Improving Effectiveness and Efficiency in Office Based Practice

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Problems with Health Care

- Delays in care
- Disparities
- Cost is too high
- Miscommunications
- Poor coordination
- Burn out

“Work Smarter not Harder”
### Effectiveness – “doing the right thing”

- Answering patient calls within 30 seconds
- Notifying patients of test results within 2 days
- Register and room patients within 5 min
- Respond to patient calls by day’s end
- Going home at a reasonable time

### Efficiency – “Doing the thing right”

- With the least amount of resource
  - Materials, Space, Time, Staff
- While still maintaining quality
- Creating the opportunity to backfill with value
  - Update equipment
  - Extra exam rooms or workstations
  - More time with patients
  - More personal time
### The Study of Work

- Scientific management theory
- Methods engineering
- Industrial engineering
- Systems engineering

- Increase desired outcome of a job (process)
- Make the job (process) easier

### Frederick W Taylor (1880)

*Image from Wikipedia*
Frank and Lillian Gilbreth (1885)

Images from Wikipedia

The Study of Work

• Time Study – designed to measure how long an average worker takes to complete a task

• Motion Study – designed to determine the best way to complete a repetitive activity

Time and Motion Studies
### Brick Laying (multistep process)

<table>
<thead>
<tr>
<th>Steps</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stooping</td>
<td>Inconsistency</td>
</tr>
<tr>
<td>Lifting</td>
<td>Inaccuracy</td>
</tr>
<tr>
<td>Turning</td>
<td>Wasted materials</td>
</tr>
<tr>
<td>Walking</td>
<td>Wasted time</td>
</tr>
<tr>
<td>Applying mortar</td>
<td>Work injury “burn out”</td>
</tr>
<tr>
<td>Laying brick</td>
<td></td>
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</tbody>
</table>

### Application of Work Study

- Manufacturing
- Banking
- Military
- Healthcare
  - Ex. Scrub Nurse
Scrub Nurse

SIPOC   FMEA   Pareto Charts   5 Whys
Axiomatic Design
Fishbone Diagrams   5S
Root Cause Analysis   Histograms
Control Charts   DMAIC
Check Sheets   PDSA
**DMAIC and PDSA**

- D – Define
- M – Measure
- A – Analyze
- I – Implement
- C – Control (sustain improvement)
- P – Plan
- D – Do
- S – Study
- A – Act

**Flow Chart the Process**

1. Patient calls for appointment
2. Is apt available?
3. Search system for next available apt
4. Is apt available?
5. Schedule appointment
6. Yes
7. No
Data Collection for Cycle Time

<table>
<thead>
<tr>
<th>Process Step</th>
<th>Cumulative Time</th>
<th>Value-added Time</th>
<th>Non-value added Time</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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Cause and Effect “fishbone”

[Diagram of a cause and effect fishbone chart]
Target Checkout Counter
Response Time Delay Before & After Pilot

<table>
<thead>
<tr>
<th>Month</th>
<th>November</th>
<th>January</th>
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</thead>
<tbody>
<tr>
<td>Response Time Delay (s)</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Where To Get Started?

- Waiting area
- Registration
- Call center
- Nurses stations
- Communications
- Documents
- Electronic medical record system
Improving Effectiveness and Efficiency in Office Based Practice

Gail Grever, MD
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Department of Internal Medicine
The Ohio State University Wexner Medical Center

“The value of an idea lies in the using of it.”
-Thomas A. Edison

Image from Wikipedia
## Effectiveness and Efficiency

- Transformation occurs when a deliberate process is used to analyze needs and available resources.

- GOAL = VALUE ADDED (More time, space, staff to devote to other office needs)
Effectiveness and Efficiency

• Transformation requires vision
  – Looking at our resources from a different perspective

• Resource Utilization
  – Space
  – Information/Materials
  – Time
  – Relationships (RN, MA, MD, Patients)

RESOURCE #1: Space

Source: Cubespace  Author: Asa Wilson
### Space Utilization

- **Goal** - Use space available to improve efficiency in three areas
  - **Clinical Area** – Improve Patient Care
  - **Registration** – Improve Patient Flow
  - **Call Center** – Improve Access

### Clinical Area – Improve Patient Care

- **Team approach to Patient Centered Medicine**
- **Doctors are not practicing in isolation**
  - Nurses
  - MAs
  - Pharmacists
  - Social Workers
  - Nutritionists
- **Clinical workspace needs to reflect this philosophical change**
Clinical Area – Improve Patient Care

• Our clinical area had limited function
  – Need:
    • Any given half day: 6 MDs + 6 MAs + 1 pharmacist + 1-2 learners + RN = 16-17 workstations
  – Actual capacity:
    • 4 total workstations for MDs + 3 computers at nursing station = 7 workstations

• Physical barriers led to communication barriers

Before Renovation
Before Renovation

Image from Wikipedia

After Renovation
Clinical Area

- New design added workstations and opened up walls
  - 12 stations (compared to 6) for providers
  - + 4 computers (compared to 3) for nursing stations
- Total: 16 workstations
  - Increased communication between MD & MA
  - Better learning environment for students
  - Effective environment for charting

