Transforming the Emergency Department Experience

Northwestern Memorial Hospital, Chicago IL

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Session Objectives

• Understand how implementing a care-at-arrival process and communication model impacts the patient experience

• Learn how to involve resident physicians in patient experience improvement efforts

• Discuss how interdisciplinary teamwork within the organization can positively impact the Emergency Department patient experience
Session Objectives

Continued

• Share our journey (in progress)
• Outline improvements made
• Discuss both past and present barriers
• Describe a desired future state
Northwestern Memorial Healthcare Overview: Patients First

Facilities & Locations

- Feinberg and Galter Pavilions
- Prentice Women’s Hospital
- Northwestern Lake Forest Hospital
- Glenview (Primary & Immediate Care)

System Overview

- NMH & NLFH: 1,011 Beds
- NMG: 1,000+ Physicians
- 23 Satellite Ambulatory Locations
- Nationally Recognized Leader for Quality and Safety
- Primary Clinical Affiliate of Top 20 Medical School - Northwestern University’s Feinberg School of Medicine
- # 6 Hospital on the 2013-2014 US News & World Report Honor Roll of Top Hospitals
- Over 11,000 employees
- Chicago’s Most Preferred Hospital

Recognized for Excellence
Northwestern Memorial Hospital Emergency Department

- Large, urban, academic emergency department
- Level 1 Trauma Center
- 57 patient care bays
- 52 full and part time attendings
- 4 year EM residency with 48 total residents
- 135 Registered Nurses
- 38 Emergency Department Assistants (EDAs)
- Primary teaching hospital for Northwestern University Feinberg School of Medicine
- 150 4th year medical students per year
NMH Emergency Department Vision

To be the preeminent academic emergency department in the country by achieving top decile performance in patient experience, operations and patient quality and safety.
ED Closures across the United States

From: Factors Associated With Closures of Emergency Departments in the United States


Figure Legend:
NMH Emergency Department Volumes

- 20% of ED patients are admitted
- Over 40% of NMH inpatients come through the ED
- 15-20% of ED patients arrive by ambulance
NMH ED Challenges

- Growing volumes
- Hospital overcrowding
- Increasing rates of LWBS
- Decreasing patient satisfaction
Implementing the Care at Arrival Process
ED Leadership
A Critical Component

• Came together as one team
• Re-affirmed patient centered mission of ED
• Established common goals
• Focused on a high impact initiative to globally improve care and the patient experience
• Embedded motivated leaders that were willing to be innovative
Internal Focus For Improvements

What was under our control?

• Inpatient boarding?
• Delays in diagnostic testing?
• Psychiatric holds?

• THE WAITING ROOM
## Root Causes of Delays

<table>
<thead>
<tr>
<th>Process Step</th>
<th>Potential for delay</th>
</tr>
</thead>
</table>
| Triage 1         | • Waiting in line for T1  
|                  | • Patient does not know about the T1 process and sits down |
| Registration     | • Waiting in line for registration  
|                  | • Volunteers completing registration duties |
| Triage 2         | • Wait in line for T2  
|                  | • Practice variation of the T2 nurses  
|                  | • No way to prioritize queue for T2  
|                  | • Not using the ESI algorithm |
| Post Triage 2    | • Waiting after T2 when all ED beds are full  
|                  | • Patient doesn’t match placement criteria of space  
|                  | • Waiting after T2 when ED is not full to staff constraints/ reluctance  
|                  | • Culture that every patient goes back after T2  
|                  | • Transportation |
Vision: Achievement of the Best Patient Experience, no matter the path nor the location. It starts with a singular focus on Care At Arrival; this vision sustains, motivates, and energizes us as we provide collaborative and responsive care early and ensure quality, safety, efficiency and compassion throughout the patient stay.

### Care-at-Arrival (CAA) Model

#### Re-defined Triage Staff Roles & Responsibilities

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intake 1 Nurse</strong></td>
<td>➢ Responsible for Inflow and ED Bay Placement Based on Quick Look</td>
</tr>
<tr>
<td><strong>Intake 2 Nurse</strong></td>
<td>➢ Responsible for Rapid Triage &amp; Care Initiation in Coordination w/ MD-CAA</td>
</tr>
<tr>
<td><strong>MD-CAA</strong></td>
<td>➢ Responsible for Rapid Medical Assessment, Care Initiation &amp; Flow Coordination</td>
</tr>
<tr>
<td><strong>Charge Nurse</strong></td>
<td>➢ Responsible for Patient Outflow and Team Support; Bed Optimization in ED Bays</td>
</tr>
</tbody>
</table>
CAA ED Patient Flow

Patient Enters the ED

Intake 1

Critical?

