THE TRAUMA SERVICE LINE
Financial, Performance & Operational Indicators

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Objectives

- Review components and maturity phases of a trauma program.
- Understand healthcare economics and costs.
- Discuss the challenges & opportunities associated with creating a trauma service line dashboard.
- Review business strategies for the trauma service line.

The Clinical Program

A program is a group of clinicians and staff committing their own and their institutions' resources toward a focused, integrated, and comprehensive effort to treat a specific disease, disorder, or clinical domain.

- Shared mission/vision
- Integration not just of care, but also functional disciplines:
  - i) operations, ii) finances, iii) marketing, iv) strategy,
  - v) planning, vi) human resources, vii) governance
### Trauma Service Line: 9 Essentials

#### How quality health care is...

<table>
<thead>
<tr>
<th>Essentials</th>
<th>Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organized</td>
<td>Mission and Vision</td>
</tr>
<tr>
<td>2. Integrated</td>
<td>Multi-Disciplinary/Multi-System Focus</td>
</tr>
<tr>
<td>3. Delivered</td>
<td>Access and Operational Excellence</td>
</tr>
<tr>
<td>4. Refined</td>
<td>Quality Assurance/Process Improvement</td>
</tr>
<tr>
<td>5. Led</td>
<td>Leadership, Governance, &amp; Accountability</td>
</tr>
<tr>
<td>6. Financed</td>
<td>Business Modeling, Planning, &amp; Budgeting</td>
</tr>
<tr>
<td>7. Staffed</td>
<td>Human Resources &amp; Relationship-Building</td>
</tr>
<tr>
<td>8. Measured</td>
<td>Performance Measurement &amp; Reporting</td>
</tr>
<tr>
<td>9. Marketed</td>
<td>Strategy, Marketing, Outreach, &amp; Education</td>
</tr>
</tbody>
</table>

#### 9 Essentials:

**Stage of Program Development & Associated Time Horizon**

<table>
<thead>
<tr>
<th>Essential</th>
<th>New Program (1-2 Years)</th>
<th>Intermediate (3-5 Years)</th>
<th>Mature (5-7 Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>Mission: Develop &amp; refine vision of Trauma service mission to be satisfied.</td>
<td>Prepare stakeholders for leadership transition.</td>
<td>Establish high-level vision, and leadership team.</td>
</tr>
<tr>
<td>Integrated</td>
<td>Inter-stakeholder relationships:</td>
<td>Inter-stakeholder relationships:</td>
<td>Establish inter-institutional relationships, and leadership team.</td>
</tr>
<tr>
<td>Delivered</td>
<td>Process problems: Establish communication, and correspondence list.</td>
<td>Complete assessment, multiple stakeholders.</td>
<td>Establish assessment list, and biannual review process.</td>
</tr>
<tr>
<td>Refined</td>
<td>Hospital Quality of Care group</td>
<td>Hospital Quality of Care group</td>
<td>All QM initiatives/procurement for clinical changes.</td>
</tr>
</tbody>
</table>

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Optimal Governance Design

- Program success requires co-locating these.
- Takes leadership, commitment and resources
- Ultimately...established culture...constant refinement....perpetuates team/system thinking

How Do We Get There?

- Need to have resources available.
- Track data from disparate areas.
  - Finance
  - Registry
  - Marry clinical & financial pictures
  - Dashboards (Not easy!)
- Team/Process in place...

The Health System Data Warehouse

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Review Healthcare Costs

But let's make sure we are on the same page...

What does it cost to deliver health care?

Healthcare Finance

Three types of accounting systems

1) Financial accounting
   - Create a summary view of operations
     - Balance Sheet (snapshot of given day)
     - Income Statement and Cash Flows (snapshot of period)

2) Tax accounting
   - Calculate cash flows due to government

3) Managerial (cost) accounting
   - Create analyses for a specific decision

Underlying data are the same, difference is in detail and reporting
The Core Issues

- We have a very difficult time measuring the financial success or failure of individual programs.
- This is not unique to health care.
- Our accounting systems are not designed for “horizontal care”.
- Difficult to change as this type of change is seen as a zero sum game. We all want to claim the revenue, but then fight over the expenses.

