

# Transforming “Unbalanced Rubbish Heaps” into “Balanced Scorecards”

Davis Balestracci

Harmony Consulting, LLC

Phone: (207) – 899-0962

e-mail: [davis@dbharmony.com](mailto:davis@dbharmony.com)

Web Site: [www.dbharmony.com](http://www.dbharmony.com)

**2008 ICSI Colloquium**

**May 9, 2008**

# Rough Outline

## I. Overview [25 minutes]

- A. A helpful model for context
- B. Your “current” scorecard
- C. The importance of strategy
- D. Translation to everyday operations
- E. Alignment
- F. A tool for managing

## II. Kaplan-Norton Model [10 minutes]

## III. Reporting and Analyzing Performance Data [35 minutes]

- A. BASIC, NEEDED statistics of analysis/display
- B. What is it currently costing you by NOT doing this?

## IV. An example of “cascading” measures [10 minutes]

## V. Summary: Getting Down to Business [10 minutes]

- Open dialogue
  - What are the 20% of numbers that cause 80% of your organizational perspiration?
  - You DO have a scorecard: In meetings, what numbers tend to get “circled”?



# Objectives

- The structure and four dimensions of a balanced scorecard
- The importance of organizational strategy as a driver: Questions that **MUST** be asked
- Considerations in designing appropriate data elements
- **INTERPRETING** data appropriately
  - The hidden, inherent data “process”

# Harsh Realities (Disappointments?)

- No “template” or “46 steps”
- More questions than answers
- Answer the questions for yourselves & evolve a framework that works for YOU
- Iterate *constantly*
- Data “sanity” is equally important
- INTEGRATE “quality” into the way you do business

**This is more about ‘thinking’ than ‘doing’**

# In a nutshell

- More precise design, translation and communication of strategy,
- This is our strategy
  - What MUST we do to survive into the future?
- These are our strategic objectives
- These are the measures that describe the strategy
- Translates data into intelligent action at the appropriate level

# Important distinction

- “Strategy”
  - Plan for future survival
- “Organization”
  - Current arrangement of day-to-day operation

**“The current organizations are created for businesses that are ‘going out of business’.”**

# Strategy focus means:

- Translating strategy into operational terms for everyone
- Aligning the organization to the strategy
- Making strategy everyone's job
- Making strategy a continual process
- Mobilizing change through executive leadership

# What makes it work?

- EVERY measure is a part of a chain of cause-and-effect linkages
- A balance between outcome measures and performance measures
- Including performance driver measures that will provide a process to change behavior

# For managers...

- Communicating **specific performance expectations** to subordinates
- Knowing what is going on in their organizations [Desert island FAX]
- **Identifying performance gaps** that should be analyzed and eliminated
- Providing **feedback** that compares performance to a standard
- **Guides decisions**: Resources, plans, policies, schedules, and structure

# “Family of Measurements”

- Perspective of stakeholders
  - Customers
  - Employees
  - Owners
  - Stockholders
  - Suppliers
  - Communities

# Or...

- Four-to-five areas for breakthrough work
- Or...U.S. Malcolm Baldrige criteria
  - Financial performance
  - Product / service quality
  - Supplier performance
  - Customer satisfaction
  - Process / operational performance
  - Employee satisfaction

# Key Questions

- Who are the customer groups that we wish to hear from?
- What measures could predict their future satisfaction with the organization?
  - What is our “core” process?
- How are we doing with respect to our core process?
  - Are we doing things right?
  - How well are we managing our resources?

## Key Questions (cont.)

- How are we doing with respect to our strategy?
  - Are they the *right things*?
- How are we transitioning to our strategic outcomes?
  - Are we learning & improving?
- Is this still the right strategy?

# 3 Key questions

- How would we know?
- How would we know?
- How would we know?

# Most common errors

- Starting too big
- Measuring too many things  
(Backup data)

**Automobile Dashboard vs. Airline Cockpit**

# Data considerations

- Evaluate current data
  - 75% of what is needed probably already exists
  - 25% will need some innovative development
- What is the 20% of data that accounts for 80% of the important decisions?
- The more you know what is wrong with your current data, the more useful it becomes

# Overall Model

- Mission, Vision, Values
  - Products, services, customers/markets, overall strengths
  - Future goals
  - “What do we stand for?”
  - Given these, where do we stand vis-à-vis the current competition?

# Given Mission, Vision, Values...

- “What five graphs would I want FAXed to ME on a desert island?”
- What five graphs would Dr. Johnson need FAXed?

# “Original” Model

## Financial

[Shareholders]

~20-25% of measures

## Customer

[Current & future satisfaction]

~20-25% of measures

## Vision & Strategy

## Internal Business

## Process Excellence

[What MUST we excel at?]

~33% of measures

## Learning & Growth

[How are we doing sustaining improvement towards our vision?]

~20-25% of measures

# For each “Box”

- Objectives
- Measures
- Targets
- Initiatives

# Key Success Factors

- “What *must* we focus on to beat competitors and achieve our vision?”
- Context of past-present-future
- Performance metrics align entire organization from top to bottom
- Goals must be based on research and NOT be arbitrary: Annual and long-term
- Strategy: What activities/initiatives need to be implemented to achieve these goals?

# Financial

- “Traditional”  
(Strategy delivering “facts of life?”)
  - Return on investment
  - Cash flow
  - Profitability
- Resource perspective  
(Transitioning appropriately?)
  - People
  - Dollars
  - Infrastructure
  - Time

# Competencies/Capabilities

- Process accuracy/effectiveness
- Cycle times
- Project measures
- Reliability
- On-time performance
- Cost effectiveness
- Rework
- Error rates
- Productivity measures

# Customers/Partners

- Percentage of highly satisfied customers
- Percentage of highly dissatisfied customers
- Cost of dissatisfied customers
- Levels of expectation
- Perceived value for the money spent
- Brand loyalty Price/value perceptions
- Turnover rates
- NISH: “Internal” customers?

# Learning & Improvement

What if quality professionals saw this as their “*business*” within the organization?

What if executives saw quality improvement as the “Learning & Improvement” *strategy*?

# Learning & Improvement

## Financial

[Resources aligned w/ org. strategy?]

~20-25% of measures

## Customer

[INTERNAL:

Current &  
future satisfaction]

~20-25% of measures

Vision  
& Strategy

Internal Business  
Process Excellence

[Is the organization  
achieving its  
goals?]

~33% of measures

## Learning & Growth

[Are we developing in the right ways?]

~20-25% of measures

# Senior leadership

- Planning and managing to leverage the entire family of measures
- Understand inter-relationships and trade-off imposed by system
- Facilitate “sub-Scorecards” to create a cascading series of cause-and-effect relationships

