Optimizing Patient Flow in the Emergency Department

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Fida Ghantous

Imagination at work.
Global presence. Diverse expertise.

200+ consultants globally with varying backgrounds

- **Strategy & Change Management**
  - Project excellence and problem solving
  - Experienced consultants from major consulting firms

- **Clinicians & Health Managers**
  - HC expertise and experience
  - Doctors, surgeons, nurses, hospital directors, radiologists

- **GE Process Improvement Leaders**
  - Industry methods and tools – CAP, 6s, Lean
  - MBBs, BBs, Lean Leaders

- **HR & Organizational Development**
  - People and leadership development
  - HR from within GE, organizational development consultants from outside GE
What Makes us different?

- GE Business ops models
- LEAN/Six Sigma; CAP™
- Project Management
- Implementation

- GE GRC - algorithms
- Hospital of the Future
- Simulation tools
- Analytics

- Healthcare advisory and data models
- Unique partnerships and market access

Capabilities that match Healthcare’s toughest challenges
Quality Improvement

“Clinical Efficiency”
Process Improvement
Elimination of “Operational Waste”

“Clinical Effectiveness”
Clinical Quality Improvement
Elimination of “Clinical Waste”

↓ Wait time
↓ Bottlenecks
↓ Variation
↓ Length of Stay
↓ Readmissions
↓ Complications
↓ Mortality

Improved Patient Experience

Improved Patient Outcomes

Improve Quality

Improve Access

Reduce Cost
The Journey to World Class Quality

We align the project measures with the organization’s goals and incorporate with new or on-going performance improvement initiatives

Most Organizations / Hospitals at Step 3  
Opportunity to Move to Step 4

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
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</thead>
<tbody>
<tr>
<td>Move up from basic reporting and compliance with policies &amp; procedures to improving areas of strategic importance with demonstrated outcomes and achieve world class quality</td>
<td></td>
<td>Accreditation &amp; Compliance Management</td>
<td>Performance Improvement</td>
<td>Institutionalized Quality</td>
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<tr>
<td>Organizational Structure / People / Processes / Technology</td>
<td>Committee / Mgmt Structure &amp; Reporting</td>
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<td>Standards, Policies &amp; Procedures</td>
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Partners’ Focus
Lean
The relentless pursuit of the perfect process through waste elimination

8 Types of Waste
- Defects
- Over processing
- Waiting
- Non-value added activities
- Transportation
- Inventory
- Motion
- Employees under utilized

The 9th Waste
Untapped Human Potential
- Not listening
- Not asking
- Not empowering
- Not doing anything with generated ideas
Driving patient flow

- Hospital length of stay
- Bed turnover rate
- Theatre cancellation
- Waiting time
- Cost per patient day
Emergency Department Improvement

Objectives

- Implement **significant performance improvement** in Emergency Departments
- Improve **quality and access** within the Emergency Department through implementation of projects based on evidenced based care principles
- Introduce performance **monitoring and sustainability** efforts to ensure reproducible and lasting results
- **Transfer knowledge** and skills in ED Patient Flow management to frontline hospital staff

Improvement Areas

1. Governance
2. Safety Improvement
3. Clinical Transformation
4. Process Optimization
Qualitative Preparation

Stakeholder Interviews

Ask these questions:

- How does the customer view my process?
- How does the customer measure my performance?
- What does the customer need from me to fulfill their process?

Key Themes for improvement opportunities identified

Voice of the Customer

Patient Interviews

Number of interviews to date: 9
Several consistent themes:
- Actual treatment is not a bad experience for the patient
- Poor management of patient care
- Long waits adding to stress and anxiety
- Lack of feedback from staff
- Bed availability
- Long waits post treatment

"The system seems to be run for the convenience of the system."
"The left hand didn't seem to know what the right hand was doing."
"It's reasonably quick for the blood tests, then you hang around for 3 or 4 hours."
"Nurses are busy, but for the patient, waiting is a very anxious time."
"In an ideal world you could walk in, there's your bed, they take your blood tests and you'll be out in 10 minutes."

