

# Improving Effectiveness and Efficiency in Office Based Practice

Neeraj H. Tayal, MD, FACP  
Assistant Professor of Clinical Medicine  
Division of General Internal Medicine and Geriatrics  
Department of Internal Medicine  
The Ohio State University Wexner Medical Center



## 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)**

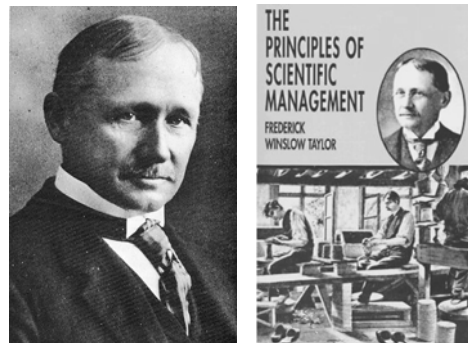


Image from Wikipedia

## 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)

- Stooping
- Lifting
- Turning
- Walking
- Applying mortar
- Laying brick
- Inconsistency
- Inaccuracy
- Wasted materials
- Wasted time
- Work injury “burn out”

## Application of Work Study

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

## Scrub Nurse

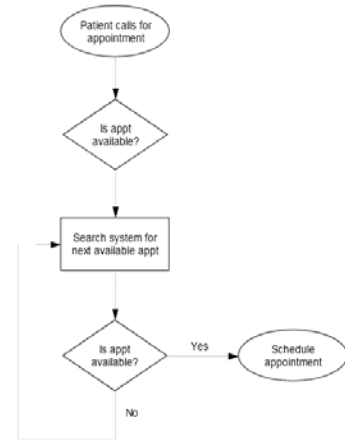


SIPOC FMEA  
Pareto Charts 5 Whys  
Axiomatic Design  
Fishbone Diagrams 5S  
Root Cause Analysis Histograms  
Control Charts DMAIC  
Check Sheets PDSA

## DMAIC and PDSA

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

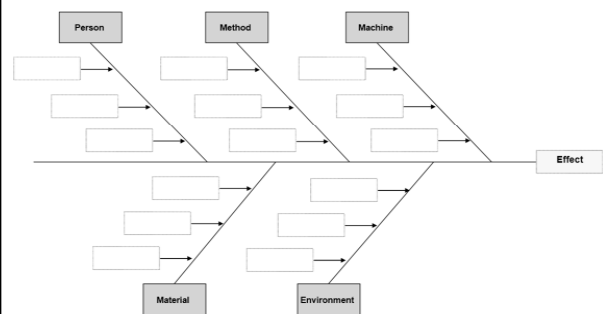
## Flow Chart the Process



## Data Collection for Cycle Time

Process Step	Cumulative Time	Value-added Time	Non-value added Time	Notes

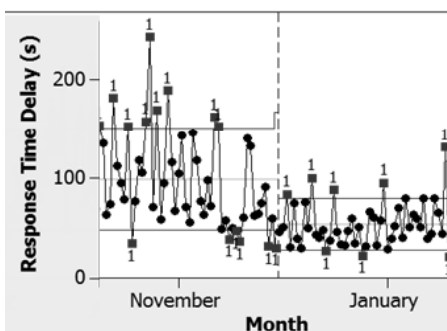
## Cause and Effect “fishbone”



## Target Checkout Counter



## Response Time Delay Before & After Pilot



## 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  
Assistant Professor-Clinical  
Division of General Internal Medicine and Geriatrics  
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

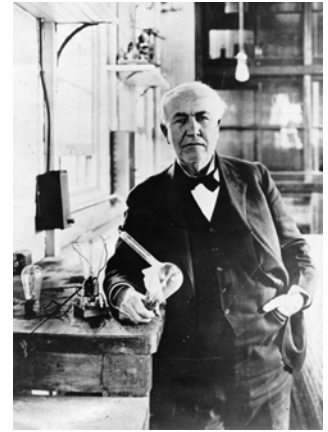


Image from Wikipedia



Source: de.wikipedia, original upload 26. Jun 2004 by Author: KMJ, alpha masking by Edokter



