Reducing the Impact of Low-Acuity ED Visits

Kedar S. Mate, MD
Objectives

• Describe strategies for reducing the impact of low-acuity ED visits

• Understand how the creation and expansion of less costly, more convenient, alternatives to ED visits can reduce diversions, overcrowding, and waits and delays.

• Describe examples where there has been success in relocating ED care to the right place, at the right time, for the right reason
Agenda

• Context – Policy Landscape
• Business case discussion
• Theory of change for reducing impact of low-acuity ED visits
• Examples from the field
Overall ED Utilization in US

- 136.3 million visits (44.5 visits per 100 persons)
  - 40.2 million injury related visits
- 16.2 million (11.9%) visits resulting in hospital admission
- 2.1 million visits resulting in admission to critical care unit
- 27% seen in less than 15 minutes
- 2.1% of visits resulting in transfer to different hospital

National Hospital Ambulatory Medicare Care Survey: CDC
http://www.cdc.gov/nchs/fastats/emergency-department.htm
ED Utilization by Your States

Hospital Emergency Room Visits per 1,000 Population by Ownership Type: Total, 1999 - 2014

SOURCE: Kaiser Family Foundation's State Health Facts.
Impact of ACA

• ED care and primary/preventive services are 2 of the 10 “essential benefits”

In theory, this may:

+ Increase use of emergency services

+ Increase primary & preventive services

- Leading to lower use of emergency services
Medicaid Increases Emergency-Department Use: Evidence from Oregon's Health Insurance Experiment

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Effect of Medicaid Coverage on ED Use — Further Evidence from Oregon’s Experiment

Amy N. Finkelstein, Ph.D., Sarah L. Taubman, Ph.D., Heidi L. Allen, Ph.D., Bill J. Wright, Ph.D., and Katherine Baicker, Ph.D.
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In theory, this may:

- Increase use of emergency services
- Increase primary & preventive services

? Leading to lower use of emergency services
Massachusetts

• Health care reform law in 2006 providing coverage to nearly all residents
• Preventable ED visits reduced 5-8% for non-urgent or primary care ED visits relative to other states.\(^{(1)}\)

• Between 2006-2010 ED visits and non-urgent visits dropped 1.9 and 3.8% respectively.\(^{(2)}\)

2. Long, Sharon K; Karen Stockley; Heather Dahlen (January 2012). "Massachusetts Health Reforms: Uninsurance Remains Low, Self-Reported Health Status Improves As State Prepares To Tackle Costs"
## Behavioral health ED visits grew significantly between 2010 and 2014

<table>
<thead>
<tr>
<th>Percentage of all ED visits (2014)</th>
<th>Percent change in number of ED visits (2010 – 2014)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>7%</td>
<td>Unclassified visits +12.2%</td>
</tr>
<tr>
<td>7%</td>
<td>Behavioral health +23.7%</td>
</tr>
<tr>
<td>38%</td>
<td>Emergency ED visits -2.1%</td>
</tr>
<tr>
<td>5%</td>
<td>Emergency ED visits, preventable -4.1%</td>
</tr>
<tr>
<td>20%</td>
<td>Emergent; primary care treatable</td>
</tr>
<tr>
<td>22%</td>
<td>Avoidable ED visits -3.5%</td>
</tr>
<tr>
<td></td>
<td>Total ED visits -0.4%</td>
</tr>
</tbody>
</table>

**Note:** Definition for avoidable ED visits based on NYU Billings Algorithm

**Source:** NYU Center for Health and Public Service Research; HPC analysis of Centers for Health Information and Analysis outpatient ED database, FY2010-FY2014
Impact of ACA

- ED care and primary/preventive services are 2 of the 10 “essential benefits”

In theory, this may:

- Increase use of emergency services
- Increase primary & preventive services
- Leading to lower use of emergency services
Medicaid Expansion In 2014 Did Not Increase Emergency Department Use But Did Change Insurance Payer Mix

Monthly average of Medicaid-paid and uninsured emergency department (ED) visits per facility in expansion and non-expansion states, 2012–14

Preexpansion, 2012–13

--- Postexpansion, 2014

- Medicaid, expansion states
- Medicaid, nonexpansion states
- Uninsured, nonexpansion states
- Uninsured, expansion states
Avoidable ED Visits