# Reporting & Analyzing Data

- Level
- Tendency (Sometimes called “trend”)
- Variation

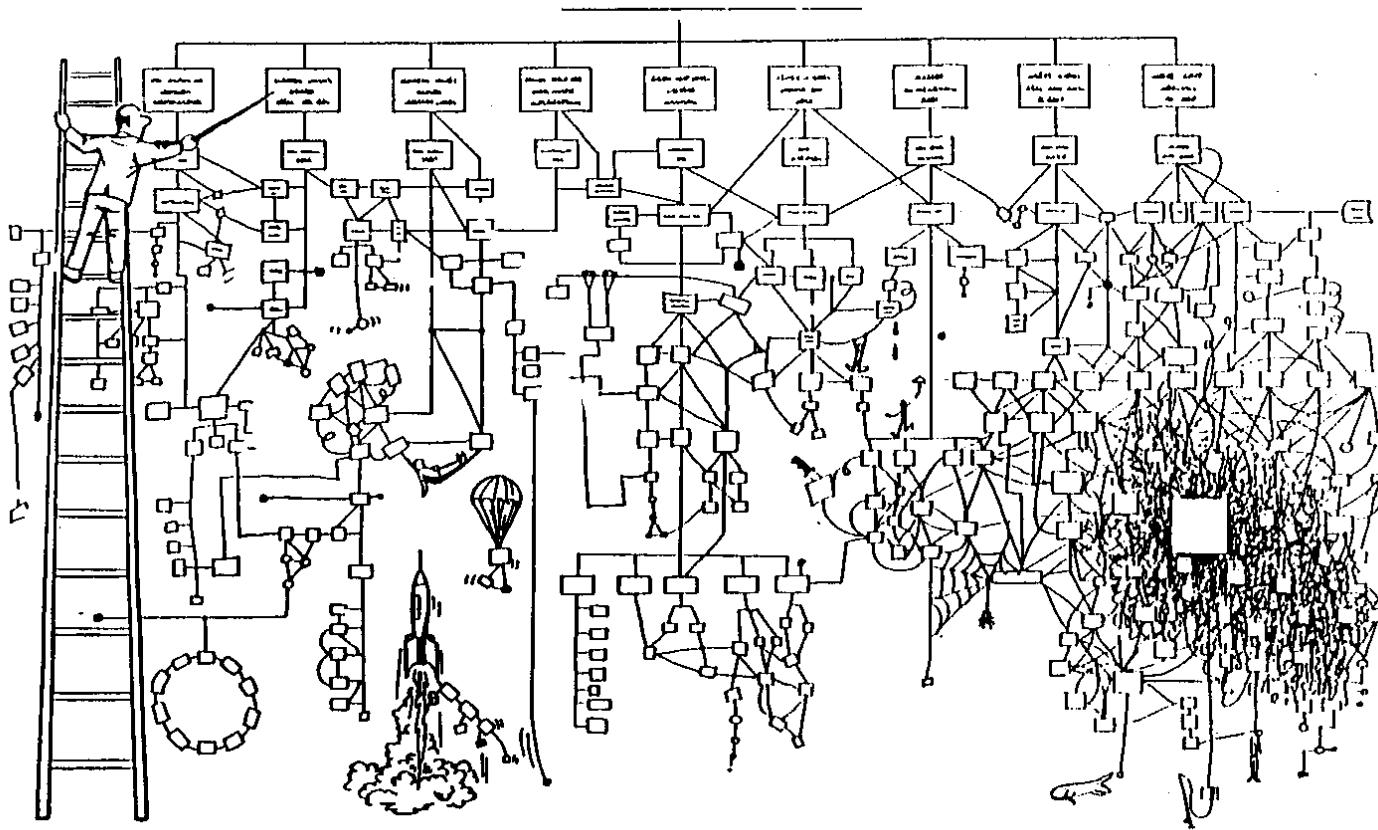
# Reporting & Analyzing Data

- Level
  - Goals
  - Past performance
  - Competitor's performance
  - Benchmark organizations

# Developing Sound Measures

- Identify the most significant outputs of the organization, process, or job
- Identify the critical dimensions of performance (developed from internal/external customer needs and financial needs)
- Develop clear operational definitions of the measure
- Develop desired goals and measure the current process of performance vis-à-vis the goal.

# Think “Process”!



- *All* work is a process
- All processes are potentially measurable,

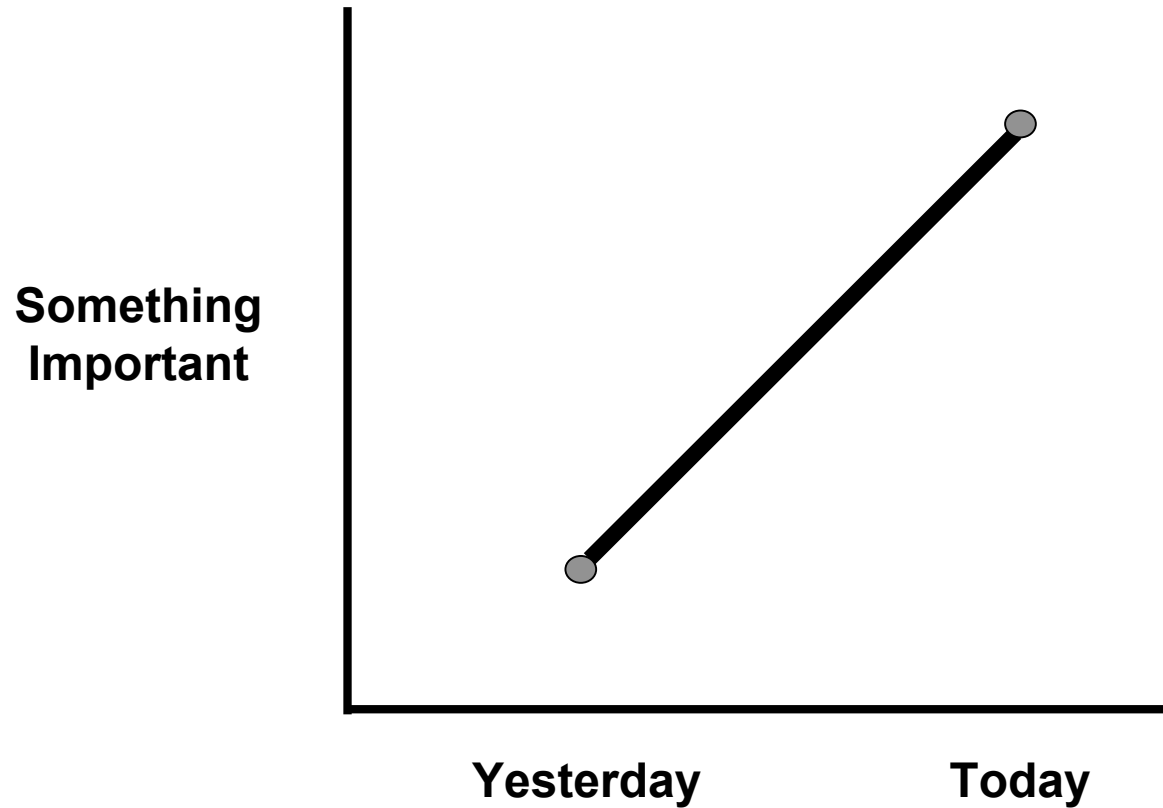
# Do people know...

- WHY they are collecting the data?
- HOW to obtain the number?
- WHERE to collect the data?
- HOW OFTEN to collect the data?

# Reporting & Analyzing Data

- Level
- Tendency (Sometimes called “trend”)
  - Graphical presentation (No tables of numbers),
  - Multiple points over time
  - Improving? Getting worse? Flat?
- Variation

# What action is appropriate?



# How are they doing with guideline implementation?

## % Compliance

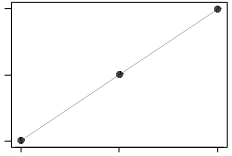
**This month: 69.44%**

**Last month: 50%**

**12 months ago: 69.44%**

**GOAL: 75%**

# The Myth of Trends

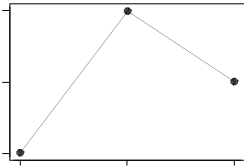


**“Upward Trend” (?)**

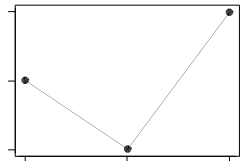
**This month...**

**vs. last month...**

**vs. 12 months ago**

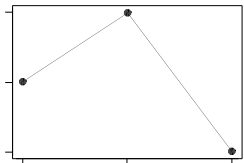


**“Downturn” (?)**



**“Rebound” (?)**

**3 Months of Quarterly results...**

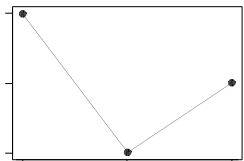


**“Setback” (?)**

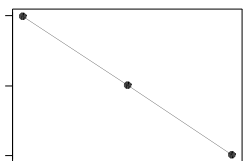
**This quarter...**

**vs. last quarter...**

**vs. same quarter last year**

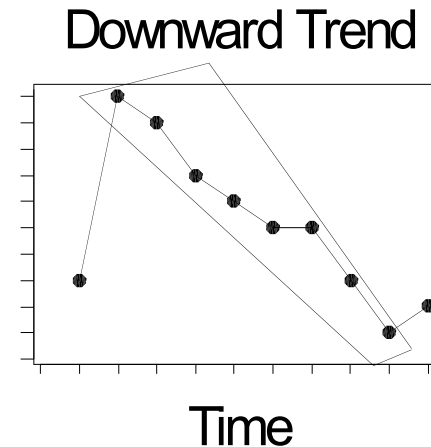
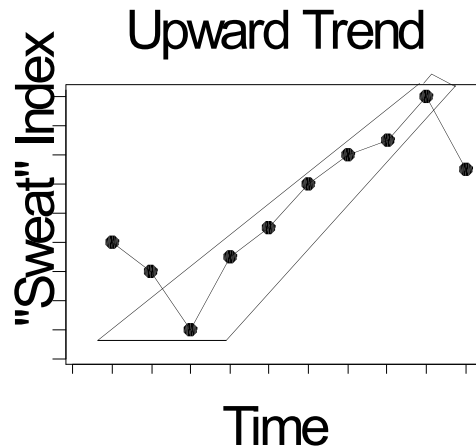


