Improve Profitability by Improving Processes

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Why Have a Standard?

- Create efficiencies and lower administrative costs
- Reduce angst in the health care industry
- Return focus to patient care
Profit and Profitability

- Profitability = \( \frac{\text{Revenue}}{\text{Expense}} \)

- Profit Margin = Revenue – Expense

- What do both have in common?

- To be more profitable, you have to either increase revenue or reduce expense
  - …and without profitability, you don’t have a business
Reducing Expenses

- Staff pay and benefits
- Eliminate FTEs
- Pinch capacity
- Reduce overhead

- Bottom line:
  - Quality is expensive
Increase Revenues

- Increase charges
- Increase collections
- Negotiate better contracts
- Merge into larger groups

Bottom Line:
- Payers are crooks, liars and thieves!
What a Bummer, Dude!

- If we can only marginally affect expenses and/or revenue, then how is it possible to improve profitability?
- BECOME MORE EFFICIENT
- Efficiency is the ability to do the same with less or more with the same
- The only way to become more efficient is to engage in the science of process improvement.
What’s Wrong with my Practice?

- A practice analysis is a business adaptation of differential diagnoses.
- A general assessment is akin to a physical exam.
- Granularity as it relates to the operational, financial and efficiency of the medical practice requires the same diagnostic events that a physician requires when drilling down on a diagnoses.
  - Capacity
  - A/R
  - Cycle times
  - Denial analysis
  - etc
Understanding Process Improvement

“Today’s problems come from yesterday’s ‘solutions’.”

Peter Senge
Why have a process focus?
- So we can understand how and why work gets done
- To characterize patient/physician/payer relationships
- To manage for maximum patient/payer/staff satisfaction while utilizing minimum resources
- To see the process from start to finish as it is currently being performed
- Blame the process, not the people

process (pros' es) n. – A repetitive and systematic series of steps or activities where inputs are modified to achieve a value-added output
Eight Elements of Process Improvement

1. Recognize the current state of the practice
2. Define what plans must be in place to improve each state
3. Measure the systems that support the plans
4. Analyze gaps (variance) in system performance benchmarks
5. Improve system elements to achieve benchmarks
6. Control system-level characteristics critical to improvement
7. Standardize the systems that prove to be best in class
8. Integrate these systems into the business framework
Art vs. Science

Classification
Correlation
Cause and effect
Classification

- Discovery
  - What do we see?
  - What did we find?
  - How does it work?
- Here, we explore the workings of the organization to understand how it things really are
- This is where we begin current state mapping
  - Physical space
  - Staff movement
  - Redundant events
  - Manual processes
Correlation

- Understanding relationships
  - Are the events related?
  - How well are they related?
  - Is it coincidence?
- Correlation is a mathematical conclusion and is often confused with association
- Events that are correlated are always associated but events that are associated are not always correlated
  - Payer mix and revenue
  - Work RVUs and charges
  - Fee schedule and RBRVS
  - A/R days and EMR
Cause and Effect

- The linking together of events
  - Does an event cause a change?
  - Is there a threshold of causation?
  - Why did it happen?
  - If I remove one problem, does it create another?
- Establishing causation is more difficult than correlation and often requires qualitative tools
  - Change in payer mix equals change in revenue?
  - Length of time to appointment effects rate of no-shows?
  - Coding training for docs decreases risk of non-compliance?
  - Quicker phone response increases patient satisfaction?
  - EMR results in increased revenue and/or decreased A/R?
Solving Problems is Key

- Practical problem
  - Analytical problem
    - Analytical solution
      - Practical solution
Pitfalls to Anecdotal Thinking

- Assuming you know what the problem is without seeing what is actually happening (failure to observe).
- Assuming you know how to fix a problem without first finding out what is causing it (failure to plan).
- Assuming the action you have taken to fix the problem has worked without measuring to see if it is doing what was expected (failure to validate).
Continuous Improvement Models

Six Sigma
Lean
Lean Six Sigma
Kaizen
What is Six Sigma?