Costs

\[ \text{Total Cost} = \text{Fixed Cost} + \text{Indirect Costs} + \text{Variable Costs} \]

Fixed costs: Do not vary with activity levels
Variable costs: Rise/fall directly with activity levels

Marginal cost: The incremental cost of the next unit.
Opportunity cost: …
Sunk cost: …
Avoidable cost: …

Variable Direct, Fixed Direct, And Indirect Costs

**Variable Direct Costs**
- These are expenses that vary directly with the level of patient care.
- These are the costs that clinicians most immediately affect, and that they are most often asked to control.

**Fixed Direct Costs**
- ‘Unit’ overhead.
- Ask, “How much would it cost to keep my service open over the next month even if no patients were admitted?” This is your unit’s overhead.
- Cost accountants take a portion of this overhead and allocate it to each transaction within your service.
**Trauma Service Line**

**Variable Direct, Fixed Direct, And Indirect Costs**

**Indirect Costs**
- "Hospital" overhead.
- Expenditures that do not reside within any service.
- Examples: Administrative salaries and subsidies to the parking structure.
- The cost accountants take a portion of this overhead and allocate it to each transaction within every service.

This explains why a Tylenol that costs 5 cents per dose at CVS cost $10.49 in a hospital setting. It's not waste or bureaucracy; it's simply fixed costs.

**Total Cost Is The Sum Of 3 Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable direct cost</td>
<td>The Tylenol itself</td>
</tr>
<tr>
<td>Fixed direct cost</td>
<td>Charge nurse – allocate a portion of the cost to each Tylenol</td>
</tr>
<tr>
<td>Indirect cost</td>
<td>The CEO's salary – a portion of the cost is allocated to each Tylenol</td>
</tr>
</tbody>
</table>

Total Cost = $10.49

**Inpatient Costs? An Educated Guess...**

Almost 1/3 of variable cost is nursing

45% Variable Direct
40% Fixed Direct (Unit Overhead)
15% Indirect (Hospital Overhead)

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Let's next see how overhead is set...
Underlying Cost Structure Is No Different...

- For a clinic
- For an ambulatory surgery center
- For specific clinical domains within any of these settings …
  - The ICU
  - The ED
  - The pharmacy
  - Dialysis

Short/Medium Run: Total Margin Is Not What Matters

<table>
<thead>
<tr>
<th>Total Margin (After ALL inputs are paid.)</th>
<th>Variable Direct Cost</th>
<th>Fixed Direct Cost</th>
<th>Indirect Cost</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>40%</td>
<td>40%</td>
<td>20%</td>
<td>4%</td>
<td>16%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Direct Margin (After LOCAL inputs are all paid.)</th>
<th>Variable Direct Cost</th>
<th>Fixed Direct Cost</th>
<th>Indirect Cost</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>45%</td>
<td>64%</td>
<td>49%</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contribution Margin (Not cash flow.)</th>
<th>Variable Direct Cost</th>
<th>Fixed Direct Cost</th>
<th>Indirect Cost</th>
<th>Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>4%</td>
<td>40%</td>
<td>49%</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Physician Finances (Mean) By ISS (Trauma) *

<table>
<thead>
<tr>
<th>Level of severity (ISS)</th>
<th>Charges</th>
<th>Payments</th>
<th>Adjustments</th>
<th>% Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical (&gt;24)</td>
<td>$16,903</td>
<td>$8,217</td>
<td>$7,317</td>
<td>~ 49</td>
</tr>
<tr>
<td>Major (15-23)</td>
<td>$10,838</td>
<td>$5,003</td>
<td>$4,835</td>
<td>~ 45</td>
</tr>
<tr>
<td>Moderate (9-14)</td>
<td>$8,316</td>
<td>$3,535</td>
<td>$4,007</td>
<td>~ 42</td>
</tr>
<tr>
<td>Minor (&lt;9)</td>
<td>$4,187</td>
<td>$1,454</td>
<td>$1,984</td>
<td>~ 35</td>
</tr>
</tbody>
</table>

*This includes all physicians (i.e. Ortho, NS, GS...)