**“Turnaround” (?)**



**“Downward Trend” (?)**

# “Statistical” definition of “trend”



**Special Cause – A sequence of SEVEN or more points continuously increasing or continuously decreasing.**

**Note: If the total number of observations is 20 or less, SIX continuously increasing or decreasing points can be used to declare a trend.**

**This rule is to be used only when people are making conclusions from a tabulated set of data *without any context of variation* for interpretation.**

# How are they doing with guideline implementation?

## % Compliance

**This month: 69.44%**

**Last month: 50**

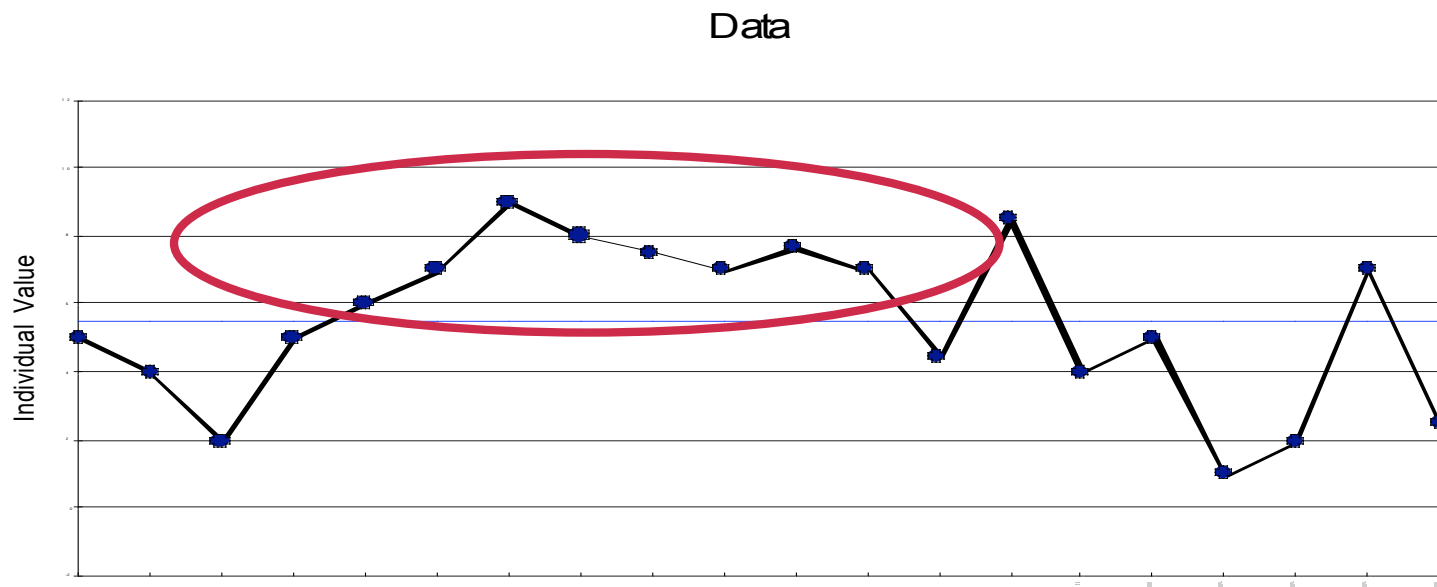
**12 months ago: 69.44**

**GOAL: 75%**

## % Compliance

|       |       | %         |
|-------|-------|-----------|
| 6/97  | 44.44 |           |
|       | 41.67 |           |
|       | 50.00 |           |
| 9/97  | 50.00 |           |
|       | 52.78 |           |
|       | 58.33 |           |
| 12/97 | 33.33 |           |
|       | 41.67 |           |
|       | 50.00 |           |
| 3/98  | 69.44 |           |
|       | 69.44 |           |
|       | 66.67 |           |
| 6/98  | 66.67 |           |
|       | 69.44 |           |
|       | 72.22 | (Largest) |
| 9/98  | 66.67 |           |
|       | 66.67 |           |
|       | 63.89 |           |
| 12/98 | 69.44 |           |
|       | 55.56 |           |
|       | 50.00 |           |
| 3/99  | 69.44 |           |

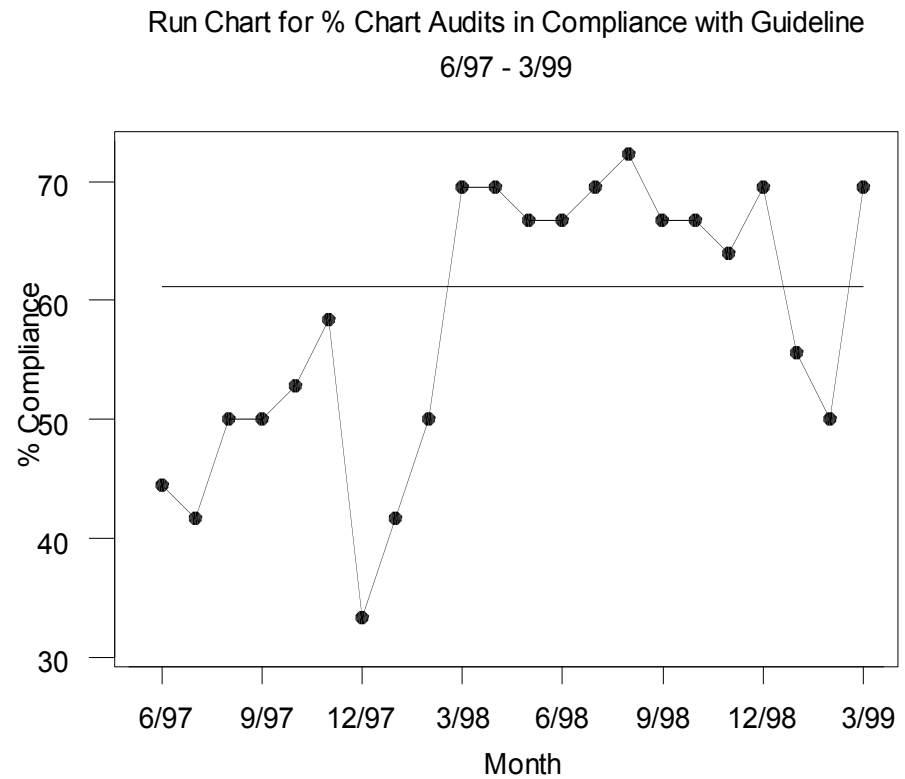
Special Cause: A consecutive sequence of 8 or more points on one side of the median



**Run Chart: A time ordered plot of process data with the MEDIAN drawn in as a reference line.**

# How are they doing with guideline implementation?

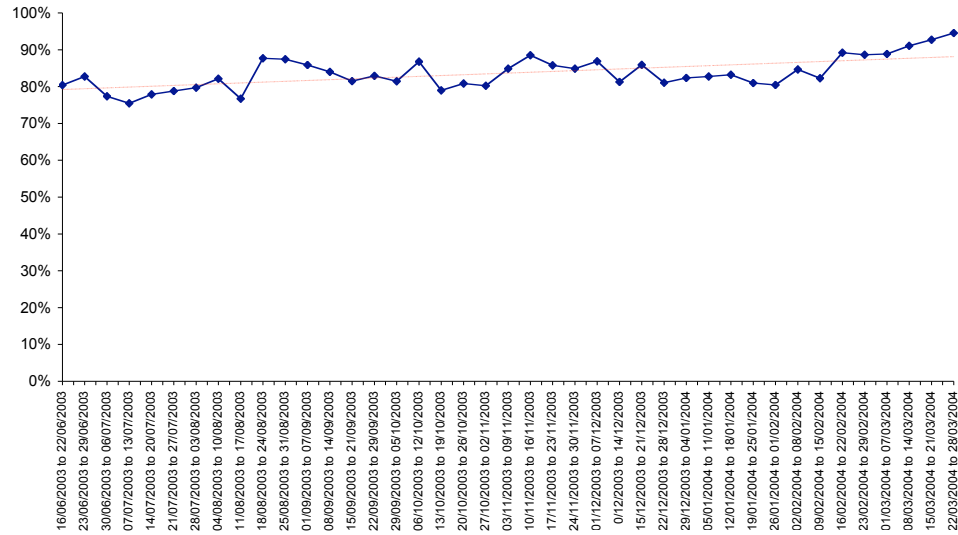
| <u>% Compliance</u> |       |   | <u>Sorted</u> |
|---------------------|-------|---|---------------|
| 6/97                | 44.44 | % | 33.33         |
|                     | 41.67 |   | 41.67         |
|                     | 50.00 |   | 41.67         |
| 9/97                | 50.00 |   | 44.44         |
|                     | 52.78 |   | 50.00         |
|                     | 58.33 |   | 50.00         |
| 12/97               | 33.33 |   | 50.00         |
|                     | 41.67 |   | 50.00         |
|                     | 50.00 |   | 52.78         |
| 3/98                | 69.44 |   | 55.56         |
|                     | 69.44 |   | 58.33         |
|                     | 66.67 |   | 63.89         |
| 6/98                | 66.67 |   | 66.67         |
|                     | 69.44 |   | 66.67         |
|                     | 72.22 |   | 66.67         |
| 9/98                | 66.67 |   | 66.67         |
|                     | 66.67 |   | 66.67         |
|                     | 63.89 |   | 69.44         |
| 12/98               | 69.44 |   | 69.44         |
|                     | 55.56 |   | 69.44         |
|                     | 50.00 |   | 69.44         |
| 3/99                | 69.44 |   | 69.44         |
|                     |       |   | 72.22         |