## 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

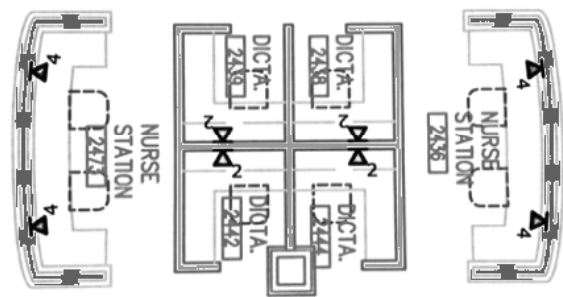
## Clinical Area – Improve Patient Care

- 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

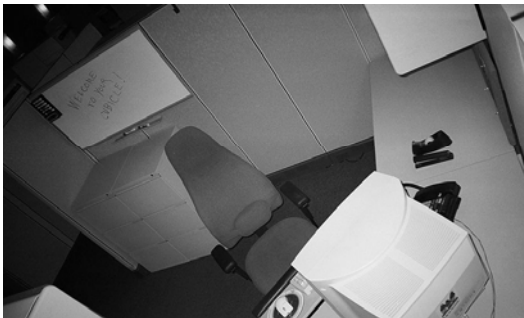
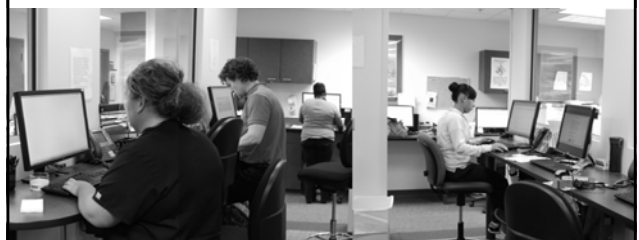


Image from Wikipedia

## 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

## 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

The diagram shows a rectangular floor plan for a call center. It is divided into four main workstations, labeled 1, 2, 3, and 4. Workstations 1 and 2 are located in the upper half, while 3 and 4 are in the lower half. In the center of the plan, the words 'CALL CENTER' are written vertically, with a small icon of a telephone handset below the text. The perimeter of the room is marked with dashed lines. There are two exits at the top wall, each marked with a triangle and the number '2'. There are also two exits at the bottom wall, each marked with a triangle and the number '2'. On the left wall, there is a star symbol. The entire diagram is enclosed in a solid black border.



# Call Center

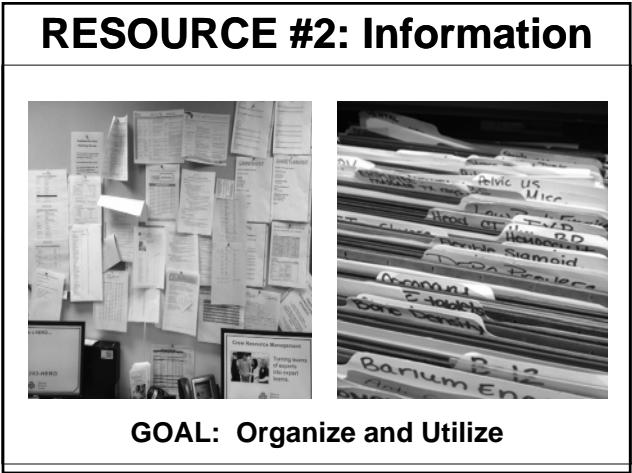
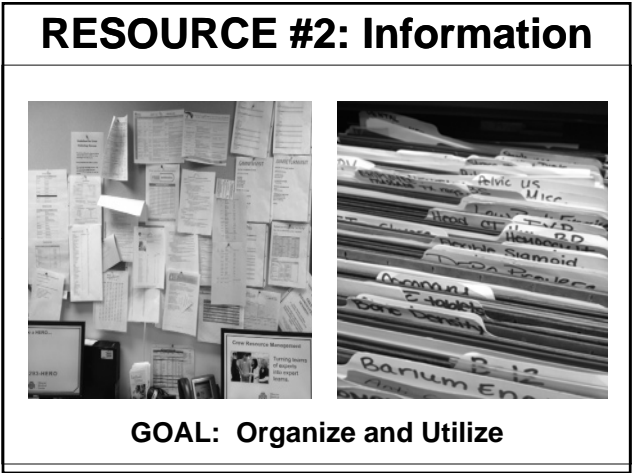
A black and white photograph of a call center office. Several employees are seated at desks with computers and monitors. The office has cubicles, framed pictures on the walls, and a clock. A woman in a patterned shirt is in the foreground, facing away from the camera.