Quantitative Preparation

Spaghetti mapping

- A diagram that shows the motion of the patient, family, caregiver, supply throughout the care experience or process

Guidelines for Mapping:
- Obtain a layout of the care area
- Observe first the patient as he/she goes from one station to another and draw on the layout
- Do not lift your pencil from the paper - continuous flow
- Respect for care giver and family
- Measure the total distance traveled and note

TVA = Time Value Analysis

Tool used to visualize the effectiveness of the patient journey through observation. Divide the patient's process steps into WAVE/NVA

Example: TVA graph patient process for an operation

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Value Stream Mapping

Know Your Process

Think Like the Customer

Define Value

Prioritize Efforts
Improvement Areas

**Patient Safety**
- Patient Safety Culture Survey
- Failure Mode Effects Analysis (FMEA)
- Infection Control
- Patient Identification
- Trips, Slips and Falls

**Clinical Transformation**
- Triage
- Patient Admitting and Discharge Protocols
- Staffing and Scheduling Analysis
- Code Response
- Nursing Documentation

**Process Optimization**
- ED Flow Redesign
- Space Optimization
- Laboratory, Pharmacy and Radiology Flow to/from the ED
- Long-Stay Patient Flow

**GOVERNANCE**
- Validate and deliver hospital operational efficiency / patient safety/Clinical Improvements in the Emergency Department
- Develop a scalable and repeatable improvement methodology for MoH
- Contribute to sustainable culture change and improvement capabilities
## Focus Areas

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<tr>
<td>1. Referral process to/from centers</td>
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<td>2. Patient triage</td>
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<td>3. Low acuity Fast Track</td>
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<td>4. Inpatient bed coordination</td>
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<tr>
<td>5. Patient shifting/transport</td>
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<tr>
<td>6. Staffing level/calendar analysis</td>
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<td>7. Productivity management</td>
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<td>8. Urgent (non-ED) care center</td>
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<tr>
<td>9. Patient safety and risk analysis</td>
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<td>10. Clinical policies and care standards</td>
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## Key Performance Indicators

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<td>1. Left without being seen (%age)</td>
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<tr>
<td>2. Average Patient Door to Physician Time (min) by triage category</td>
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<tr>
<td>3. Average Patient Door to Discharge time -- LOSA (min)</td>
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<tr>
<td>4. Average Patient Door to Admission time - LOSB(min)</td>
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<tr>
<td>5. Average Admission Decision to Patient Admission time (min)</td>
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<tr>
<td>6. Average Lab Turn Around Time (min)</td>
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<td>7. Average Radiology Turn Around Time (min)</td>
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<td>8. Patient Direct Care time Vs. Other time (min)</td>
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<td>9. Patient throughput (visit volume by triage category)</td>
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Using simulation to drive design efficiency

Client Scenario

ED Renovation

Current ED old and over-crowded, client planning to dramatically expand / replace existing capacity in 3 phases while continuing to provide 24/7 emergency care services.

Simulation Results

Simulation enabled client to “shell” one pod and redesign staffing

- Construction Cost
- Staffing Costs
- Reduced Waiting & LoS
Introducing new models to the ED - Patient Navigator

The Patient Navigator #1:
• Supports patient with access into facility
• Checks on patients in the waiting rooms
• Supports staff with triage process
• Facilitates timely processing
• Monitors KPI’s

The Patient Navigator #2:
• Supports patient with delayed admission or discharges
• Status of investigations (Lab and Radio)
• Checks on patients in various CATS
• Monitors KPI’s
Access and Processes Work Stream

- Supporting Auxiliary Services TAT
- Triage Systems - Single Point of Care

50% reduction in the Chemistry RejectedSamples
32% reduction in the Coagulation RejectedSamples