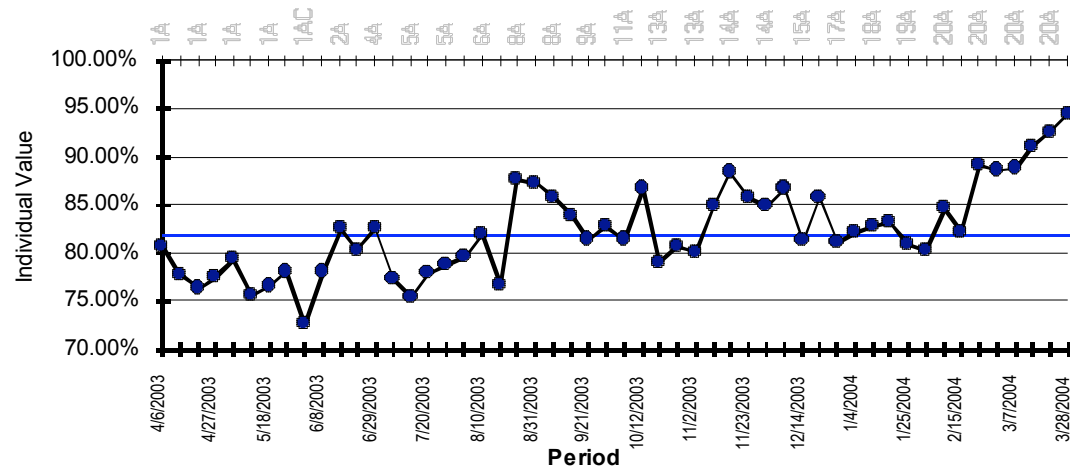
***“Plot the dots!”***

# TREND?! I think NOT!!!

Percentage discharged, admitted or transferred within 4 hours - A&E Type 1+2

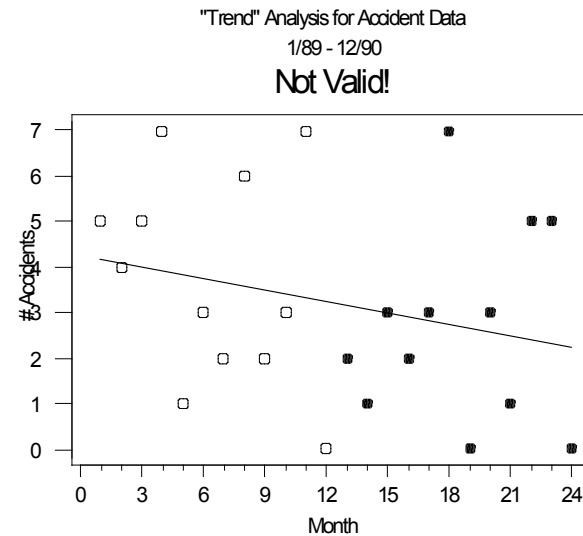
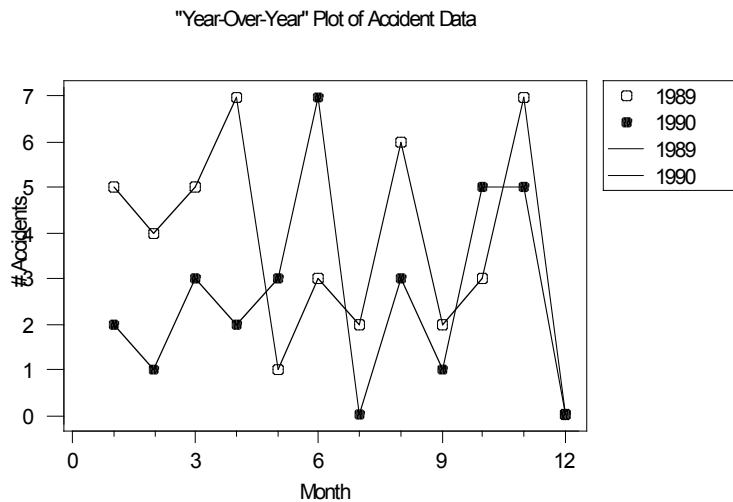


% Total seen < 4 Hours



# Safety Report

**45 one year...32 the next...**  
**25 % reduction achieved?**



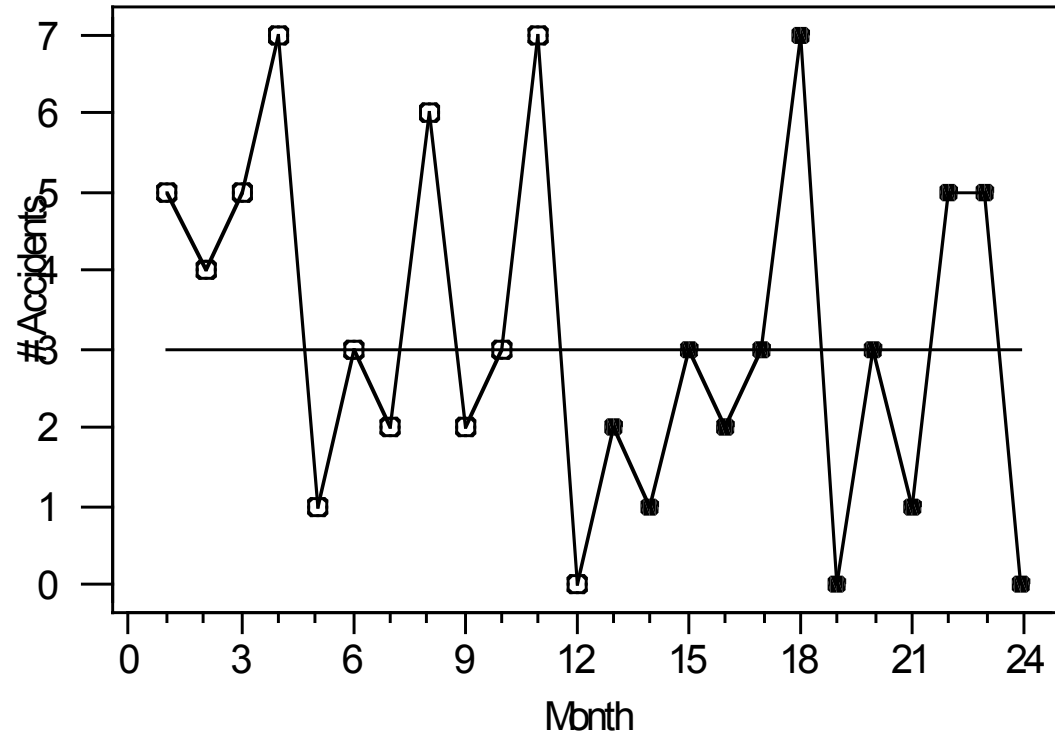
("Trend" of 4.173 to 2.243)