# Call Center – Improve Access

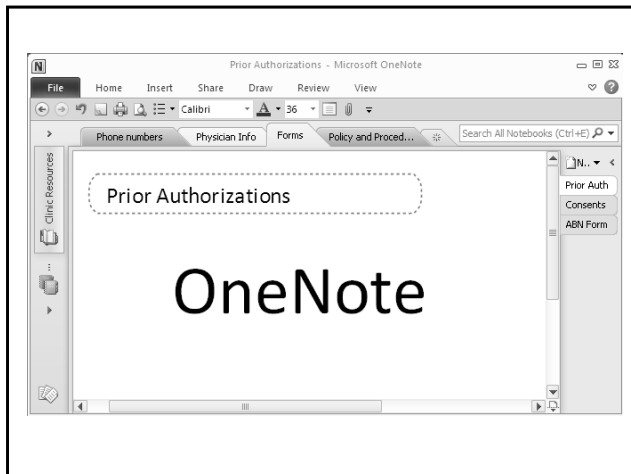
- Utilizing space improved:
  - Quantity of workstations
  - Quality of environment
- Warm, inviting, clean
- Better staff retention
- More skilled/experienced staff over time

- # 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




## RESOURCE #2: Information



Gen Med Phone List of CPE		
Monday, March 18, 2013 5:20 PM		
Important Clinic Info	Location	Number
LDC (long distance code)	Gen Med CPE	777 631#
TaxID	Gen Med CPE	31 1445515
Attending	Location	Number
Dr. Michael Langan	Room 3195	3 2254
Dr. Corina Ungureanu	Room 3079B	8 6034
Dr. Nnenna Oluigbo	Room 3079B	8 6036
Dr. Helen Katsman	Room 3079C	8 6033
Dr. Andrew Schreiner	Room 3079E	8 6005
Conference Room	Room 3079D	8 6035



### Resource #3: Time



- How can we shave seconds off a process?
- Those seconds lead to hours to devote to other tasks...

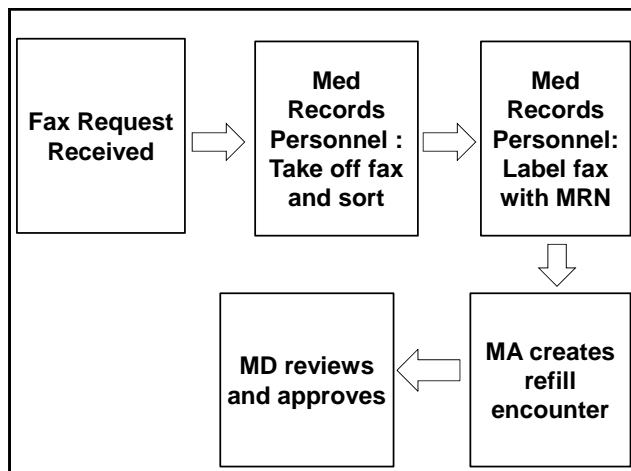
## Time Utilization: Refill Requests



Electronic scripts helped save time but significant work devoted to refills still exists

Image from Wikipedia

## Refill Requests



## 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**

• Christine A. Sinsky, MD. Improving Office Practice: Working Smarter, Not Harder: Seemingly simple strategies can transform your practice. Fam Pract Manag. 2006 Nov-Dec;13(10):28-34.

## 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

Christine A. Sinsky, MD. Improving Office Practice: Working Smarter, Not Harder: Seemingly simple strategies can transform your practice. Fam Pract Manag. 2006 Nov-Dec;13(10):28-34.

## Resource# 4: Relationships



Image from Wikipedia Commons

## 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

- Doctor to Patient
- Doctor to MA
- MA to Patient
- Nurse to Doctor
- Social worker to Patient
- Nurse to MA
- Doctor to Nurse
- Pharm to Patient
- Patient to Nurse

## 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

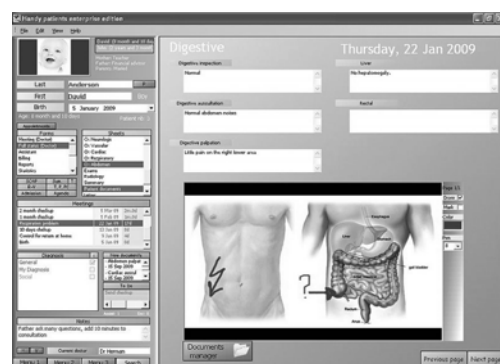
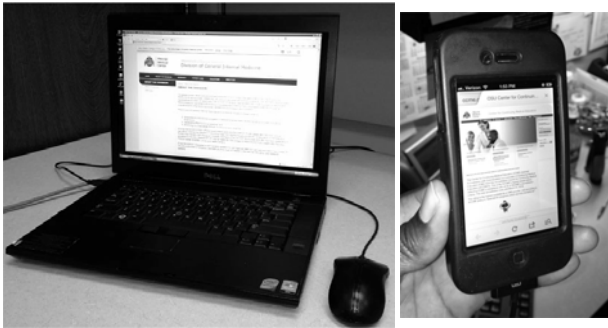


Image from Wikipedia Commons

## 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