Trauma Service Line

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### Financial Impact: Hospital - Trauma

<table>
<thead>
<tr>
<th>Level (ISS)</th>
<th>Patient count</th>
<th>LOS (days)</th>
<th>Revenue (mean)</th>
<th>Total cost (mean)</th>
<th>Contribution margin (mean)</th>
<th>Margin (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical (&gt;24)</td>
<td>580</td>
<td>12.7</td>
<td>$58,246</td>
<td>$48,483</td>
<td>$38,272</td>
<td>$9,763</td>
</tr>
<tr>
<td>Major (15-23)</td>
<td>567</td>
<td>8.7</td>
<td>$30,916</td>
<td>$26,636</td>
<td>$20,401</td>
<td>$4,279</td>
</tr>
<tr>
<td>Moderate (9-14)</td>
<td>1358</td>
<td>6.3</td>
<td>$18,781</td>
<td>$16,576</td>
<td>$12,073</td>
<td>$2,205</td>
</tr>
<tr>
<td>Minor (&lt;9)</td>
<td>918</td>
<td>2.9</td>
<td>$8,570</td>
<td>$7,160</td>
<td>$5,915</td>
<td>$1,409</td>
</tr>
</tbody>
</table>

### Burn Margins

<table>
<thead>
<tr>
<th>% TBSA</th>
<th>Patient count</th>
<th>LOS (days)</th>
<th>Revenue (mean)</th>
<th>Total cost (mean)</th>
<th>Contribution margin (mean)</th>
<th>Margin (mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>260</td>
<td>5.6</td>
<td>$13,779</td>
<td>$13,898</td>
<td>$8,107</td>
<td>$-119</td>
</tr>
<tr>
<td>10-20</td>
<td>86</td>
<td>11.6</td>
<td>$32,295</td>
<td>$32,486</td>
<td>$18,829</td>
<td>$-191</td>
</tr>
<tr>
<td>20-40</td>
<td>62</td>
<td>26</td>
<td>$95,004</td>
<td>$115,131</td>
<td>$45,879</td>
<td>$20,126</td>
</tr>
<tr>
<td>&gt;40</td>
<td>29</td>
<td>24</td>
<td>$164,301</td>
<td>$160,533</td>
<td>$90,554</td>
<td>$23,844</td>
</tr>
</tbody>
</table>

In the long run you must cover your total costs (they are real). In the short run, just the variable costs.

### Drill Down

- NIS data, 3 years, >10,000 burn pts
  - High volume hospitals >100 pts per year
  - Low Volume hospitals <20 pts per year
- Outcomes and clinical trends

**Published**

In the “with complications” DRGs, high-volume hospitals have mortality 2x – 3x greater than low-volume hospitals.

<table>
<thead>
<tr>
<th>DRG</th>
<th>Hospital Volume</th>
<th>Home Without Care</th>
<th>Requiring Home Health</th>
<th>Transfer to Another Institution</th>
<th>Expired</th>
<th>Total Admit Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>506</td>
<td>High</td>
<td>63.1%</td>
<td>16.1%</td>
<td>18.6%</td>
<td>4.8%</td>
<td>610</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>54.5%</td>
<td>21.1%</td>
<td>16.1%</td>
<td>4.8%</td>
<td>413</td>
</tr>
<tr>
<td>507</td>
<td>High</td>
<td>85.3%</td>
<td>11.6%</td>
<td>3.1%</td>
<td>0.1%</td>
<td>748</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>79.8%</td>
<td>13.4%</td>
<td>5.3%</td>
<td>0.1%</td>
<td>476</td>
</tr>
<tr>
<td>508</td>
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<td>119</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>57.4%</td>
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<td>28.1%</td>
<td>1.8%</td>
<td>387</td>
</tr>
<tr>
<td>509</td>
<td>High</td>
<td>65.6%</td>
<td>9.0%</td>
<td>3.5%</td>
<td>0.9%</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>59.9%</td>
<td>12.3%</td>
<td>17.0%</td>
<td>0.6%</td>
<td>442</td>
</tr>
<tr>
<td>510</td>
<td>High</td>
<td>41.8%</td>
<td>18.2%</td>
<td>18.8%</td>
<td>1.5%</td>
<td>509</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>82.1%</td>
<td>11.1%</td>
<td>6.2%</td>
<td>0.1%</td>
<td>1900</td>
</tr>
</tbody>
</table>

Discharge Disposition

<table>
<thead>
<tr>
<th>DRG</th>
<th>Hospital Volume</th>
<th>Home Without Care</th>
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</tr>
</tbody>
</table>

And yet, in all groups, high-volume hospitals are also much more likely to have routine discharges.