- A management philosophy designed to reduce process variability, ultimately increasing quality, profitability and compliance
  - Eliminate errors and mistakes
- Six Sigma is a metric measured in unacceptable events per million
  - $6 \sigma = 3.4$ per million
  - $5 \sigma = 233$ per million
  - $4 \sigma = 6,210$ per million
  - $3 \sigma = 66,810$ per million
- Sigma measures variation rather than averages
- Six Sigma is counter-intuitive in that the process is within control up to a variation of six standard deviations
What is Lean?

- Reduce the time it takes to deliver a service
  - Reduce waste and increase efficiency without sacrificing quality
  - Shorten the time between when you see the patient and you get the cash
- Lean looks at the value stream of any process with the goal to eliminate steps that do not provide
  - Value to the organization, or
  - Value to the customer
- Lean is more applicable to medical practices
  - Shorter improvement cycle
  - Less expensive delivery system
  - Fewer resources
What is Lean Six Sigma?

Lean Six Sigma combines the strengths of each system into one

• **Lean**
  - Guiding principles based operating system
  - Relentless elimination of all waste
  - Creation of process flow and demand pull
  - Resource optimization
  - Simple and visual

• **Efficiency**

• **Six Sigma**
  - Focus on voice of the customer
  - Data and fact based decision making
  - Variation reduction to near perfection levels
  - Analytical and statistical rigor

• **Effectiveness**

Lean [TPI] SS

Continuum
Total Practice Improvement (TPI)

An aggregation of the most effective and efficient tools and techniques from Lean and Six Sigma specifically applicable to a medical practice
What is Total Practice Improvement (TPI)?

- A process that helps to identify potential improvement opportunities at the highest organizational level
- A model that helps employees and management to understand and visualize the current state process
  - The process before changes
- A system of tools that provides a general understanding of the types of processes and therefore, the types of problems and improvements that are available within the practice
- TPI culls only those tools that are applicable for process improvement within the medical practice
Practice Improvement Areas

- Revenue cycle analysis
- Patient throughput analysis
- Denial analysis
- Cost accounting
- Code and modifier analysis
- Fee schedule analysis
- Patient Satisfaction (complaints)
- Compliance risk analysis
- Physician productivity analysis
- PQRI, or more important, outcomes
TPI Game Theory

• Strategy
  • Where are we going?
  • strategy is a long term plan of action designed to achieve a particular goal.

• Tactics
  • How do we get there?
  • A tactic is a stepwise method employed to help achieve a certain strategy or strategic plan

• Logistics
  • How do we make what we do, work within our organization?
  • The time related to the positioning of resources
Problem Solving / Decision Support

- Using this information to develop solutions to problems
- Organization of existing resources
  - Billing function
  - Front office staffing
  - Waiting room structure
- Benefit/risk of new resources
  - Hiring non-physician practitioners
  - The use of hospitalists
  - Benefits vs. risks of an EMR/EHR
- Compromise vs. obliteration
  - Acceptance thresholds, such as A/R and payer mix
  - Outsourcing billing function
  - Selling or merging a practice
Metrics and Goals

If you can’t measure it, you can’t manage it
TPI Begins with Benchmarking

- Current state or condition of operational components
- PMS and other IT systems
- Find and review MCO contracts
- Accounting system and financial performance benchmarks
- Capacity (Maximum, minimum, excess, over, etc.)
- HR policies and practices
- Value stream efficiencies
MY LIFE BROKEN DOWN INTO SEGMENTS

SLEEPING

WORKING

EATING

LOOKING FOR THINGS I HAD JUST A MINUTE AGO
Primary TPI Metrics

- Profit and profitability
- Capacity
- Cycle times
- Contract effectiveness
- Performance and productivity
- Utilization
- Resources
Effective Measurement Systems

- There should be a standardized method of measurement
- The data should be accurate
- The data should be meaningful and worthwhile
- Measurement systems should be easy to install and use
- The measurement system should be polymorphic
The Balanced Scorecard