**8 months are lower  
than previous year**

**Reduction is 46.2% !**

# Safety Data

Run Chart for Accident Data  
1/89 - 12/90



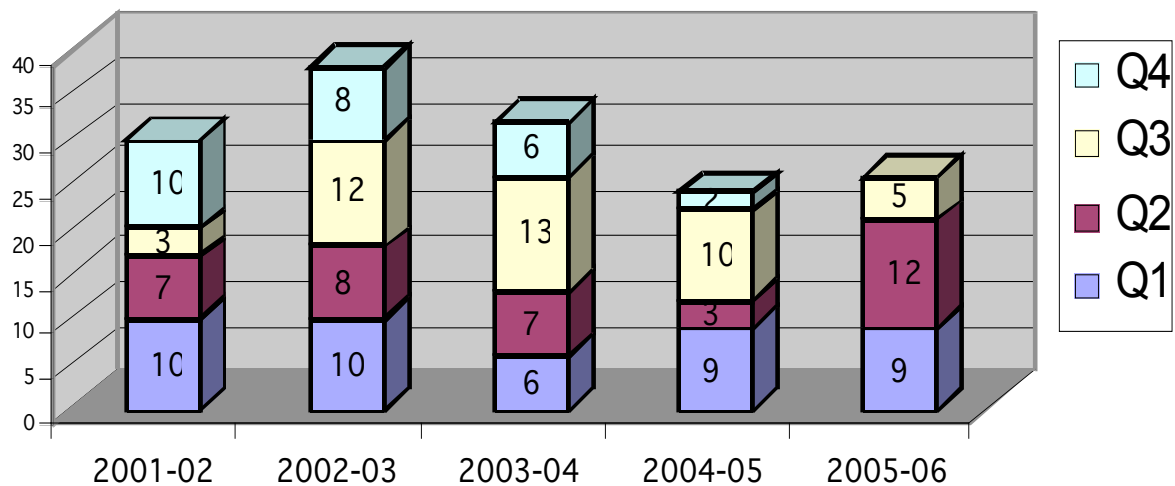
(Median = 3)

***“Plot the dots!”***

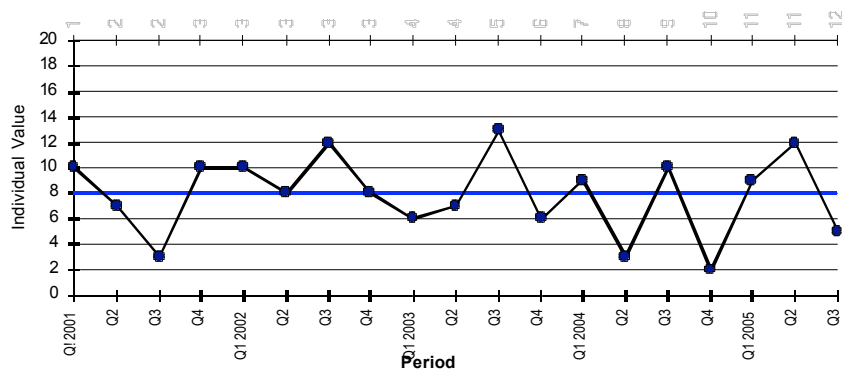
# Reporting & Analyzing Data

- Level
- Tendency
- Variation
  - No straight “two point” comparisons
  - When is a “variance” a *true* “variance”?
  - When is “seasonality” *truly* seasonality?
  - Awareness of natural variation fluctuation (“common cause”) and current “capability” of system versus desired performance
  - Reducing inappropriate and unintended variation through statistically valid strategies

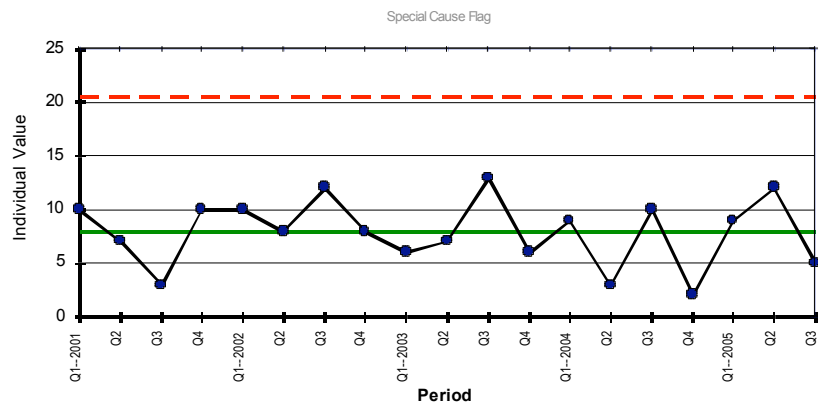
## MRSA Bacteraemia 2001-02 to 2005-06



Quarterly MRSA Bacteraemias

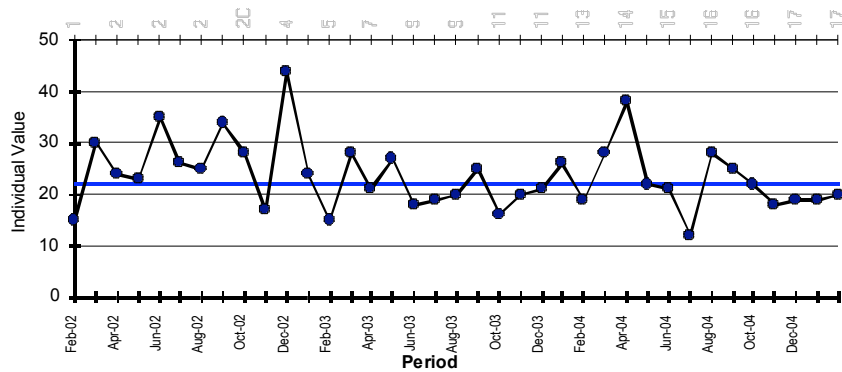


# Bacteraemias

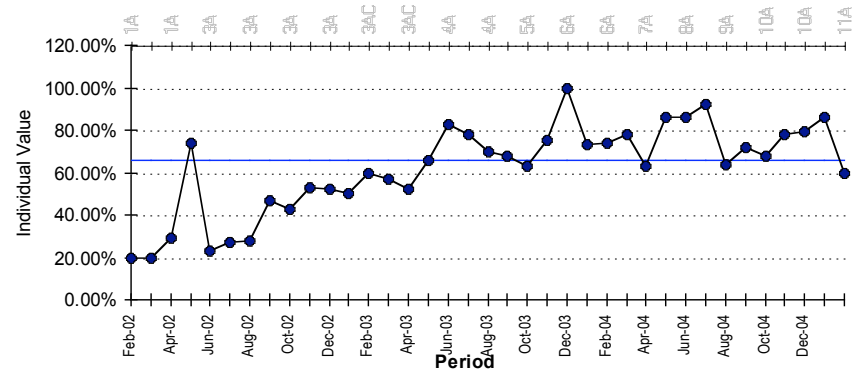


# Board member: “What about complaints?!”

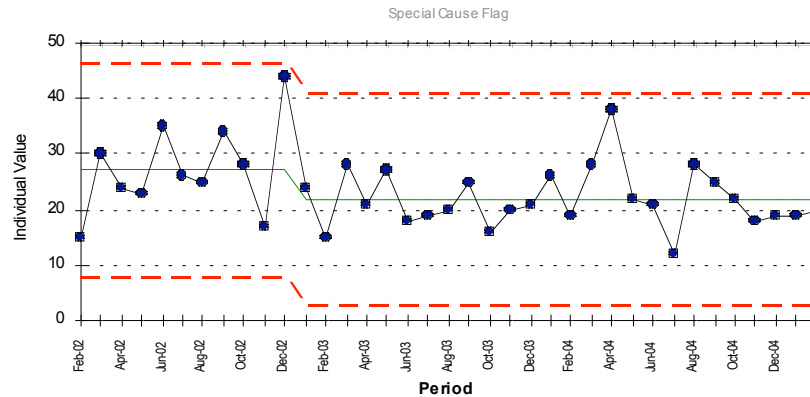
Total Complaints



% within 20 days



Total Complaints



“Red...Yellow...Green...”