As such, high-volume hospitals have lower rates of home health care and transfers.
Down Stream Revenue

- All TB service patients: 3,679 (2002-2004)
  - Initial admissions: $103M net revenue
    - $44M direct margin (43% of revenues)
  - 17,000 outpatient visits
    - Outpatient revenue $14M
  - 1,566 admitted later
    - Inpatient revenue $26M

Stickiness.....

Trauma Center Downstream Revenue: Impact of Incremental Patients within a Health System. J Trauma, 2007;62:815-621

A new _____ has fixed costs of $250,000. This can be amortized ...

Congestion Rises With Volume
Especially > 20,000 Visits
Giving Rise To A U-shaped Unit Cost

The optimal tradeoff!

Occupancy ➔ Reduce variability

Consider three variables: occupancy, congestion, and variability. They are related –

- One way to improve operational efficiency is to reduce variability, thereby enabling higher average occupancy. Also –
  break bottlenecks, expedite critical pathways….Lean!
- Ex: Auto assembly lines maintain higher utilization (& thus, greater throughput) than auto body repair shops.

Fixed Costs: College Senior Rents 3br Apt: $2400

When is the line to the bathroom too long?

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How is a hospital like an airplane?

For hospitals & airlines, most costs are fixed.

- Like hospitals, airlines have high up front costs and modest marginal costs.
- So do universities, oil refineries, internet companies, publishers, restaurants, manufacturers, & most other businesses.

Airline Capacity Rationalization

- Erect airports and other infrastructure
- Invest in the right fleet of planes (not merely size but also configurations, interoperability, etc)
- Develop the appropriate route structure, with hubs & spokes, direct & indirect, maintenance schedules, etc
- Schedule flights
- Provide passengers with strong & ever-changing incentives
- Pool with other airlines … or not.
- And much more …

The cost of airline travel is nearly 100% fixed.

How is a hospital like an airline?

This aircraft is a valuable asset, and nearly all costs are overhead. Once the flight is deployed, those costs are fixed and “sunk.” They are expended whether one passenger boards or not.

Marginal cost is the expense of adding one more passenger (= $0).

Opportunity cost is the value of the next best opportunity foregone.

Once the airline decides, the goal is to “segment” its customers and then to fill the plane!
An Airline Analogy: A Hypothetical

Suppose flight & airline overhead = $24,000
Suppose marginal cost is ...
  Coach = $10/passenger
  1st class = $25/passenger
Suppose the expected load is ...
  74 coach passengers
  6 1st class passengers

What is the total cost of each ticket?

- Let $x = \text{overhead assigned each coach passenger.}$
- Just suppose $3x = \text{overhead assigned to each first class passenger.}$
- Then $74(x) + 6(3x) = 24,000 \Rightarrow x = 261.$
- The total cost of coach = $261 + 10 = 271.$
- The total cost of 1st class = $783 + 25 = 808.$
- Note: 74 tix @ $271 and 6 tix @ $808 means that the flight just breaks even.
- These are targets for quantities & average prices.

Internet Discounts

- Delta sells as many advance tickets as it can at prices exceeding total cost, but a few days beforehand it forecasts how many seats will be empty, and it offers them at very low prices.
- If price exceeds marginal cost, the cyberfares are profitable.
If the flight is overbooked?

Even before the airline bribes passengers to take later flights, it typically permits some coach passengers to pay a relatively small fee to upgrade to first class.

An Airline Analogy

- Recall: the total cost of a coach passenger is $271 and the total cost of a first class passenger is $808.
- How can it be profitable to allow coach passengers to upgrade for a mere $50?

A “Flex” ICU operates on the same principle.

The “Flex” ICU

- The problem with Trauma Burn ICU
  - Idiosyncratic admissions
  - Highly variable – both in terms of acuity and volume
- Makes staffing highly variable
  - Scheduling of road trips, PT, labs and the like more variable

Financially costly
“Flexing” an ICU = the airline’s 1st class upgrade

- **Rule #1:** Retain all ICU patients in the unit until they are discharged from the hospital, or until the ICU reaches capacity.

- **Rule #2:** Change patients’ billing from ICU to floor status at the same point in their care as we always have.

- **Rule #3:** Adjust ICU staffing downward to reflect the care that patients would receive on the floor, but do not actually move them (unless the ICU becomes full).