- Balances all of the strategic goals of an organization
  - Financial
  - Internal business processes
  - Learning and growth
  - Customers (staff, patients, payers, etc.)
- Prevents the focus from being *only* on finances
- Helps keep issues like quality in the forefront
Performance Metrics

- Process level
  - Comes from process owners and involves MAIC
- Operations level
  - 30,000 foot view, including cycle time analyses
- Business level
  - Highest level, i.e. financial and operational summaries
- Focus on the ‘vital few’ vs. the ‘trivial many’
- Metrics should be linked to key goals and objectives
- Metrics should evolve as the practice’s needs evolve
# The TPI Toolbox

1. Process Mapping  
2. Value Stream Mapping  
3. VOC (Voice of the Customer)  
4. Kano’s Model  
5. CTQ Tree  
6. SIPOC  
7. Spaghetti diagrams  
8. Data mining and statistics  
9. Ishakawa (Fishbone) diagrams  
10. Takt Time  
11. Heijunka (Load balancing)  
12. PokaYoke (Mistake proofing)  
13. 5S (organizational efficiency)  
14. House of Quality  
15. Hoshin Planning  
16. Prioritization matrices  
17. Pareto Charts  
18. MSA Drilldown  
19. Brainstorming  
20. Multi-voting  
21. Assumption busting  
22. Theory of Constraints  
23. Hypothesis testing  
24. Performance scorecards
Process Improvement Trilogy

- Process Mapping
- Value Stream mapping
- Cause and Effect analyses
Mapping Work Processes
What is Process Mapping

• A process map, or flow chart, is:
  • Visual representation of work flow
  • Detailed map of the steps in every process

• Why map a process?
  • Diagnosis and Improvement
  • Determine the cause of a problem or condition
  • Provide a critical assessment of what really happens within an institution
  • Training and Communication
Example - Visit Process Map

1. **Patient Check-in**
   - **Patient Type**
     - **Est**
     - **Insurance Validation**
       - Yes
       - No
         - Procedure or Test
           - Yes
           - Test/Procedure Performed
             - Yes
             - Coding
             - No
             - See Physician
               - No
               - Coding
               - Yes
             - See Physician
               - No
               - Check-Out
               - Yes
               - Coding
               - No
               - Physician Encounter
                 - Procedure or Test
                   - Yes
                   - Test/Procedure Performed
                     - Yes
                     - See Physician
                     - No
                     - Coding
                     - No
                     - Physician Encounter
                       - Procedure or Test
                         - Yes
                         - Test/Procedure Performed
                           - Yes
                           - Coding
                           - No
                           - Physician Encounter
Value Stream Mapping

“If you do what you’ve always done, you’ll get what you’ve always gotten.”
What is Value Stream Mapping?

- Value stream expands process mapping to include data points that are critical to measurements and benchmarking.
- It differs from the process mapping in four ways:
  - It gathers and displays a far broader range of information than a typical process map.
  - It tends to be more specific than process maps.
  - A value stream map takes into account not only the activity of the procedure/service, but the management and information systems that support the basic process.
Four Phases of VSM

Phase 1: Map the Process
Phase 2: Collect data
Phase 3: Analyze the Data
Phase 4: Improve the Process
Risks and Errors – Insurance Validation

- Long hold time to validate insurance (give up)
- Payer could give wrong information
- Patient could have incorrect demographic
- Patient may not have ability to pay
- You may not be able to refuse care or treatment
Detailed Example of Rework or Errors

Pt. Late - 15.4%
No ID - 8.2%
No source of payment - 23.7%

Language issue – 6.6%
Illiterate – 2.5%
Duplicate work – 100%

No insurance card – 16.4%
Wrong demographics – 13.8%

Pt. sneaks out - 1.1%
Not able to pay – 26.8

No Documentation – 26.4%
Hand-off issues – 9.7%

Language issue – 6.6%
Duplicate clinician work – 11.2

Clinician busy – 6.4%
Equipment issues – 2.2%
Getting to the root cause

Ishikawa (fishbone) Diagrams
What is an Ishikawa Diagram?

