Electronic Surgical Scheduling Improves Patient Safety and Productivity

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Advocate Good Samaritan Hospital
Downers Grove, IL

- 11 hospital health system
- 333 bed hospital
- 15 Ultra Modern OR suites
- 10,000 cases annually
- 235 board certified surgeons
- Level I Trauma Center
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National Recognition for Excellence

- Malcolm Baldrige National Quality Award 2010 Award Recipient
- Magnet Recognition American Nurses Credentialing Center
- 100 Great Hospitals 2012, 2013
- Distinct Hospital Clinical Excellence
- Thomson Reuters 50 Top Cardio Hospitals 2011
- Practice Greenhealth Environmental Excellence Awards 2013
- #1 in Illinois & #4 in the USA for Overall Hospital Care 2010

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Karen “SURGICAL SCHEDULER”
BOX 1: Reason for Action

The surgery scheduling fax form is rejected back to the surgeon office multiple times prior to the date of surgery.

Boundaries

- Trigger: Office faxes form to Surgery Scheduling
- Done: Patient chart is completed in Pre-Surgical Testing

In Scope:
- All cases scheduled using surgical fax form

Out of Scope:
- Same day add-on cases
BOX 2: Initial State

- Untimely availability of pre-op medications
- Multiple defects causing workaround
- Incomplete/missing information
- Inconsistent antibiotic selection process
- Missing codes, diagnosis and procedure
- Less than optimal pre-op preparation of patients
- Denials for medical necessity
- Denials for “inpatient only”
- Illegible handwriting
- Missed pre-op orders
- Patient, physician, and associate dissatisfaction

<table>
<thead>
<tr>
<th>Metric</th>
<th>Initial</th>
<th>Target</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellation Rate (24 hrs prior to surgery)</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Rejections back to office</td>
<td>960 month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Electronic Orders Received</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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What is the percent that this step will be completed without defects or rework?

70% or 0.70

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70% or 0.70

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70% or 0.70

First Pass = 0.70 * 0.70 * 0.70 * 0.70

= 24% chance of a scheduling form going through all four processes without defects or rework
Seeing Value Added vs. Non-Value Added

On average 90% of all process steps are non-value added
### BOX 3: Target State

- Minimal Rejections
- 100% antibiotic selection
- Complete Pre-Op Testing
- Decreased cancellations for clearance
- Auto-Indexing
- Laterality
- Codes Required
- Auto medical necessity check
- Legibility
- Medicare inpatient list
- Decreased denials
- Increased satisfaction (associate, physician, and patients)
- Timely profiling of pre-op meds

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Cancellation Rate (24 hrs prior to surgery)</td>
<td>3%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>% of Rejections back to office</td>
<td>960 month</td>
<td>480 month</td>
<td></td>
</tr>
<tr>
<td>% Electronic Orders Received</td>
<td>0</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>
BOX 4: Gap Analysis

<table>
<thead>
<tr>
<th>Issue</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legibility</td>
<td>50%</td>
</tr>
<tr>
<td>Incomplete order</td>
<td>20%</td>
</tr>
<tr>
<td>Wrong antibiotic selected</td>
<td>15%</td>
</tr>
<tr>
<td>Denials medical necessity</td>
<td>10%</td>
</tr>
</tbody>
</table>
### BOX 5: Solution Approach

<table>
<thead>
<tr>
<th>If we….</th>
<th>Then we…</th>
</tr>
</thead>
<tbody>
<tr>
<td>• have legible writing on the surgery scheduling order</td>
<td>can make safe choices</td>
</tr>
<tr>
<td>• have all fields completed</td>
<td>can efficiently receive information</td>
</tr>
<tr>
<td>• can drive choices by CPT codes</td>
<td>can improve core measures</td>
</tr>
<tr>
<td>• spend less time rejecting surgery orders</td>
<td>have more time to prepare the patient for surgery</td>
</tr>
</tbody>
</table>
1. Begin piloting electronic order with Medical Director of Surgery’s office for two weeks

2. Allow scheduling, registration, precert, pre-surgical testing RN and PreOp to perform tasks using new electronic form
## BOX 7: Completion Plan

<table>
<thead>
<tr>
<th>What</th>
<th>Who</th>
<th>When</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule Block Surgeons Offices to deploy electronic form</td>
<td>Katrina/ Lina</td>
<td>5/1/12</td>
</tr>
<tr>
<td>Schedule Onsite classes for remaining surgeons</td>
<td>Katrina</td>
<td>6/1/12</td>
</tr>
<tr>
<td>Improvements based on Surgeon office feedback</td>
<td>HealthNautica</td>
<td>6/1/12</td>
</tr>
<tr>
<td>Linked CPT to SCIP procedures</td>
<td>Lina/ HealthNautica</td>
<td>6/1/12</td>
</tr>
<tr>
<td>Linked CPT to laterality</td>
<td>Katrina/ HIM Coder</td>
<td>6/1/12</td>
</tr>
<tr>
<td>Create ability to attach additional standard orders</td>
<td>HealthNautica</td>
<td>6/1/12</td>
</tr>
</tbody>
</table>
## BOX 8: Confirmed State