Yes

ED Bay/Definite Care (Main, Mezz)

No

* Under Age 40 w/pre-selected criteria? (Flank pain, r/o appy, chest pain, r/o dvt, BHT w/o LOC, UTI, Mild Asthma, Syncope)

No

ED Bay/Definite Care (T4, Main, Mezz)

Intake 2

Available?

Yes

Intake 2
RN Triage, MD Eval, Care Begins

No

Short wait Intake 2 Queue Area

No

Yes

Emergency Department Bay Queue or T4 Waiting Area

ED Bay (T4, Main, Mezz)

Discharge

MD Post Processing

Admit

ED Bay

Discharge
Meeting Patients’ Expectations: Communicating the Process

- CAA Must Provide Ownership, Expectation Setting, and Explanation of Care Delivery
- All members of the team play a key role in communicating the process
Three Phase Approach: Evolution of a Model

CAA Phase 0: Pre-2011

CAA Phase 1: 2011-2012

CAA Phase 2: CAA Split Flow 2012-2013

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Transforming Emergency Care Video
## Impact of Care at Arrival on Performance Metrics

<table>
<thead>
<tr>
<th>Comparative Metrics</th>
<th>2011</th>
<th>% Δ '11-12</th>
<th>2012</th>
<th>% Δ '12-13</th>
<th>2013</th>
<th>% Δ '11-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeframe: Summer Peak Volume Months</td>
<td>May 1 - August 31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAA Coverage Days/Week</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total ED Patient Volume</td>
<td>31,104</td>
<td>- 1%</td>
<td>30,845</td>
<td>- 1%</td>
<td>30,537</td>
<td>- 1.8%</td>
</tr>
<tr>
<td>LWBS-%</td>
<td>4.6%</td>
<td>+ 7%</td>
<td>4.9%</td>
<td>- 29%</td>
<td>3.5%</td>
<td>- 25%</td>
</tr>
<tr>
<td>Total Patients (Seen &amp; Treated)</td>
<td>29,670</td>
<td>- 1%</td>
<td>29,330</td>
<td>+ 1%</td>
<td>29,478</td>
<td>- 0.6%</td>
</tr>
<tr>
<td>Door-to-Doc [mins] (Median)</td>
<td>44</td>
<td>+ 9%</td>
<td>48</td>
<td>- 19%</td>
<td>39</td>
<td>- 11%</td>
</tr>
<tr>
<td>Door-to-Doc: ESI 2</td>
<td>37</td>
<td>+ 5%</td>
<td>39</td>
<td>- 23%</td>
<td>30</td>
<td>- 19%</td>
</tr>
<tr>
<td>% seen within 30 min</td>
<td>43%</td>
<td>- 3%</td>
<td>42%</td>
<td>+ 20%</td>
<td>50%</td>
<td>+ 16%</td>
</tr>
<tr>
<td>Door-to-Doc: ESI 3</td>
<td>58</td>
<td>+ 16%</td>
<td>67</td>
<td>- 24%</td>
<td>51</td>
<td>- 12%</td>
</tr>
<tr>
<td>LOS-Overall [hrs] (Median)</td>
<td>4.7</td>
<td>+ 6%</td>
<td>5.0</td>
<td>- 7%</td>
<td>4.6</td>
<td>- 1%</td>
</tr>
<tr>
<td>LOS-Admit (Median)</td>
<td>6.6</td>
<td>+ 3%</td>
<td>6.8</td>
<td>- 8%</td>
<td>6.3</td>
<td>- 5%</td>
</tr>
<tr>
<td>LOS-Discharge (Median)</td>
<td>3.7</td>
<td>+ 9%</td>
<td>4.0</td>
<td>- 5%</td>
<td>3.8</td>
<td>+ 4%</td>
</tr>
<tr>
<td>Door-to-Pain Meds (Pain &gt; 4) [mins] (Median)</td>
<td>46</td>
<td>- 4%</td>
<td>44</td>
<td>+ 2%</td>
<td>45</td>
<td>- 2%</td>
</tr>
<tr>
<td>Door-to-EKG Median [mins] (Median)</td>
<td>14</td>
<td>- 21%</td>
<td>11</td>
<td>- 27%</td>
<td>8</td>
<td>- 43%</td>
</tr>
<tr>
<td>Door-to-EKG (Stdev)</td>
<td>19</td>
<td>- 29%</td>
<td>13</td>
<td>+ 1%</td>
<td>13</td>
<td>- 28%</td>
</tr>
<tr>
<td>Patient Satisfaction (% Very Good Responses)</td>
<td>55%</td>
<td>+ 4%</td>
<td>57%</td>
<td>+ 2%</td>
<td>58%</td>
<td>+ 5%</td>
</tr>
</tbody>
</table>
Achieved Highest Patient Satisfaction in 5 Years!
All sections and questions improved over prior year