- Most studies classify between 30-50% of all ED visits as non-urgent and potentially avoidable (up to 67m visits)

- Up to $38b in wasteful spending (1-2)

- 71% of 6.5 million ED visits (2010) made by commercially insured patients were for causes that do not require immediate attention in the ED, or are preventable with proper outpatient care. (3)

3 Truven Health Analytics (formerly the healthcare business of Thomson Reuters) J. Roderick, Inc. Brian Erni, 631-584-2200
Non-urgent and Avoidable ED use

Figure 2. Avoidable ED Use in Massachusetts by Payer Group, 2005

- Medicaid: Non-urgent Visits: 24.0%, Preventable/Avoidable Visits: 28.7%
- Uninsured: Non-urgent Visits: 24.3%, Preventable/Avoidable Visits: 26.4%
- Medicare: Non-urgent Visits: 19.3%, Preventable/Avoidable Visits: 27.8%
- Private: Non-urgent Visits: 20.5%, Preventable/Avoidable Visits: 25.5%

Source: MADHCFP
## Defining “low-acuity” by ESI

<table>
<thead>
<tr>
<th>Degree of Acuity</th>
<th>Level of Acuity</th>
<th>Patient Condition/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>LEVEL 1 EMERGENT</td>
<td>Patients in this category require immediate attention with maximal utilization of resources to prevent loss of life, limb, or eyesight.</td>
</tr>
<tr>
<td></td>
<td>LEVEL 2 URGENT</td>
<td>Patients in this category should be seen by a physician because of high risk for rapid deterioration, loss of life, limb, or eyesight if treatment or interventions are delayed.</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>LEVEL 3 ACUTE</td>
<td>Patients who develop a sudden illness or injury within 24-48 hours. Symptoms and risk factors for serious disease do not indicate a likelihood of rapid deterioration in the near future.</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>LEVEL 4 ROUTINE</td>
<td>Patients with chronic complaints, medical maintenance, or medical conditions posing no threat to loss of life, limb, or eyesight.</td>
</tr>
<tr>
<td></td>
<td>LEVEL 5 ROUTINE</td>
<td>Patients in this category are currently stable and require no resources such as labs or x-ray.</td>
</tr>
</tbody>
</table>
EMERGENCY CARE

By Michael Wilson and David Cutler

Emergency Department Profits Are Likely To Continue As The Affordable Care Act Expands Coverage
## Exhibit 1

Emergency Department (ED) Revenue And Cost, By Visit Category, 2009

<table>
<thead>
<tr>
<th>Visit category</th>
<th>ED revenue ($ millions)</th>
<th>ED costs ($ millions)</th>
<th>Profit margin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>78,667</td>
<td>72,547</td>
<td>7.8</td>
</tr>
<tr>
<td><strong>Insurance Type</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>42,413</td>
<td>25,626</td>
<td>39.6</td>
</tr>
<tr>
<td>Medicare</td>
<td>18,227</td>
<td>21,067</td>
<td>-15.6</td>
</tr>
<tr>
<td>Medicaid</td>
<td>10,710</td>
<td>14,556</td>
<td>-35.9</td>
</tr>
<tr>
<td>Uninsured</td>
<td>7,317</td>
<td>11,298</td>
<td>-54.4</td>
</tr>
<tr>
<td><strong>ED Visit Acuity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergent</td>
<td>22,940</td>
<td>20,717</td>
<td>9.7</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>32,211</td>
<td>31,068</td>
<td>3.5</td>
</tr>
<tr>
<td>Non-emergent</td>
<td>18,407</td>
<td>16,598</td>
<td>9.8</td>
</tr>
<tr>
<td>Unclassified</td>
<td>5,109</td>
<td>4,163</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>ED Disposition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission</td>
<td>19,205</td>
<td>15,011</td>
<td>21.8</td>
</tr>
<tr>
<td>Discharge</td>
<td>59,461</td>
<td>57,536</td>
<td>3.2</td>
</tr>
</tbody>
</table>
Business case for reducing low-acuity visits works when…

• The health care system takes on financial risk for patients (fully value-based or global payment)
• Safety net (or similar) system serving primarily uninsured and Medicaid patients
• Any system with a severe supply-demand mismatch
Driver diagram

