Why Acute Care Surgery?

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A crisis in emergency care – the Institute of Medicine

REPORT BRIEF • JUNE 2006

THE FUTURE OF EMERGENCY CARE IN THE UNITED STATES HEALTH SYSTEM

If you have to judge today’s popular TV shows, the nation’s emergency care is in as bad shape as ever before. In recent months, both the American Medical Association and the American College of Emergency Physicians have released reports that implicate the nation’s emergency care system as a major public health problem. The problems are many, including overcrowding, understaffing, and lack of training for emergency room staff.

If you are one of 114 million patients visiting an emergency department today, you would experience...

- **Overcrowding**: 40 percent of hospitals report ED overcrowding on a daily basis
- **Boarding**: patients waiting 48 hours or more for an inpatient bed
- **Variability in Competency**: inconsistent across all emergency care roles

“Hospital based emergency care - At the Breaking Point”

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A crisis in surgical care in America

Critical shortage of OB/GYN, trauma, orthopedic, plastic, neurosurgery, and general surgeons resulting from:

- Rising medical liability
- Earlier retirement
- Increased use of ED for primary care by underinsured
- A trend to practice in ambulatory surgery centers

A challenge of high demand and insufficient capacity

Concerning trends in 2011 in Massachusetts and nationally

- August of 2010, HHS reported that the number of ED visits in the US increased 23% in the past decade, reaching 117 million visits in 2007
- The crisis in emergency care is most severe in MA after the passage of “Romneycare”, with ED visits rising 10% in 2010 alone
- Medicaid patients disproportionately visit the ED, at a rate twice as high as both the privately insured and uninsured (in MA > 3x).

England – problems we don’t discuss

- A report in 2009 showed that 750,000 English patients were awaiting hospital admission for which no bed was available.
- Patients suffer complications while on the waiting list — a recent English judge ruled “access to a waiting list is not access to care”.
- Several hospitals in the UK have recently been shuttered from inadequate emergency care protocols—about 400 more people died at Stafford Hospital between 2005 and 2008 and a review from the NHS revealed that there was often no experienced surgeon available to that hospital during the night

The evolution of the emergency surgeon internationally

1) Acute care: European model blending trauma surgery, neurosurgery, orthopedics and emergency surgery
2) The original “Acute care trauma surgeon” model was opposed by AANS and orthopedic surgeons. The acute care literature has shifted towards the hospitalist principles, and the number of fellowships has not increased
3) Surgical hospitalist focuses on care for general surgery patients
The challenges in emergency surgical care at academic centers

- Few economic or academic incentives exist
- Taking call = unpredictability & schedule disruptions
- Diversity of emergencies leaves some uncomfortable caring for diseases outside their usual practice
- 24-hour call structure yields challenges in continuity of care and communication
- The mortality of the emergency pt population is 10%
- Decreased quality of life and increased stress, and risk of litigation

Surgical hospitalist / acute care surgery programs in America

- Experience suggests we’re early in a phase of rapid expansion of this practice model
  - Over 400 such practices in operation now, and hundreds of institutions actively considering this model
  - A prediction: Absent any dramatic healthcare reform, this model will grow almost as rapidly as the medical hospitalist model has grown.

The Surgical Hospitalist: A New Model for Emergency Surgical Care

John Maa, MD, FACS, Jonathan T Carr, MD, Jessica E Gostrell, MD, Robert Wachtler, MD, Hobart W Harris, MD, MPH, FACS

BACKGROUND: Quality of acute surgical care in the US is threatened by a shortage of surgeons performing emergency procedures because of aging of uncompensated care, liability concerns, deleterious reimbursement, and lifestyle considerations. In July 2005, we restructured the general surgery service at our medical center into a hospitalist model to improve patient access to surgical care.

STUDY DESIGN: We hypothesized that a surgical hospitalist program could improve timeliness of care, emergency department (ED) efficiency and physician satisfaction, resident supervision, continuity of care, and revenue generation. We reviewed our program after 1 year, including patient demographics, diagnoses, and time to consult.

RESULTS: Three surgical hospitalists cared for 953 patients during 1 year. Patients ranged from 17 to 100 years of age and presented with abdominal pain (60%), infection (19%), malignancy (14%), burns (4%), and trauma (3%). Fifty-seven percent of consults originated from the ED. 98% came from other surgeons. Mean time to consult was 20 minutes. A survey of ED physicians reported shorter ED length of stay, better patient satisfaction, improved professionalism and resident supervision, and better overall quality of care. Average waiting time for patients with acute appendicitis to undergo operation was reduced from 15 ± 10.4 hours to 3.2 ± 4 hours (p < 0.001). Forty-two percent of consults resulted in an operative procedure, and revenue increased at the number of billable consults now by 199%.