83% Improvement in Door-to-Doctor Steps
80% Reduction in Door-to-Doctor Time
50% Less Samples Rejected
LAB TAT Decreased by 20%
Old Model (vs.) New Model

Before:
- Key Objectives:
  - All Non-Emergent Patients to pass through the Single Point of Care
  - Reduce # of Steps travelled by patient from station to station
  - Reduce # of Steps from Door-to-Doctor
  - Examination Rooms separated from Treatment Rooms
  - One-Stop Shop for all Patient Needs prior to Doctor Examination
  - Improve Patient Satisfaction
  - Improve Staff Satisfaction
  - Reduce Unnecessary Waiting

After:
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Diagram:
- Old Model:
  - Door
  - Visual Triage
  - Waiting
  - Reception
  - Waiting
  - Vital Signs
  - Waiting
  - Doctor

- New Model:
  - Door
  - Visual Triage, Reception, Vital Signs
  - Waiting
  - Doctor

Single Point Of Care
Single Point of Care – Triage System

- **One Piece Flow** implemented
- **90 Steps reduced** from Door to Doctor
- **75 Minutes reduced** from the time from Door to Doctor
- **Separate Entrances** for Emergent and Non-Emergent Patients
- **Paperless Process** at Single Point
Key ingredients for successful transformation

- Poor communication is the leading cause of team dysfunction, medical safety & errors
- Put yourself in the shoes of the customer
- We are all patients in one way or form
- Know our hospitals the most
- Need to be change champions
- Outcome based results
- Focus on the “what” and the “how”
- Are we aligned?
- Are we rowing in the same direction?
- Do we have a common purpose

Leadership & Executive Support
  - Lead by example
  - Make available necessary resources
  - Coach, mentor

Involve customers

Frontline Staff Interest/Energy
  - Know our hospitals the most
  - Need to be change champions

Link to wider org strategy

Focus on the Goal
  - Outcome based results
  - Focus on the “what” and the “how”
Art or Science?

The Craft of Medicine
- Vital Signs & Diagnosis
- Intervention & Treatment
- Prevention

Performance Improvement
- Assessment & Observation
- Performance Improvement (Lean, Six Sigma)
- Sustainability

Management in Radiology | 25 April 2014
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GE Healthcare Partners
Preparation to the magnitude of the change will drive your success

How big is the ambition?

Cost reduction allows short term gain ...

... but large scale change is highly risky

The first step is to understand the problem you are trying to solve
And formulate a response to fit its scale
Governance & Systems Work Stream

- ED Lead Team
- Patient-Centered Approach

Embrace Positive Conflict

Ownership of Improvement Initiatives

More Transparency

Foster Culture of Team

Emergency Department

Patient Satisfaction

Strategic Planning

ED Monthly Committee

ED Weekly Lead Team

People/Staff

Mission, Vision, and Values

Edna Lead Team

Mission:
To achieve global leadership in healthcare of trauma & Emergency case through innovation, collaboration by applying world class quality based practice.

Vision:
Our A&E Department is committed to provide high quality care services to all Accident & Emergency patient regardless of their age, sex and nationalities with best utilization of the available resources.

Goals:
1. Patient and Staff Safety
2. Enhanced Clinical Care
3. Academic Excellence in training & Research
4. Compliance with all regulatory standards & attain specialty certifications

Core Values:
1. Patient and Staff Safety
2. Quality Healthcare
3. Cultural Responsiveness

Fida Ghantous | 27 January 2014
Patient-Centered Approach

Old Model:
Patients are passive recipients of healthcare

New Model:
Engaged Patients with their input, points of views, and overall wellness are seen and communicated by staff

ICARE PROGRAM

THE C.U.R.E PROGRAM

CULTURE, EMPLOYEES, AND PROCESSES WELL-SUITED FOR THE TASK
RESULTING IN A
DYNAMIC AND FERTILE EMERGENCY DEPARTMENT ENVIRONMENT

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Lean and CAP in Healthcare
Arab Health