Payoffs To “Flexing” Our ICU ...

- Patient satisfaction higher
  - Continuity of care, proximity to care

- Opens floor beds - which are often in short supply

- Modest savings to payers (e.g., no transfer cost)

- Higher bed utilization in the ICU and on the floor ➔ increased revenues and better fixed cost amortization

- Reduced nurse staffing variation
  ➔ Nursing turnover declined from 44% to 12%/year
  ➔ Budget variance reduced from 18% to <3%

- Enhanced communication between nursing and MD’s

- Large amounts of political capital

Next Steps

- Build strategy
- Tell the story
- Credible
- Transparent
- Trauma Mangmnt Grp
  - Ortho, Neuro, Finance, COO, Trauma, Admin
- Garner resources
  - HR & Financial
- MD leadership is key!
Next Up…. How To Make It Happen

- Health Systems are large fixed cost enterprises.
- Need to understand financial metrics and tell the story.
- Managing clinical processes and throughput is the key to efficient delivery.
- Next......more on the how to!!
  - Betsy Seislove

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Trauma Service Line: Mission

To provide superior trauma and burn services to patients of all ages and their families, focusing on preventive, acute and continuing care.

This mission will be accomplished by integrating clinical excellence, advocacy, research and education into our care delivery model.
Why a Service Line?

- “the service line model allows community hospital administrators to focus simultaneously on financial, operational and patient satisfaction objectives.”
- “best strategy is to maintain open communication and support.”
- “ensure that service line directors and affiliated physicians do not come entrenched in a “silo mentality”


Some of our Initiatives as a Service Line

- Development of a Dashboard
- Multidisciplinary Rounds with the use of a “Checklist”
  - Evidence of Cost Savings
- Crew Resource Management
  - Enhance communication, increase efficiency, decrease cost and increase satisfaction (All customers and staff)
Do these look familiar?

Most of us use these types of graphs to track individual occurrences

What is a Dashboard?

Multiple Dashboard Indicators
Simple Dashboard
The Ultimate Dashboard

Dashboard Definition:

Distills performance data into a few key metrics, giving user friendly snapshots of service line’s performance
Four Key Elements of a Dashboard

1) **Financial**  (ex: Profit margins)
2) **Operational** (ex: average daily census)
3) **Clinical Quality** (ex: Mortality)
4) **Satisfaction**  (ex: Patient/Family, Physician, staff)

Elements of an EFFECTIVE Dashboard

- **Metric Balance**  (balance financial and operational indicators with physician satisfaction)
- **Metric Austerity**  (limit number of metrics 15-30)
- **Graphic Display**  (bar graphs, control chart, spider diagram)
- **Action Triggers**  (target or thresholds that trigger action)

So what did we know?

- We had a Trauma Burn Service Line
- Meeting every 2 weeks to make specific decisions regarding our service
- Annual goals that needed to be set as well as tracked
- Measure outcomes
- How could we do this in the most efficient and seamless manner?

A DASHBOARD DESIGN
Stakeholders

- Trauma Burn Service Line
  - Trauma Burn Council
- Senior Management
- Trauma Service
  - Trauma Attendings
  - Mid Level providers
  - Coordinators
  - Trauma office
- Outreach staff

Who comprised the team?

- Clinical Services
  - Nursing administration
    - Nurse administrator for the ED and trauma units
  - Directors from:
    - Trauma Neuro ICU
    - Trauma Med/Surg
    - Burn
    - Aeromedical
- Finance
- Patient Representative
- IS analyst
- Trauma Registry Data Analyst
- VP of the service line

Best Practice in Dashboard Development

- Select Indicators
- Select Format
- Select Targets
- Seek Computerized Solutions
<table>
<thead>
<tr>
<th>Metric Source</th>
<th>Frequency</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance: Trauma Net Rev/discharge</td>
<td>Q 6 months</td>
<td>Dave Freeden</td>
</tr>
<tr>
<td>Burn: Direct Expense per discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Dpt. Contribution Margin/Trauma discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Dpt. Contribution Margin/Burn discharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volume: Track by D/C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer In Collector – HPM (HBI) Monthly</td>
<td>Judy Schultz</td>
<td></td>
</tr>
<tr>
<td>Transfer In Adult, Pediatric Trauma</td>
<td>Monthly</td>
<td>Judy Schultz</td>
</tr>
<tr>
<td>Adult, Pediatric Burn</td>
<td>Monthly</td>
<td>Judy Schultz</td>
</tr>
<tr>
<td>MedEvac Collector – HPM (HBI) Monthly</td>
<td>Keith Mancino</td>
<td></td>
</tr>
<tr>
<td>Outreach Goldmine Quarterly</td>
<td>Nancy Heacock</td>
<td></td>
</tr>
</tbody>
</table>