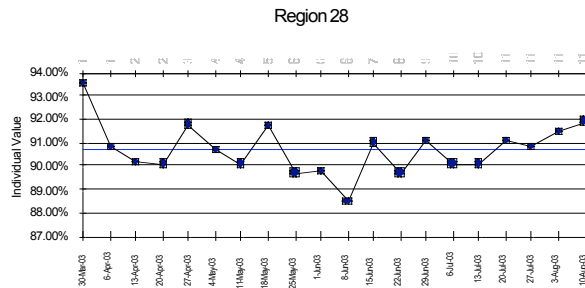
RUBBISH!

| SHA name   | 30-Mar-03 | 6-Apr-03 | 13-Apr-03 | 20-Apr-03 | 27-Apr-03 | 4-May-03 | 11-May-03 | 18-May-03 | 25-May-03 | 1-Jun-03 |
|--|-----------|----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|----------|
| Avon, Gloucestershire & Wiltshire                  | 89.7%     | 85.1%    | 83.9%     | 85.1%     | 85.2%     | 84.9%    | 85.7%     | 85.5%     | 85.3%     | 85.2%    |
| Bedfordshire and Hertfordshire                     | 93.1%     | 89.1%    | 88.0%     | 84.9%     | 84.3%     | 85.4%    | 85.7%     | 86.8%     | 87.8%     | 85.3%    |
| Birmingham and the Black Country                   | 91.8%     | 85.4%    | 84.9%     | 85.8%     | 85.6%     | 84.8%    | 88.7%     | 88.3%     | 86.7%     | 87.5%    |
| Cheshire & Merseyside                              | 95.2%     | 90.1%    | 88.5%     | 87.3%     | 87.0%     | 85.7%    | 88.1%     | 88.0%     | 87.9%     | 87.6%    |
| County Durham & Tees Valley                        | 94.8%     | 96.4%    | 94.7%     | 94.6%     | 92.2%     | 93.9%    | 95.5%     | 94.3%     | 92.0%     | 94.2%    |
| Cumbria & Lancashire                               | 91.7%     | 91.6%    | 92.1%     | 93.0%     | 92.0%     | 92.7%    | 93.6%     | 93.5%     | 92.6%     | 91.9%    |
| Dorset & Somerset                                  | 93.8%     | 91.2%    | 89.7%     | 92.3%     | 91.5%     | 91.5%    | 89.7%     | 93.2%     | 90.9%     | 92.8%    |
| Essex  | 93.8%     | 90.8%    | 91.2%     | 91.1%     | 91.5%     | 90.3%    | 92.3%     | 89.9%     | 91.1%     | 90.5%    |
| Greater Manchester                                 | 94.7%     | 91.0%    | 90.7%     | 88.8%     | 89.5%     | 90.0%    | 90.8%     | 92.6%     | 91.1%     | 89.8%    |
| Hampshire and Isle of Wight                        | 90.6%     | 83.5%    | 84.3%     | 81.4%     | 84.0%     | 82.3%    | 81.7%     | 82.8%     | 80.8%     | 79.7%    |
| Kent and Medway                                    | 88.1%     | 90.1%    | 89.5%     | 89.6%     | 87.6%     | 86.0%    | 91.0%     | 92.2%     | 89.3%     | 87.4%    |
| Leicestershire, Northamptonshire & Rutland         | 86.1%     | 73.3%    | 72.2%     | 74.7%     | 74.0%     | 72.8%    | 77.4%     | 75.9%     | 78.4%     | 73.0%    |
| Norfolk, Suffolk and Cambridgeshire                | 93.6%     | 88.4%    | 86.6%     | 86.0%     | 85.8%     | 87.9%    | 87.6%     | 87.3%     | 85.9%     | 86.0%    |
| North and East Yorkshire and Northern Lincolnshire | 94.2%     | 92.7%    | 93.3%     | 92.4%     | 91.7%     | 90.0%    | 91.5%     | 91.7%     | 90.7%     | 92.0%    |
| North Central London                               | 93.7%     | 83.7%    | 86.6%     | 84.4%     | 86.1%     | 84.9%    | 84.9%     | 85.4%     | 85.1%     | 83.9%    |
| North East London                                  | 93.7%     | 84.4%    | 80.8%     | 79.7%     | 78.8%     | 78.8%    | 81.9%     | 81.6%     | 79.6%     | 80.1%    |
| North West London                                  | 94.6%     | 86.7%    | 86.2%     | 86.4%     | 83.7%     | 83.1%    | 81.9%     | 82.2%     | 81.4%     | 82.6%    |
| Northumberland, Tyne and Wear                      | 94.1%     | 92.5%    | 91.5%     | 92.0%     | 90.0%     | 90.1%    | 92.4%     | 92.7%     | 92.6%     | 92.1%    |
| Shropshire and Staffordshire                       | 95.4%     | 88.0%    | 89.0%     | 84.0%     | 85.6%     | 83.9%    | 84.2%     | 85.8%     | 87.4%     | 83.0%    |
| South East London                                  | 96.1%     | 89.7%    | 90.9%     | 91.5%     | 89.0%     | 88.7%    | 89.2%     | 90.0%     | 88.9%     | 89.2%    |
| South West London                                  | 95.5%     | 80.5%    | 83.4%     | 81.4%     | 80.6%     | 81.9%    | 82.0%     | 81.0%     | 80.1%     | 80.3%    |
| South West Peninsula                               | 95.7%     | 90.9%    | 90.1%     | 89.5%     | 89.4%     | 89.1%    | 92.5%     | 92.8%     | 88.6%     | 90.1%    |
| South Yorkshire                                    | 95.1%     | 86.6%    | 85.4%     | 86.0%     | 84.8%     | 86.0%    | 87.9%     | 91.0%     | 89.9%     | 87.7%    |
| Surrey and Sussex                                  | 88.4%     | 84.4%    | 85.0%     | 85.7%     | 84.3%     | 83.7%    | 83.4%     | 85.0%     | 83.7%     | 83.5%    |
| Thames Valley                                      | 83.2%     | 80.3%    | 80.0%     | 79.2%     | 81.4%     | 78.4%    | 80.4%     | 83.7%     | 81.7%     | 79.6%    |
| Trent  | 93.1%     | 87.7%    | 88.6%     | 88.1%     | 88.1%     | 87.4%    | 89.2%     | 90.0%     | 87.4%     | 86.2%    |
| West Midlands South                                | 93.7%     | 89.1%    | 92.0%     | 91.6%     | 88.5%     | 87.9%    | 89.3%     | 89.5%     | 91.8%     | 94.3%    |
| West Yorkshire                                     | 93.6%     | 90.8%    | 90.2%     | 90.1%     | 91.8%     | 90.7%    | 90.1%     | 91.7%     | 89.7%     | 89.8%    |
| England total                                      | 92.9%     | 87.8%    | 87.6%     | 87.1%     | 86.7%     | 86.3%    | 87.5%     | 88.1%     | 87.1%     | 86.7%    |

# One region's data

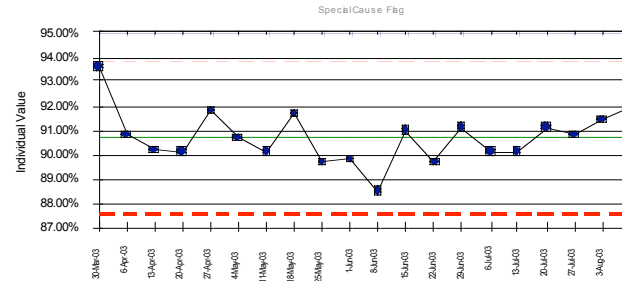
West

|       |
|-------|
| 93.6% |
| 90.8% |
| 90.2% |
| 90.1% |
| 91.8% |
| 90.7% |
| 90.1% |
| 91.7% |
| 89.7% |
| 89.8% |
| 88.5% |
| 91.0% |
| 89.7% |
| 91.1% |
| 90.1% |
| 90.1% |
| 91.1% |
| 90.8% |
| 91.4% |
| 91.9% |



The math is so simple, it would astound  
you

Region 28



Current performance: 90.7% [87.6 – 93.8]

Two consecutive weeks can differ by 3.9

The process *tells you* what these number are!

[Sorry if you don't "like" them]