Reduce the impact of low-acuity ED visits

Prevent low-acuity patients from coming to the ED in the first place

Improve Management of low-acuity patients who have come to the ED

Change Primary Care

Urgent Care & Retail clinics

Community Paramedicine & others

Telemedicine

Financing strategies

Non-acute care in ED (fast track, urgent care, observation)

Clinical pathways & standard orders

Transition from ED to home
A high share of ED visits stem from poor access to care after-hours

Among Emergency Department (ED) visits in the past 12 months

- 60% of recent emergency room visits were unable to get an appointment at a doctor's office or clinic as soon as needed.
- 76% of recent emergency room visits was for care after normal operating hours at the doctor's office or clinic.
Changing Primary Care

- After-hours telephone consultation: reduced ‘inappropriate ED visits’ from 41% to 8% (1)
- Extend practice hours: adding night and weekend hours reduced ED visits 8% over 18 mths (2)
- Open access scheduling: offers same-day services to patients
- Group visits/shared appointments: 2-year RCT with chronic-ill geriatric pts found 17% decrease ED use (3)
- Make primary care available on work-site

2. Neighborhood Health Plan, Unpublished findings.
Effects of Primary care changes

• Broaden Access to Primary Care Services through Medical and Health Homes
  – Community Care of North Carolina reduced ED visit rate by 16% for asthma, total savings to Medicaid and CHIP of $135m

• Focus on Frequent ED Users – “Super Utilizers”
  – Ambulatory Clinic on Site at ED
    – Hennepin County Medical Center’s ambulatory ICU clinic observed a 38% decrease in ED visits and 25% decrease in hospitalizations in year
  – Medicaid Health Homes that leverage community interventions for super-utilizers

Source: Department of Health and Human Services, January 2014
Effects of Primary care changes

- Current situation:
  - Fragmented, subpar care for those suffering co-morbid behavioral health issues
  - Overcrowding, trouble allocating scarce ED resources for all

Source: Department of Health and Human Services, January 2014
And MA Health Policy Commission
Improve primary care for BH

- Medical homes for people with substance abuse problems
  - WellPoint Health in Indiana decreased ED utilization by 72% and decreased controlled substance prescriptions by 38%

- Housing and case management
  - In Illinois, patients in housing program decreased ED use by 24%
  - In New York, mobile health clinics and case management decreased ED use by 20%
  - In Pennsylvania, patient navigators worked with patients with severe mental illness and reported 59% reduction in ED use

Source: Department of Health and Human Services, January 2014
Driver diagram

Reduce the impact of low-acuity ED visits

- Prevent low-acuity patients from coming to the ED in the first place
- Improve Management of low-acuity patients who have come to the ED
- Change Primary Care
  - Urgent Care & Retail clinics
  - Community Paramedicine & others
  - Telemedicine
  - Financing strategies
  - Non-acute care in ED (fast track, urgent care, observation)
  - Clinical pathways & standard orders
  - Transition from ED to home
Urgent care & retail clinics

- # visits grew 4x between 07-09
- >90% of visits for 10 primary conditions (sinusitis, URIs, UTI, HTN immunizations etc)
- Same 10 conditions make up 12% of ED visits

Quality at the right price

The RAND study found that retail clinics provided quality care at a lower cost than urgent care centers, doctors' offices or emergency rooms. Researchers measured 14 quality indicators expressed as percentages.

- Retail clinic: 63.6%, $66
- Urgent care center: 62.6%, $103
- Primary care provider: 61%, $106
- Emergency room: 55.1%, $370

Retail clinics, primary care physicians, and emergency departments: a comparison of patients’ visits
A Mehrotra, MC Wang, JR Lave, JL Adams… - Health Affairs, 2008
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Community Paramedicine Model

- Primary healthcare extension
- Substitution
- Community coordination
Community Paramedicine

- **911 Nurse Triage** - Low acuity 911 callers referred to a trained RN who helps patient find appropriate resources for their medical issue.
  - 37% of 4,422 low-acuity 911 callers re-directed away from ED; ~$1.9 million saved

- **EMS “Loyalty” Program** - Patients who use 911 15+ times in 90 days enrolled for EMS provided home visits, home-based care.
  - 302 patients with pre- & post- data show 51.8% lower ED visits, 462 hospital admissions avoided, ~$8.1 million saved

http://www.medstar911.org/mobile-healthcare-programs
Other latent opportunities…Jersey

