green 6 Belt

BALDRIGE Performance Excellence Program
What Worked: RTLS

155 sensors installed in each exam room, hallways, waiting area, etc.

25 Staff Badges
100 Patient Badges

Real-time locating system turns location information into Accurate, Reliable Operational Data
Gaining Staff Buy-In

• Engaged staff to solve issues
• Multi-disciplinary service team:
  – Administrators
  – Providers
  – Nursing
  – Support Staff
Patient Wait Times: Real-Time

! Attention

Patient [redacted] has waited more than 10 minutes in 1st Floor Waiting:01
Room Turnover: Real-Time

Clean & Available

In Use

Needs Turnover
Room Turnover: Reports

**Clean & Available**

**In Use**

**Needs Turnover**

<table>
<thead>
<tr>
<th>Location</th>
<th>% of Shift</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupied</td>
<td>42%</td>
</tr>
<tr>
<td>Available</td>
<td>31%</td>
</tr>
<tr>
<td>To Be Cleaned</td>
<td>27%</td>
</tr>
</tbody>
</table>
Staffing & Productivity

Practiced in FRONT of clinic

RN
RN

25-30 patients/day

Practiced in BACK of clinic

RN
RN

16 patients/day
Staffing Reports

Staff Utilization by Location

<table>
<thead>
<tr>
<th>Day</th>
<th>Badge Type</th>
<th>Time Spent in Utilization Area</th>
<th>Total Time Spent within Location Boundaries</th>
<th>Percent Utilization</th>
<th>Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/14/2015</td>
<td>Medical Assistart</td>
<td>6:02</td>
<td>18:45</td>
<td>32.21%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Provider</td>
<td>13:02</td>
<td>31:54</td>
<td>40.87%</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>RN</td>
<td>2:18</td>
<td>17:35</td>
<td>13.04%</td>
<td>3</td>
</tr>
</tbody>
</table>
Staffing Changes

• Added a second waiting room in the back of the clinic so MAs didn’t have to walk as far to room the patient

• Changed RN staffing ratio

2 RNs per provider

1 RN or LPN per 4 providers
1-2 MAs per provider
Exam Room Utilization

**Exam 201**
- Location: Occupied
  - % of Shift: 81%
- Location: Available
  - % of Shift: 4%
- Location: To Be Cleaned
  - % of Shift: 15%

**Exam 202**
- Location: Occupied
  - % of Shift: 77%

**Exam 203**
- Location: Occupied
  - % of Shift: 42%
- Location: Available
  - % of Shift: 31%
- Location: To Be Cleaned
  - % of Shift: 27%

**Exam 204**
- Location: Occupied
  - % of Shift: 9%
- Location: Available
  - % of Shift: 79%
- Location: To Be Cleaned
  - % of Shift: 12%
Exam Room Assignments
Wait Time (in minutes)

- In Lobby: 120 minutes
- At Registration: 45 minutes
Registration Changes

• Pre-registration the evening before patient appointment
• Change lab & X-ray registration to two bays
• Opened a call center to book the appointments

• No more ringing phones to interrupt staff

Registration Wait Time

45

15
Satisfaction & Productivity

- Staff Sat. 2012: 93%, 2015: 97%

Productivity Comparison:
- 2012: 16 pts per phys., 2015: 25-30 pts per phys.
Patient Experience

30-60 days
5-7 days

160 min
10 min

24%
80%

Days to Apt
Wait Times
Satisfaction

2012 2015
2012 2015
2012 2015
Revenue

2014: First profitable year in history

- 2012: $6.25M
- 2013: $6.48M
- 2014: $6.85M
- 2015: $10.3M
New Clinic: Zero Wait

Used RTLS data to design:

- Number of rooms per provider
- Optimal staffing
- Efficient workflow

290 patients/day

NAIOP Award of Merit for Healthcare Design
Key Takeaways & Lessons

• Have a plan in place for what data you want to capture before installing the RTLS to avoid adding/changing sensor locations.

• Involve front-line staff in system implementation

• Create multi-disciplinary teams to look at data and recommend change

• Physicians must participate in committees. If they’re not a part of it, they’re not going to buy into it.

• Educate staff on how to collect badges at the end of the visit so patients don’t walk out the door with them.

• If badges do walk out the door, have a plan in place to contact the patient (we send them mailers). Place a sensor above the exit that ends the patient visit.
Key Takeaways & Lessons

• Don’t implement RTLS and process improvement during EMR projects

• Use data to plan for new builds
  – Put patient waiting areas closer to the doctors
  – Phone register patients with on-site check-in (also reduces noise & interruptions)
  – Separate check-in areas for Lab & X-ray patients
  – Place 4 providers per pod to allow for cost-effective staffing
  – Convenient locations for pharmacy, lab & other services
Improved Patient Satisfaction 471%
Improved Staff Satisfaction 155%
Improved Physician Satisfaction 232%

Provide quicker treatment by reducing days to receive appointment by 88%

Automatically collected operational data helped make informed improvements

Increased provider productivity by 49% for more access to the patient population

Saved resources and time to make the clinic profitable for the first time in history
Questions & Contact

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