**Format**

- Spider Diagram
- Current Period Information
- Target
- Variance
- Achievement
- Prior year
- Actuals
  - Year to date
  - Target year to date
  - Year to date variance
  - Achievement year to date
  - Actual ALL year
Computerized System

- McKesson
  - Horizon Business Insight (HBI)
    - Tool that provides secure access to timely and accurate information from virtually any system
    - Point of access information in an instant

HPM Data Warehouse Resources

HBI

- Building and Maintaining
  - Data Definitions
  - Data Downloads
    - When, how, who
  - Test-Test-Test
    - Can we add?
    - Can we see?
    - Can we drill down?
  - Highlights
  - Instructor Manual
### Old School of Rounding PITFALLS

- **New Residents**
  - Do they know how to present?
  - What to present?
  - Did they actually assess the patient or did they ask the nurse?
- **Psycho-social issues? What are they?**
- **Family? Why include them?**
- **Daily Labs? Diagnostics? “They’re in the ICU, right?”**
- **Cost savings, what is that?**
- **Because I want to or that’s the way I have always done things**
- **Aren’t we supposed to have the most expensive “stuff”?**

### New Rounding Concepts: PEARLS

- **Resident Orientation and expectations**
- **Rounding Check List**
  - Why do we need labs today
  - Do we need that diagnostic study?
  - Did we consult the right sub-specialties and right ancillary specialties?
  - Did we talk with family today?
  - Does the patient still need a foley? Central Line?

### Who Does this Check List?

- **Nursing**
- **Mid-Level Practitioners**
- **Surgical Chief**
- **Fellow**
Does the patient need:

- IVF Type and total fld order
- Foley Catheter
- Arterial Line
- Central Line
- Daily Labs
- Daily CXR
- Protocol Assessment
- Stress ulcer prophylaxis
- VTE Prophylaxis
- Electrolyte protocol
- Agitation/Sedation/Pain
- Bowel regimen
- Nutritional Support
- Tight Glycemic control
- Consult Assessment
- Trauma Rehab
- SAC
- Geriatrics
- Pediatrics (<=14y/o)
- Case management assessment
- Sedation/Paralytic weaning
- Mobility orders and actual
- Restraints ordered
- C-T-L Spines cleared
- VAP Bundle (chlorhexadine)
- Weaning Ventilator settings
- Home meds reconcilled

- Family Update (Was note written)
- Which family member
- Which member of team

- Documentation

  - Attending Signed H&P in chart
  - Daily Note in chart (signed)
  - Procedure log updated

- Morbidities

  - Decrease in UTI Rate
  - Decrease in VAP’s
  - Decrease in ICU LOS
  - Decrease in vent days
  - Decrease in total hospital LOS
  - Mortality Rate

- Overall Cost Savings

  - Total Direct Cost
  - Ave Cost/Discharge
  - Ave Cost/Patient Day

  - Overall Cost Savings

  - 0.00%
  - 2.00%
  - 4.00%
  - 6.00%
  - 8.00%
  - 10.00%
  - 12.00%

  - MCOT 2013
  - Debbie Harkins, Betsy Seislove,
Cost Savings

<table>
<thead>
<tr>
<th>CT Scan</th>
<th>Blood Bank</th>
<th>X-Ray</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,000</td>
<td>$20,000</td>
<td>$27,000</td>
</tr>
</tbody>
</table>

Cost Savings

<table>
<thead>
<tr>
<th>MRI</th>
<th>Respiratory</th>
<th>Lab</th>
<th>Pharmacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>$28,000</td>
<td>$81,000</td>
<td>$82,000</td>
<td>$126,000</td>
</tr>
</tbody>
</table>

Communication:
Crew Resource Management
Institute of Medicine

Recommendation

“Healthcare Organizations….establish interdisciplinary team training programs for providers to incorporate proven methods of team training……as exemplified in aviation”