Source: Emma Stanton, South London and Maudsley NHS Foundation Trust

Jersey Post
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Telemedicine

- Immediate access to caregivers
- Mainly used to reach rural places with complex interventions (e.g., telestroke)
- 28% of all peds ED visits could have been avoided (1)
- Decreased ED use by CHF patients by 33% (2)
- 29% decrease in ED use by geriatric patients in cohort-controlled study of senior living centers (3)

Welcome to Big White Wall. Having a tough time? Feeling down or stressed? Start feeling better now.
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Transition from ED to home
Financing Strategies (1)

• The strategy: Increase co-pay for ED visit; Maintain or lower co-pay for OP visit

• Findings:
  – Dose response (1)
    – Increase ED co-pay $20-35; decrease visits 12%
    – Increase ED co-pay $50-100; decrease visits 23%

<table>
<thead>
<tr>
<th>Henry Ford HMO (2)</th>
<th>2004</th>
<th>2005-2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copayment</td>
<td>$0</td>
<td>$10-40</td>
</tr>
<tr>
<td></td>
<td>$50</td>
<td>$75</td>
</tr>
<tr>
<td></td>
<td>$100-$150</td>
<td></td>
</tr>
<tr>
<td>Non-emergent ED use</td>
<td>Baseline</td>
<td>-11%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-42%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-51%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-62%</td>
</tr>
</tbody>
</table>

• Limitations:
  – May deter patients from seeking needed care

2. Journal of Managed Care Medicine
3. Others include Lowe 2008, Lowe 2010, Mortensen 2010
Financing Strategies (2)

• The strategy: Financially incent or penalize PCPs by measured rates of avoidable ED utilization

• Findings:
  – Blue Care Network of Michigan HMO (217,298 members)
  – PCPs in different risk sharing arrangements for ED utilization.
  – Compared to low or no risk:
    – PCPs at “medium risk” – members’ ED use decreased 33 visits per 1000 pts
    – PCPs at “higher risk” – members’ ED use decreased 51 visits per 1000 pts

• Limitations:
  – May deter physicians from prescribing needed care

Relationship between primary care physician financial risk and member emergency department use in commercial HMO population, The American Journal of Managed Care, June 2006
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Transition from ED to home
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Total (%)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull till full/rapid intake</td>
<td>21 (12.2)</td>
<td>These interventions focus on immediate bedding (that is, before or as a part of triage the patient is taken to a treatment space) and are intended to have the patient evaluated by a provider and treatment initiated immediately or very shortly after arrival.</td>
</tr>
<tr>
<td>Flex units/spaces</td>
<td>13 (7.6)</td>
<td>These interventions create new space or repurpose (flex) existing space or staff in the ED or other areas of the hospitals to facilitate patient flow. Common uses are a fast track, observation unit, flex nurse.</td>
</tr>
<tr>
<td>Protocols/standing orders</td>
<td>12 (7.0)</td>
<td>Strategies involving the use of preapproved physician orders that a nurse can implement independently. May be new or revised orders.</td>
</tr>
<tr>
<td>Formal QI processes</td>
<td>12 (7.0)</td>
<td>Refers to processes such as Lean, Six Sigma, rapid cycle change, Kaizen.</td>
</tr>
<tr>
<td>Triage</td>
<td>10 (5.8)</td>
<td>Strategies related to initial assessment at triage (for example, physician in triage, simplified triage documentation, quick triage protocols).</td>
</tr>
<tr>
<td>Bedside registration</td>
<td>10 (5.8)</td>
<td>Describes patient registration that occurs at the bedside rather than the registration desk.</td>
</tr>
<tr>
<td>Demand/capacity matching</td>
<td>8 (4.7)</td>
<td>Describes staffing changes (physician and ED staff) made to increase staff at peak volume times.</td>
</tr>
<tr>
<td>Boarding time limits</td>
<td>8 (4.7)</td>
<td>Strategies meant to mitigate boarding by placing maximum time limits for a patient to be waiting in the ED to be admitted.</td>
</tr>
<tr>
<td>Bedboards/bed tracking</td>
<td>8 (4.7)</td>
<td>Strategies related to using a centralized, electronic list of available beds in either the ED or entire hospital.</td>
</tr>
<tr>
<td>Bridge orders</td>
<td>8 (4.7)</td>
<td>ED physicians write basic holding orders on admitted patients to get them transferred. These are not the same as a hospitalist taking the patient to the inpatient unit and doing the work there.</td>
</tr>
<tr>
<td>Handoffs</td>
<td>8 (4.7)</td>
<td>Strategies geared toward the ED-to-inpatient unit transfer process.</td>
</tr>
<tr>
<td>Waiting room Rounding</td>
<td>7 (4.1)</td>
<td>Strategies implemented in the ED waiting room to check in on patients’ status or provide updates on their expected wait.</td>
</tr>
</tbody>
</table>