<table>
<thead>
<tr>
<th></th>
<th>Initial</th>
<th>Target</th>
<th>Confirmed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancellation Rate (24 hrs prior to surgery)</td>
<td>3%</td>
<td>1%</td>
<td>.40%</td>
</tr>
<tr>
<td>% of Rejections back to office</td>
<td>960 month</td>
<td>480 month</td>
<td>96 month</td>
</tr>
<tr>
<td>% Electronic Orders Received</td>
<td>0</td>
<td>90%</td>
<td>97%</td>
</tr>
</tbody>
</table>
First Pass Yield \(= 0.90 \times 0.90 \times 0.98 \times 0.80\)

\(= 64\%\) chance of a scheduling form going through all four processes without defects or rework
% of Cases Cancelled within 24 Hours of Surgery
Percentage Cancelled for Clearance within 24 Hours of Surgery

- Experiment Began
- 85% Electronic Surgery Scheduling

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IMPLEMENTATION

• Training Manual
• Block Surgeon
• Office Visits Training
• Onsite Classes
• Continuous Improvements to Form
% of Electronic Scheduling Form Utilization

Goal is 100%
ACHIEVED OUTCOMES

- CMS denials
- SCIP Score
- Physician Satisfaction
- Patient Satisfaction
- Physician order form
- Identify self pay patients
- Scheduling form- Safety features
CORE MEASURES
ELECTRONIC SIGNATURE

Electronically signed by Dr. DILLON, BRUCE (630-325-9166) on 8/13/2011 11:26:44 AM.
LaReau Total Joint and Revisions

The following two cocktails are to be prepared for operative site injection and infiltration for Total Joint and Revisions (but not infected revisions) and sent to surgery.

Cocktail #1 for pain
- Bupivacaine 0.25% with epi 50 ml
- Toradol 30 mg
- Duramorph 4 mg

Cocktail #2 for blood clotting
- Tranexamic acid 1.5 gm in 50 ml NaCl
LaReau Pre Op Testing

Pre Op testing for Total Joints and Revisions required as follows if not done by the patient’s Primary Care Physician:

- Blood work: CBC with Differential, Chem 7 panel, PT/INR, and Type and Screen which is always done at the hospital. If all of the other tests were done by the PCP then Type and Screen can be done at admit.
- EKG
- Chest X-ray
- Urinalysis (clean catch) with culture
- MRSA screening nasal swab
CLINICAL OUTCOME
SCHEDULING FORM CHANGES
MEDICAL NECESSITY CHECK

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INPATIENT ONLY
**TOTAL JOINT PRE-PAYMENT**

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**Documentation Checklist for Major Joint Replacement - TOTAL HIP**

- **Surgery Data/Time Requested:** 8/28/2013 14:00
- **Rescheduled from:**
- **Surgery Name:**
- **Assisting Surgeon:**
- **Patient Name:**
- **Date of Birth:**
- **Patient’s Primary Number:**
- **Patient’s Secondary Number:**

### I. PATIENT HISTORY: Check all that apply:
- [ ] Non-union or failure of previous hip fracture
- [ ] Fracture femoral neck
- [ ] Acetabular fracture
- [ ] Malignancy
  - Location: Other:
- [ ] Malunion of acetabular or proximal femoral fracture

**Advanced joint disease (X-ray/IMN confirmed) — Check all that apply. OFFICE TO FAX DIAGNOSTIC/X-RAY REPORT TO GOOD SAMARITAN SURGICAL PRE-OP COORDINATOR AT 503-275-5535 ACCOMPANIED BY A COVER SHEET WITH PATIENT IDENTIFICATION INFORMATION TO AVOID REJECTION.**

- [ ] Subchondral cyst
- [ ] Periarticular osteophytes
- [ ] Joint Subluxation
- [ ] Joint space narrowing
- [ ] Avascular necrosis
- [ ] Other

### II. CURRENT SYMPTOMS: Pain or functional disability from — Check all that apply:
- [ ] Injury due to trauma
- [ ] Arthritis of the joint
- [ ] Complications of internal prosthesis device
- [ ] Avascular necrosis

**III. PAST TREATMENTS: Unsuccessful conservative treatment of at least three month duration — Check all that apply:**
- [ ] Anti-inflammatory meds
  - [ ] Naproxen
- [ ] Analgesics
  - [ ] Norco
- [ ] PT (flexibility and muscle strengthening)
- [ ] Activity restriction (Please specify WB status)

**ACTIVITY MODIFICATION**

- [ ] Use of assisted device
- [ ] Weight reduction as appropriate
- [ ] Therapeutic injections as appropriate
  - [ ] Cortico-steroid

**IV. EXCLUDED CONDITIONS:** Patient has been screened and shows no evidence of the following:

- [ ] True False Active infection of knee or active systemic bactearia
- [ ] True False Active skin infection or open wound within planned surgical site
- [ ] True False Neuropathic arthritis
- [ ] True False Rapidly progressive neurological disease

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Electronically signed by Dr. LAREAU, JUSTIN M on 8/15/2013 4:03:13 PM

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BOX 9: Insights and Reflections

- Technology is expandable
- Amount of rejections
- Total Joint Prepayment Opportunity
- Doesn’t stop all rejections (human error factor)
- Patients called earlier = fewer cancellations = better optimization
- More time to complete process
- Less pressure
- Office relief to have more time to work on clearance issues
- Offices ability to adapt to the electronic form quickly
- Respectful of people
- Time saved not looking up codes in books
- Less follow up with offices (less phone calls)
- Physician office partnership
- Opportunities for improvement
- Capture block releases
QUESTIONS????????