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall rating ER care</td>
<td>8.0</td>
</tr>
<tr>
<td>Likelihood of recommending</td>
<td>7.4</td>
</tr>
<tr>
<td>Deg hosp staff worked as a team</td>
<td>7.1</td>
</tr>
<tr>
<td>Staff cared about you as person</td>
<td>6.1</td>
</tr>
<tr>
<td>Privacy during pers/insur info</td>
<td>6.0</td>
</tr>
<tr>
<td>Staff sensitivity to your needs</td>
<td>5.9</td>
</tr>
<tr>
<td>Overall appearance of E.R.</td>
<td>5.9</td>
</tr>
<tr>
<td>Ease giving pers/insur info</td>
<td>5.5</td>
</tr>
<tr>
<td>Staff identifies themselves</td>
<td>5.3</td>
</tr>
<tr>
<td>Waiting time before lab procedures</td>
<td>4.9</td>
</tr>
<tr>
<td>How well pain was controlled</td>
<td>4.7</td>
</tr>
<tr>
<td>Adequacy of info to family</td>
<td>4.7</td>
</tr>
<tr>
<td>Courtesy during pers/insur info</td>
<td>4.7</td>
</tr>
<tr>
<td>Helpfulness of triage nurse</td>
<td>4.5</td>
</tr>
<tr>
<td>Courtesy shown family/friends</td>
<td>4.3</td>
</tr>
<tr>
<td>Nurses attention to your needs</td>
<td>4.1</td>
</tr>
<tr>
<td>Waiting time to see doctor</td>
<td>4.0</td>
</tr>
<tr>
<td>Waiting time to treatment area</td>
<td>3.9</td>
</tr>
<tr>
<td>Technical skill of nurses</td>
<td>3.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informed about delays</td>
<td>3.8</td>
</tr>
<tr>
<td>Waiting time before noticed arrival</td>
<td>3.7</td>
</tr>
<tr>
<td>Let family/friend be with you</td>
<td>3.6</td>
</tr>
<tr>
<td>Nurse took time to listen</td>
<td>3.5</td>
</tr>
<tr>
<td>Courtesy shown family took blood</td>
<td>3.4</td>
</tr>
<tr>
<td>Nurses informative about the care</td>
<td>3.4</td>
</tr>
<tr>
<td>Doctors courtesy</td>
<td>3.3</td>
</tr>
<tr>
<td>Information about privacy</td>
<td>3.2</td>
</tr>
<tr>
<td>Nurses concern for privacy</td>
<td>3.0</td>
</tr>
<tr>
<td>Nurses concern for comfort</td>
<td>2.7</td>
</tr>
<tr>
<td>Concern for comfort radiology test</td>
<td>2.5</td>
</tr>
<tr>
<td>Doctors concern for comfort</td>
<td>2.4</td>
</tr>
<tr>
<td>Courtesy of radiology staff</td>
<td>2.3</td>
</tr>
<tr>
<td>Security staff</td>
<td>1.7</td>
</tr>
<tr>
<td>Doctor informative re treatment</td>
<td>1.4</td>
</tr>
<tr>
<td>Waiting time for radiology test</td>
<td>0.1</td>
</tr>
</tbody>
</table>
Impact on Caregiver Engagement and Teamwork
As measured through Patient Safety Culture Survey