ED, emergency department; QI, quality improvement.
Non-acute care in the ED

• Fast-track non-life threatening conditions
  – Reduced waiting time by 51 min; LOS by 28 min; LWBS 4%

• Provide urgent care in separate space
  – In 2011/12 the NHS Institute developed ambulatory care model in ED
  – Converted emergency admissions into “same day” emergency episodes
  – Reduced avoidable admissions

2. National Health Service, Ambulatory Emergency Care: Delivering same day emergency service, 2011
Transition of Older Adults from the ED to Home-based Acute Care Services

Clinical Status >> Acute Care Services are Needed for Moderately-Ill Older Adults

Triage Moderately-Ill Older Adults by:
- Diagnosis and Treatment Needed
- Payment for Home-based Acute Care Services

Enhanced Assessment:
- Specific Home-care Needs
- Patient/Family Caregiver Capabilities & Competencies
- Patient Preference

Selection of Home-based Care Services
(Asset map of Home-based Acute Care Services)

Transition Older Adults from the ED to Home-based Acute Care Services
- FU Care Arranged
- Real-time Handover Communications

Activate Home-based Acute Care Services

Evaluate and Review Outcomes for the Entire Episode
(from ED to Home-based Acute Care to Discharge)
Putting it together
Driver diagram

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Financing strategies

Non-acute care in ED (fast track, urgent care, observation)

Clinical pathways & standard orders

Transition from ED to home
• Northeast's largest nonprofit independent multi-specialty medical group.
• Serves 675,000 patients across eastern Massachusetts
• Early pioneer of population health & ACO models
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Improve Management of low-acuity patients who have come to the ED
Atrius Health: Program components

• Most practice are at level 3 NCQA PCMH certification
• Largest out-patient Behavioral Health department among physician practices in the Massachusetts
• Population managers who provide outreach services to improve outcomes
• Case managers and care facilitators who are assigned to keep high risk patients out of the hospital when appropriate
• Clinical pharmacists who do academic detailing to lower drug costs in general and manage medication for specific patients
• 24 x 7 telephone access to advanced practice clinicians and weekend/holiday urgent care
• Strong IT interoperability with preferred hospital partners
• Advanced use of electronic medical record with sophisticated data warehouse and analytics
Atrius Health: Results

- Medicaid: 37% fewer Emergency Room visits
- Medicare Advantage: 12% fewer Emergency Room visits, 5% fewer SNF admits
- Commercial PPO: 25% fewer Emergency Room visits
- Commercial HMO: 8% fewer inpatient admits
Since 2012, Washington State has grappled with curbing overutilization in the ED.

Started partnership between Washington State Hospital Association, WA College of Emergency Physicians and WA Medical Association that led to the **ER is for Emergencies** program.

Aims to reduce overutilization of the ED and to address narcotic drug-seeking behaviors.
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Washington’s “ER is for Emergencies”

• The ER is for Emergencies interventions include:
  – Narcotics guidelines and prescription drug monitoring
  – Educating patients about appropriate use of EDs
  – Identifying frequent users of ED and prehospital care and creating care plans
  – Feedback of information to hospitals

• In its first year, estimated results for state Medicaid include:
  – Savings of more than $34 million
  – ED visits decreased by nearly 9.9%
  – Low acuity visits decreased by 14.2%
  – Rate of frequent visitors (5+ visits) dropped 10.7%
Driver diagram

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- Transition from ED to home
Open questions

• Which elements of the driver diagram are you working on?
• What are you working on that is missing from the driver diagram?
• How are you making the business/value case for reducing low-acuity visits?
Thank You!

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