Adapted from WellSpan Health

Need for Teams

- Complexity beyond individual vigilance
- Flexible highly trained teams manage unexpected events well
- Good teams communicate well
  - Common mental models
  - Clear situational awareness
  - Expected communication patterns

Adapted from Donald Moorman, MD  ACS Course on Safe OR Practices

Need for Teams (cont’d)

- Team members must be accountable
  - to the patient
  - to each other
  - to themselves
- Not simply independent individuals making a contribution, but interdependent individuals depending on each other

Adapted from Donald Moorman, MD  ACS Course on Safe OR Practices
Essential Team Elements

- Common purpose and shared goals
- Interdependent actions
- Accountability
- Collective effort
- Clear and defined leadership

Questions to Ask

- Who were all those people?
- Who was in charge?
- Where was there PPD?
- Where was the patient?

- The unfortunate thing is.........this is all too common.
Is this Better?

Better?

- Where was the crowd of people?
- There was a patient
- Appears to be communication
- Organized
- Calm

History at LVHN

- Core Trauma Nursing
  - “Fix” the problem
- Service Line
  - “Break Down” the silo’s?
- Pre-Hospital/Hospital Liaison’s
  - “Break Down” the walls?
  - We knew that EMS was not happy
  - Surveys and Observations
The Survey Tells it All

- Adopted Survey from our colleagues but we added a few more questions
  - Survey Monkey
  - WOW!!!
    - But not surprised
  - Next Steps
    - Narrowed down to the “themes”
      - No defined leader
      - No organization
      - Listening skills

History

- Performance Improvement
  - Hotline
    - Dysfunction
  - 3 page Checklist
    - Non Compliance
  - Sub-Committees
    - Meet frequently…….outcome??
    - Next Survey going out NEXT week during EMS week

Communication Elements

<table>
<thead>
<tr>
<th>GOOD</th>
<th>BAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Contact</td>
<td>Lacks assertiveness</td>
</tr>
<tr>
<td>Active listening</td>
<td>Disengaged team</td>
</tr>
<tr>
<td>Focus on issues</td>
<td>Disrespectful language</td>
</tr>
<tr>
<td>Confirm understanding</td>
<td>Omission of important information</td>
</tr>
<tr>
<td>Clear and Concise Information</td>
<td></td>
</tr>
</tbody>
</table>

MCOT 2013
Debbie Harkins, Betsy Seislove,
We are human and not perfect.

Errors happen…

…but effective teams operating in a safety conscious environment can prevent the error from reaching the patient.

Healthcare and Human Error

<table>
<thead>
<tr>
<th>Inherent Risks</th>
<th>Human Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technologically complex</td>
<td>At point of care</td>
</tr>
<tr>
<td>Constantly changing medications</td>
<td>Involve human issues</td>
</tr>
<tr>
<td>and equipment technology</td>
<td>Fatigue</td>
</tr>
<tr>
<td>Time pressures</td>
<td>Knowledge</td>
</tr>
<tr>
<td>Variable individual competence</td>
<td>Reliance on personal</td>
</tr>
<tr>
<td>Every patient is different</td>
<td>PERFECTION</td>
</tr>
<tr>
<td></td>
<td>Humans are not perfect</td>
</tr>
</tbody>
</table>

How Does Effective Communication Assist Teams?

- Mutual understanding of
  - Problem
  - Goal
  - Strategies
- Foster communication
- Provides context for action
- Assists team members predict behavior or needs of other team members
- Assists team members to identify problems
- Lack of effective communication is a common source of trauma resuscitation conflict
**Summary**

- A commitment to teamwork
- Mutual Accountability
- Acknowledgement of human fallibility
- Professional respect

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**Summary**

- Create a plan, implement, update
  - Tell your story, leverage across institution
  - Need to continually improve and look for competitive edge
  - Think above and beyond the day to day, higher level strategic thinking

- The name of the game in a fixed cost business is throughput.
  - You need real process improvement to make it happen!

---

**Summary**

- There are many components of trauma that must work in concert for the program to enjoy success and growth.
- Collectively, we need to begin functioning as a multidisciplinary administrative team to get it right.
  - We owe it to ourselves, patients, and institution.
The truth of the matter is that you always know the right thing to do. The hard part is doing it.”

Schwarzkopf
Norman Schwarzkopf