CONCLUSIONS: The surgical hospitalist model provides a cost-effective way to get surgeons to provide timely and high-quality emergency surgical care and enhance patient and referring provider satisfaction. (J Am Coll Surg 2007;205:704–711. © 2007 by the American College of Surgeons)

UCSF Surgical Hospitalist program

Created July 1, 2005

A new service to meet the following objectives:

- improve timeliness of patient evaluations and fulfill the Departmental commitment to emergency care,
- improve Emergency Department flow,
- improve professionalism, resident supervision, education, and consulting physician satisfaction.
- improve patient safety, by minimizing hand-offs and improving the continuity of surgical care.
UCSF Department of Surgery
Surgical Hospitalist program
First Year Statistics

Total number of consults: **853**
Average per day: **2.3**
Source of consults:
- Emergency Department: 57%
- Medicine: 20%
- Transfers: 6%
- Surgical Specialists: 8%
Consults requiring surgery: **42%**
Average time to consult: **20 mins**

Patients triaged to general surgery specialists

<table>
<thead>
<tr>
<th>Service</th>
<th>Needed consult from a senior specialist</th>
<th>Needed surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced laparoscopic</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Bariatric</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Breast</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Colorectal</td>
<td>8</td>
<td>5</td>
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</tr>
<tr>
<td>Foregut</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Hepatobiliary</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Thoracic</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>37</td>
<td>29</td>
</tr>
</tbody>
</table>

Quality improvement: appendectomy waiting times

- Average waiting time for patients with acute appendicitis to undergo operation was reduced from 16 ± 10 hours to 8 ± 4 hours
- SCIP and UCSF Medical Center publicly reported outcomes
  - Antibiotic administration within 1 hr of incision
  - Antibiotic discontinuation within 24 hr of skin closure
Dramatic increase in revenue from improved documentation of care

Initial hospital care  Subsequent care

An increase in both the number and complexity of consults

A new method to improve care and address reimbursement challenges

- 24-fold increase in revenue Year 1, 52-fold in Year 2
- The total revenue from notes alone increased 415% in the first year, and 591% in the second year.
- Ultimately yielded 20% of the overall program support.
- Efficiencies of the hospitalist billing model
  1) Increased billing complexity and revenue, particularly for non-operative care
  2) Improved communication with consultants
  3) Improved compliance with SCIP measures
  4) Enhanced medical center facility fee revenue

Surgical Hospitalists – Sutter Medical Center, Sacramento CA, Michael Omara and Leon Owens

<table>
<thead>
<tr>
<th>Procedure, Category</th>
<th>2007 (Before)</th>
<th>2008 (Surgical Hospitalists)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lap Appendectomy, Total Cost</td>
<td>$10, 600 ± 5300 (N=146)</td>
<td>$8000 ± 3400 (N=125)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Open Appendectomy, Total Cost</td>
<td>$11, 000 ± 8000 (N=48)</td>
<td>$7200 ± 5100 (N=32)</td>
<td>0.007</td>
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<tr>
<td>All Appendectomies, Total Cost</td>
<td>$10, 700 ± 6000 (N=194)</td>
<td>$7800 ± 3800 (N=157)</td>
<td>&lt;0.0001</td>
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<tr>
<td>Lap Cholecystectomy, Total Cost</td>
<td>$14, 500 ± 10, 500 (N=206)</td>
<td>$12, 300 ± 7400 (N=176)</td>
<td>0.022</td>
</tr>
<tr>
<td>Exploratory Laparotomy, Total Cost</td>
<td>$30, 100 ± 24, 600 (N=158)</td>
<td>$32, 500 ± 30, 500 (N=43)</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Positive impact of surgical hospitalist on surgical education

Hospitalist attendings round daily, enhancing continuity of care, trainee supervision and education of residents and medical students.

Introduction of the hospitalist model resulted in significant improvement in medical student clerkship perceptions of:

1) observation of physical exam skills
2) feedback
3) faculty clinical teaching
4) the clerkship as a whole
Surgicalist collaborations with surgical specialists

Quality Improvement: Emergency OR suite

Physics of a hospital – what is the rate limiting step?

Should the SH have block time?
- Only if the volume of urgent cases justifies it
- Many programs have had the SH schedule cases during unused time in other surgeons' blocks each day

Surgicalist may want to start more cases at night
- Could relieve daytime OR log jams
- Can OR staff and anesthesia handle this?
Promoting increased OR efficiency

Hallmarks of success for an academic hospitalist program

1) Timeliness—consult times of 20 min
2) Triage of complex consults for expert care
3) Improved documentation / revenue
4) Team based group practice
5) Enhanced resident supervision and surgical education

An inversion of the traditional paradigm, to better meet societal needs in emergencies

An evolving solution

- Perhaps one way to enhance emergency general surgery is through the development of dedicated expertise in maximizing patient safety and quality
- Ultimately, I believe the “acute care trauma surgery” and “surgical hospitalist” models will merge into the “emergency surgeon”….and perhaps alleviate the concern of the “sleep deprived surgeon”

Longer term solutions for the national crisis in emergency care

- Optimize reimbursement, and other non financial incentives and rewards for those courageous surgeons willing to take call
- Tort reform for emergency care
- Regionalization of trauma and emergency care
- Address uncompensated care in the ED
- A NHSC for emergency surgeons