• Achieved top decile for teamwork within unit on 2013 Patient Safety Culture survey
  – Highest rated domain on survey

• Overall Safety Culture grade improved 11 percentage points from 2011-2013

2013 Patient Safety Culture Survey Results
Excellent + Very Good
ED 2013: 71%
ED 2011: 60%
ED 2008: 47%
AHRQ ED 2012: 70%
NMH: 66%
Resident Engagement in Satisfaction Efforts
ED Residency Program Overview

- Four-year residency program
- Large diversity in clinical programs
- 48 ED residents in FY 2014
- Residents play vital role in patient care and satisfaction
Engaging Residents in Patient Satisfaction

- Added resident specific physician questions to ED survey
- A.I.D.E.T.® communication training during fall resident retreat
- Monthly distribution of department scores and comments
- Quarterly distribution of results by resident - recognition of high performers
- Standing topic on monthly meeting agenda
- PG scores and comments included on the 6-month evaluation reports
### Supervising Physician

1. Courtesy of the supervising physician
2. Degree to which the supervising physician took the time to listen to you
3. Supervising physician's concern to keep you informed about your treatment
4. Supervising physician's concern for your comfort while treating you

### Resident Physician

1. Courtesy of the resident physician
2. Degree to which the resident physician took the time to listen to you
3. Resident physician's concern to keep you informed about your treatment
4. Resident physician's concern for your comfort while treating you

**Comments** (describe good or bad experience):


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Residents outperformed Attending physicians on all doctor questions. The diagram illustrates the percentage of very good responses for different aspects of doctor performance, such as doctors' section score, courtesy, taking time to listen, informative re-treatment, and concern for comfort. Attendings (n=1816) and residents (n=1669) are compared against the FY13 goal (n=1816) and UHC Top Decile (n=1816).
Reporting by Resident Physician

• Attribution method:
  - Attending physician = discharge physician of record
  - Resident physician =
    1. The resident who wrote the encounter note in the MR
    2. If a resident did not write note, attribution is based on FirstNet documentation
    3. If neither, "UNKNOWN" is attributed to the encounter.

• Use n ≥ 5 rule
• Distributed quarterly, rolling FYTD score
• ED dept. leadership receives unblinded scores
• All comments distributed unblinded
Interdisciplinary Teamwork
ED Patient Experience Interdisciplinary Workgroup
Working together as a team to improve our care and service

Workgroup Objectives:

• Create a sense of teamwork and ownership from all parties that contact patients in the ED
• Share ideas and feedback
• Monitor performance and trends
• Identify and prioritize opportunities
• Create and implement improvement plans
• Celebrate and recognize performance
Example of Projects by ED Workgroup

- Created ED Team Point of Contact List
- Updated Urgent Care info. on website
- Trained Security to provide information on wait times
- Implement process to better disperse info. to team on wait times especially when long delays or equipment failures
- Implement process for EDA comfort rounds in triage and care spaces
- Created and distributed CT, Lab, and Imaging “Hot Sheets”
Future State
Patient-Centered ED Care

Patient-centered care models where providers, technology, services and information flow around the patient.
Expand the Care at Arrival Model

Addressing pain, comfort and diagnostic needs of the sick with care initiation upon entry.

Comfortable evaluation space

- ED Psych
- Diagnostic Evaluation
- CAA/Fast Track “Vertical Space”
- ED Bay

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Care Coordination: Inpatient

Improve patient experience and reduce inpatient boarding by facilitating communication across NMH departments, creating better systems and more efficient processes.
Care Coordination: Pre-Arrival and Post-Discharge

Use valuable information to anticipate needs prior to arrival
Connect patients to the right care that will keep them healthier
Reduce avoidable visits (e.g., intensive case management)
Push health updates and clinical information to patients and providers through electronic patient portals, better discharge education, and improved communication tools with providers
Achieving Our Vision

We must provide:

1. **Reliable and Efficient Processes**
   that achieve top decile throughput and performance metrics in length of stay, LWBS and patient experience

2. **Capital Investment**
   to provide optimal, comfortable space that enables efficient operational process improvement designs and delivers NM level care in the right environment

3. **Collaborative Partnership**
   across teams, departments, and external stakeholders to promote the Patients First mission
Thank You for Letting us Share our Story