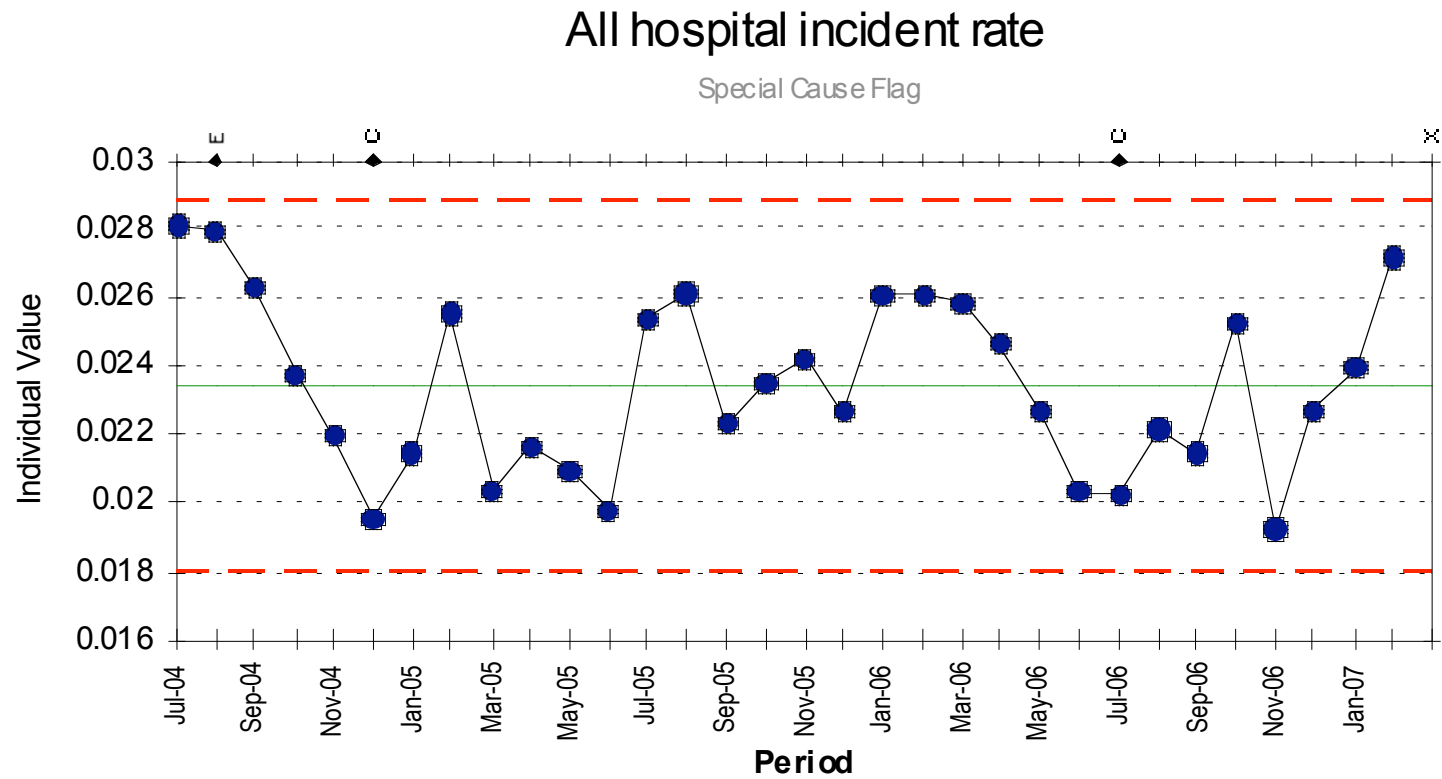
# Transition to More “Advanced” Skills

- From:
  - Colors & Faces & Drawing circles
  - Bar graphs, trend lines
- To:
  - “Plotting the dots! ”
  - Counting up to “8”
  - Subtracting two numbers
  - Sorting a list of numbers
  - *Asking better questions!*
  - *Reacting appropriately to variation!*

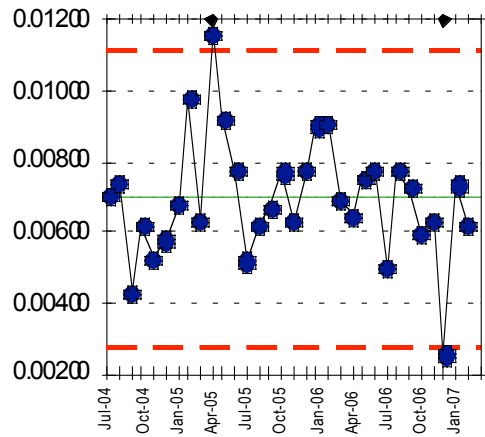
# Key Benefits of Efficient Analysis / Display

- 80% reduction in monthly corporate financial reports
- 50% reduction in monthly senior management meeting time
- 60% reduction in daily pounds of published performance reports (“Backup data”)

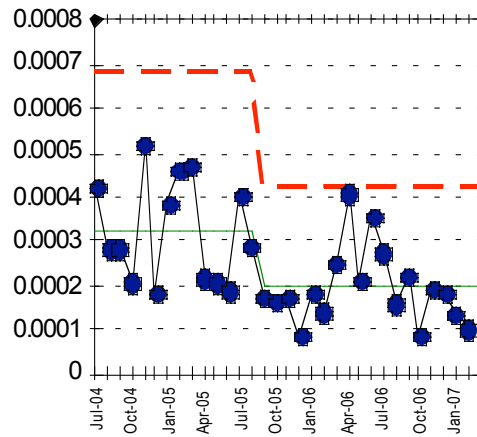
# Example: "Safety"