- Also called a Fishbone diagram
- This is a tool that is used to drill down during cause-and-effect steps in a project
Example – Long Wait Time for New Patients

Practice

Process

Unnecessary forms

ABN

Duplicate HIPAA

Wave Scheduling

Time of Visit

Pre-authorization

Insurance Validation

Patient late

Elderly Patients

Payers

Patients

Long Wait Time for New Patients
Sample – Causes of Infection

- OT-traffic/attire/A/C
  - Post-op: recannulation
  - HDU
  - Pre-op: when, where, showers

- Skill mix
  - Orthopaedic nurse
  - Physiotherapy
  - Other patients
  - Aseptic technique
  - Cross infection
  - Attire
  - JMO education

- SCD machine
  - Drainage systems (closed or open)

- Selection
  - Expectation
  - Compliance
  - Confusion
  - Pressure ulcer
  - Nutritional status

- Sterilisation
  - Surgical technique
  - Operating time
  - R/O drains
  - Urinary catheter
  - Clipping

- Blood loss
  - Drainage systems
  - Storage of equipment
  - Post-op haematoma
  - Dressings (times & type)
  - Epidural insertion
  - JMO involvement

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Finding the Right Deployment Platform

PDSA
DMAIC
A3
Common Steps in Every Project

- Define the issue
- Create the Benchmarks
- Find the cause(s)
- Recommend, test and implement the solutions
- Validate the results
DMAIC – The King of Process Improvement

The Avenida 6-sigma DMAIC model

Define
Scope
Service levels

Measure
Statistics
Performance
Utilization

Control
Service level compliance
Implementation

Improve
Infrastructure
Application
Configuration

Analyze
History
Deviations
Bottlenecks
DMAIC Exemplifies a Logical Flow

- Define
  - Identify Problems
  - Define Condition
  - Determine Causes
  - Develop Solutions
  - Measure
  - Analyse
  - Improve
  - Control

- Long Term Implementation
- Document, Communicate and Check for replication and sustainability
PDSA is Simple, Graphical and Logical

**ACT**
Plan the next cycle
Decide whether the change can be implemented

**PLAN**
Define the objective, questions and predictions. Plan to answer the questions (who? what? where? when?)
Plan data collection to answer the questions

**STUDY**
Complete the analysis of the data
Compare data to predictions
Summarise what was learned

**DO**
Carry out the plan
Collect the data
Begin analysis of the data
A3

• A3 may be more effective for problem solving than formal process improvement projects
  • Most organizations effect ‘first-order’ problem solving
  • Create non-robust work-around instead of real solutions

• Pushes towards the root cause of the problem
  • Without root cause, problems don’t get solved, only pushed around within the cycle
The Two Worst Times for TPI

- When times are bad
  - During bad times, money is tight and survival is king
  - The Eorr Syndrome

- When times are good
  - During good times, money is flowing and resources are focused on doing the same things
  - No sense of urgency or mission
The Two Best Times for TPI

- When times are bad
  - You can’t afford to keep losing money
  - Sets you up for the rebound when things get better

- When times are good
  - High profitability is normally accompanied by higher waste and poorer quality
  - Creates an attitude of being ‘unsinkable’
Does Process Improvement Always Work?

- NO

- In addition to a lack of buy-in by senior management and owners, here are the biggest reasons for failure
  - Lack of a specific target or goal
  - Failure to define what constitutes success
  - Ignoring the chaos that may be created during interactions
  - Confusing improvement in a process with improvement of the system
  - Assuming that the final output will actually result in the final goal
  - Failure to associate how improvement moves toward the vision for the organization

- Not all goals are appropriate for process improvement
Is Process Improvement Enough?

- NO

- “a competitive strategy based solely on cost will lead to predictably disastrous results” \{Michael Porter, Competitive Advantage, 1998\}

- When all else is equal, it is cultural and philosophical issues that predict success in the market place

- After continuous process improvement becomes part of the culture, it is time to move on to other areas of improvement
For More Information

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