Registration

- Add equipment
- Improve workflow
- Decrease patient wait time
Registration – Improve workflow

- One printer and one scanner shared for 4 workstations
  - Waiting for available scanner/printer
  - Movement from desk required with each patient check-in
- Single monitor screen
  - Toggle back and forth for different aspects of registration

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Registration – Improve Workflow

- IF...
  - 30 seconds saved for each patient registration
- FOUND TIME...
  - 690,000 seconds per year
  - 11,500 minutes per year
  - 191 hours per year
  - 23 days per year
Call Center – Improve Access

- More staff needed to accommodate the results of the call center project
- Staffing increase from 3 to 6 call center employees
- Need to add 3 more work stations
Call Center – Improve Access

• Utilizing space improved:
  – Quantity of workstations
  – Quality of environment
• Warm, inviting, clean
• Better staff retention
• More skilled/experienced staff over time

RESOURCE #2: Information

GOAL: Organize and Utilize
Gen Med Phone List of CPE
Monday, March 18, 2013
5:20 PM

<table>
<thead>
<tr>
<th>Important Clinic Info</th>
<th>Location</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDC</td>
<td>Gen Med CPE</td>
<td>777 631#</td>
</tr>
<tr>
<td>Tax ID</td>
<td>Gen Med CPE</td>
<td>31 1445515</td>
</tr>
<tr>
<td><strong>Attendings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Michael Langan</td>
<td>Room 3195</td>
<td>3 2254</td>
</tr>
<tr>
<td>Dr. Corina Ungureanu</td>
<td>Room 3079B</td>
<td>8 6034</td>
</tr>
<tr>
<td>Dr. Nnenna Oluigbo</td>
<td>Room 3079B</td>
<td>8 6036</td>
</tr>
<tr>
<td>Dr. Helen Katsman</td>
<td>Room 3079C</td>
<td>8 6033</td>
</tr>
<tr>
<td>Dr. Andrew Schreiner</td>
<td>Room 3079E</td>
<td>8 6005</td>
</tr>
<tr>
<td>Conference Room</td>
<td>Room 3079D</td>
<td>8 6035</td>
</tr>
</tbody>
</table>
Resource #3: Time

- How can we shave seconds off a process?
- Those seconds lead to hours to devote to other tasks...
Electronic scripts helped save time but significant work devoted to refills still exists
Refill Request Intervention

All requests pended for 90 day supply with 3 refills

(With exception of controlled substances)

- Goal: To create uniform process that decreases frequency of refill requests = TIME SAVED
- Based on article from Dr. Christine Sinsky

**Intervention Effects**

- Decreased faxes for Med Records to sort  
  **= FOUND TIME**
- Decreased refill requests for MA staff to enter  
  **= FOUND TIME**
- Decreased items in EMR inbox for MD to review  
  **= FOUND TIME**
- Decreased failed transmissions of requests (fax machine not busy)
- Decreased waiting - improved patient satisfaction

**Concerns**

- Using refill requests to “catch” chronic disease patients who miss their appointments
- Patients won’t keep their follow up
- Physicians can change amount and number of refills when they sign order
- Decrease in MA work time for refills can now be shifted to develop a more proactive recall system for no shows

Relationships: Utilization and Organization

- Successful relationship relies on **successful communication**
- Communication must be easy
- Teams can make the work even easier
- Methods
  - Pre-Visit Calls
  - Team Communication using EMR
  - Electronic patient portal
### Relationships: Organization and Utilization

<table>
<thead>
<tr>
<th>Relationship</th>
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<tbody>
<tr>
<td>Doctor to Patient</td>
</tr>
<tr>
<td>Doctor to MA</td>
</tr>
<tr>
<td>MA to Patient</td>
</tr>
<tr>
<td>Nurse to Doctor</td>
</tr>
<tr>
<td>Social worker to Patient</td>
</tr>
<tr>
<td>Nurse to MA</td>
</tr>
<tr>
<td>Doctor to Nurse</td>
</tr>
<tr>
<td>Pharm to Patient</td>
</tr>
<tr>
<td>Patient to Nurse</td>
</tr>
</tbody>
</table>

### Pre-Visit Calls

- RN or MA starts the visit before patient walks into clinic
- Intervention Effects:
  - Prioritize/Triage list of patient concerns
  - Update EMR with medication changes
  - Identify and obtain information from interval hospital admissions and ED visits
  - Decrease No Show Rates
MD-MA-RN Communication Tools

- Staff Messaging within EMR

Image from Wikipedia Commons

Electronic Patient Portal

Image from Wikipedia Commons
Electronic Patient Portals

Summary

• Transformation requires resources and vision
• Deliberate process leads to maximal impact of change
• Look at your own practice’s resources
• A change in perspective can lead to a change in efficiency and effectiveness