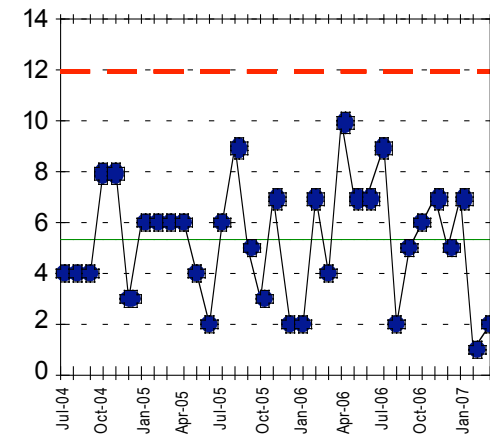
Complaint rate per admission



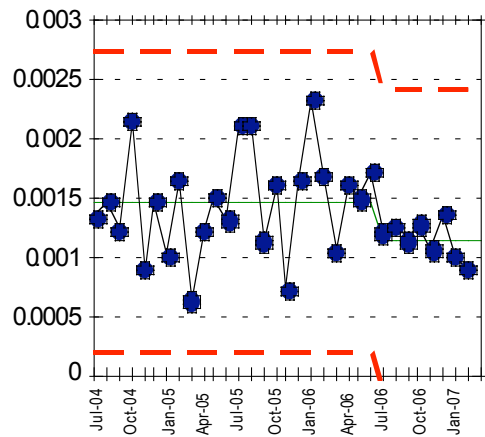
Pressure Ulcer Rate



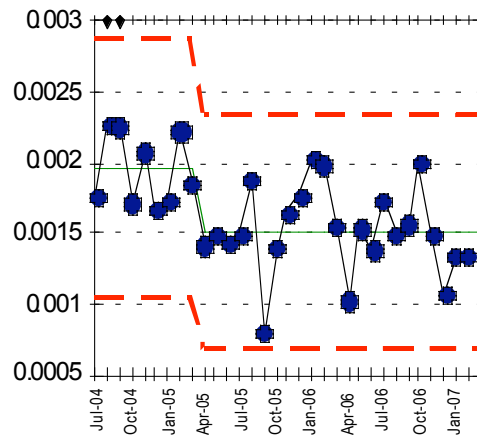
Total Falls



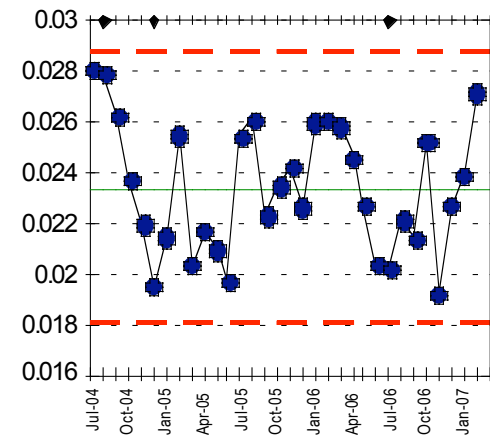
Bacteraemia rate



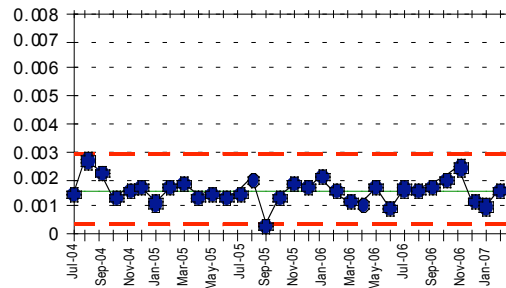
All Hosp\_Med\_err\_rate



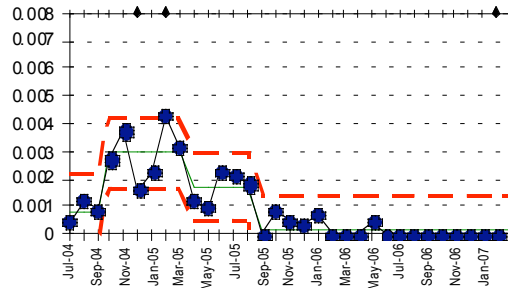
All hospital incident rate



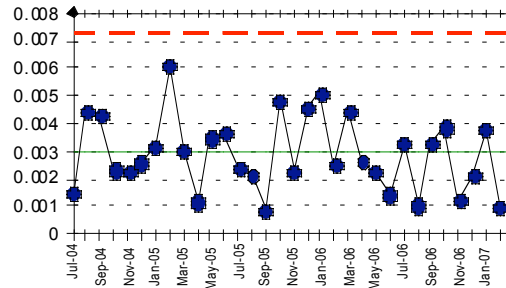
H1\_Med\_err\_rate



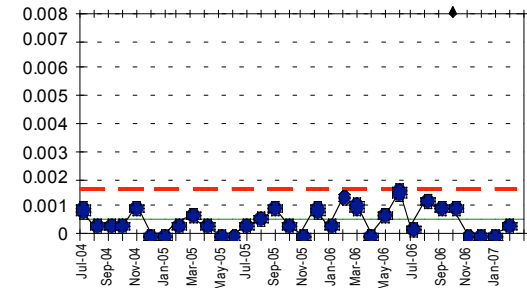
H2\_med\_err\_rate



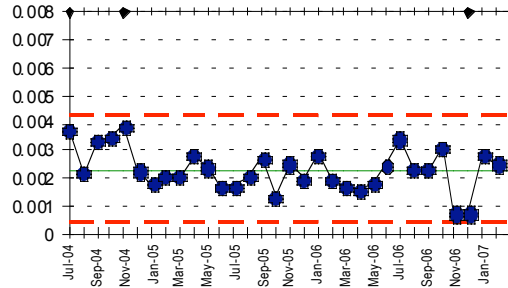
H3\_med\_err\_rate



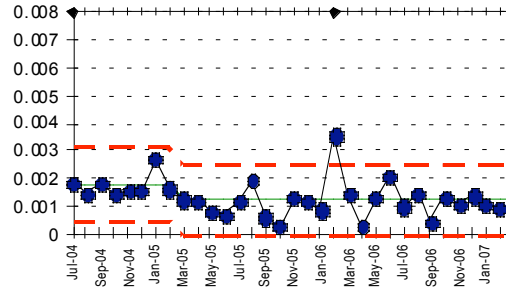
H4\_med\_err\_rate



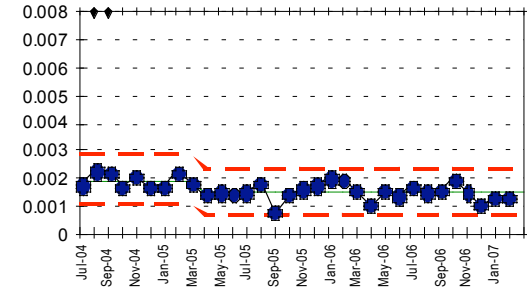
H5\_med\_err\_rate



H6\_Med\_err\_rate



All Hosp\_Med\_err\_rate

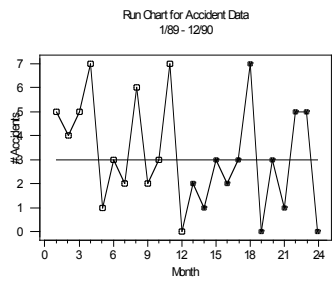


# Not as passive as an auto dashboard

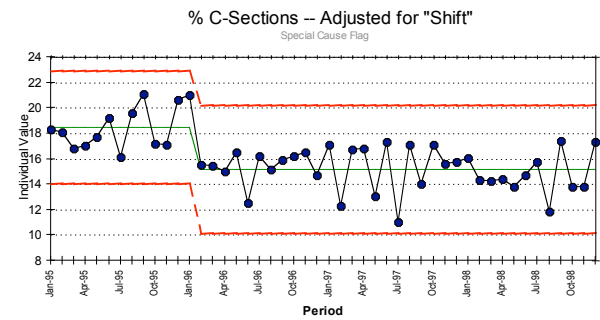
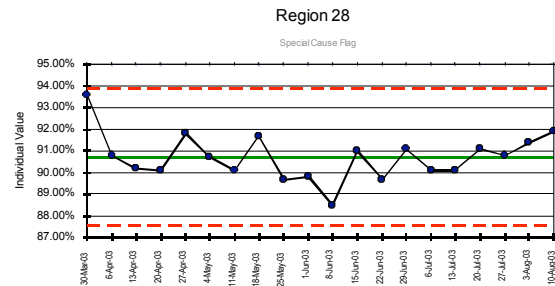
- The “cascaded” measures are being monitored pro-actively



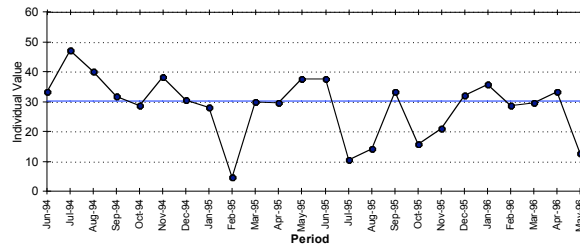
# ...or this?



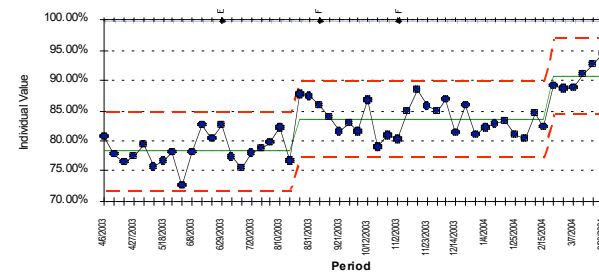
(Median = 3)



%Vfib



% Total seen < 4 Hours  
Special Cause Flag



# Linking Performance to Strategy

- WHAT are we going to do?
- WHOM will we do it for?
- WHY should customers buy from us?
- WHERE will we place our emphasis in products and markets?
- Core: HOW are we going to bring about the WHAT, WHO, WHY, and WHERE?
  - Systems and structures

# 18 Pounds?!

- Integrated information = Integrated behavior
- Does daily infrastructure reflect strategy?
- Is planning improving?
- Is human resource management improving?
- Is “strategy” for achieving strategy being discussed instead of “drawing circles”?

# 3 Questions

- 1. Sound measures that ensure that the right things are being monitored,
  - “Are we doing the right things right?”
- 2. A total measurement system—not a collection of unrelated (and potentially counterproductive) measures,
- 3. Performance management process
  - Converts data into intelligent action at the appropriate level.
  - Not “establish measures,” but manage as a “system”

# Not “measures,” but “management”

- “Are we doing the right things right?”
- A total measurement system
  - Not an “unbalanced rubbish heap” of operational measures
- A PROCESS for converting the data into intelligent (and appropriate) action at the appropriate level

# KEY Emphases

- It **MUST** be based in strategy
  - Eye towards future survival
  - Tracks “transition” from current state
- Strategy **MUST** be stated as a cause-and-effect hypothesis
  - Links desired outcomes with drivers
  - Projection of cause-and-effect linkages required to achieve future state
- **CRITICAL** variables
  - What are the 20% of the figures that account for 80% of the crucial decisions?
  - 25% of scorecard may need data development

## A hidden benefit...

**Coming up with a good solid set of metrics and actually using it to manage will save thousands of hours of time wasted reviewing charts and graphs in meetings and reading reports on statistics that do not really matter...Armies of employees do nothing but collect, summarize, and report data. Armies of managers and technical professionals spend time reviewing these data and attempting to pull out something meaningful from the mass of charts they receive each week...**

# Additional MGB Benefits

- An increased ability to focus on both the long- and short-term success of the organization,
- A better balance between meeting the needs of customers, shareholders, and employees,
- A way to make the vision and values real to employees and to track progress toward achieving the vision and living the values.

**“If we’re actually trying to do  
the wrong thing, we may  
only be saved from disaster  
because we are doing it  
badly.”**

**--David Kerridge**

# Start here...

- Brown, MG
  - *Beyond the Balanced Scorecard: Improving business intelligence with analytics*. Productivity Press, January 2007.
  - *Winning Score: How to design and implement organizational scorecards*. Productivity Press Inc., 2000.
- American Society for Quality (ASQ) Statistics Division. *Improving Performance Through Statistical Thinking*.
- [Kaplan RS & Norton DP. *The Balanced Scorecard: Translating strategy into action*. Harvard Business School Press, 1996 – Not the easiest read]
- Joiner B. *Fourth Generation Management: The New Business Consciousness*. New York, NY: McGraw-Hill, Inc., 1994.
- Wheeler DJ. *Understanding Variation: The Key to Managing Chaos*. Knoxville, TN: SPC Press, Inc., 1986.
- [My book will be published later this year...]