 Bringing Your Board Beyond “Stoplight” Scorecards

Dan Watson & Valerie Craig

Tuesday December 11th
9:30 AM &
11:15 AM
Nothing to disclose

- Dan Watson and Valerie Craig today have no relevant financial or nonfinancial relationship(s) within the services described, reviewed, evaluated, or compared in this presentation.
Objectives

• Discuss how to develop a systems-based approach for selecting and prioritizing key strategic organizational metrics

• Develop data displays that include systems-based data analysis and improvement science to share with board members and executive leaders

• Identify “bad habits” of performance measurement tools and how they negatively influence leadership’s ability to make decisions
Disclosures

We have no relevant financial disclosures.

We would like to disclose that we are no longer employed by Methodist Health System.

As a result, no Methodist data, processes, nor assets will be shared in this presentation.
PREPARING FOR THE DISCUSSION
Subjectivity of Using Data

“In God we trust; all others bring data”
...that we trust.

“Without data you’re just another person with an opinion”
...with data...you have both. And we still have ours.

W. E. Deming

Dan
Ladder of Inference

- Action
- Beliefs
- Conclusions
- Assumptions
- Meanings
- Select
- Observe

All information
A woodsman was once asked,

“What would you do if you had just five minutes to chop down a tree?”

“I would spend the first two and a half minutes sharpening my axe.”
We are all silly humans

TWO REASONS I DON'T TRUST PEOPLE

1. I DON'T KNOW THEM
2. I KNOW THEM
Check focus of discussions
Role of Senior Leadership
Establish a mutual [data] purpose

why?

so what?

what?
Orient & educate on content & data

How does data fit into the improvement framework you use?

What does variation mean to the organization?

How will your board see data turned into action?
Set expectations for discourse

- negotiation
- iteration
- conflict
- uncertainty
- naïve optimism
TRUST

SHARED PURPOSE

RESPECTED EXPERTISE

MUTUAL STRATEGY
SELECTING & PRIORITIZING METRICS
The Price of Admission
Manage to the Level of Interest

• Macro-systems
  • System-level, facility, region

• Meso-systems
  • Service line, division, department

• Microsystems
  • Unit, clinic, surgical team
Many Recipes, Same Ingredients

Broad Availability of Certain Clinical Indicators
+
High Degree of Public Interest in Healthcare Delivery
+
Emergence of Algorithms as Strategic Differentiators

Business Case to Create Unique Healthcare Scores
Measures of “Best Fit”

- Find measures that are relevant to as many strategic priorities as possible

- Keeps the narrative simple, avoids redundancy and complexity

- Roughly measure the right thing, not precisely measure the wrong thing
Aggregation Methods

• **Individual Patient Data to Population**
  - Average, median, distribution [percentiles] of patients: Cost, Time, Scores, etc.
  - Percent conforming: Protocol-driven care
  - Count of events: Falls, Mortality, ADEs, etc.

• **Micro to Meso to Macro**
  - Numerators and denominators summed across units
  - Overall averages, medians
  - Average unit performance

• **Aggregating Across Different Measures**
  - Staging systems
  - Build composite measures [VBP, Star Ratings] or indices [weighted averages, weighted z-scores]
Define Once

• Connect definition to “the why”

• Document assumptions & decisions

• Orient to reference sections repeatedly
Put the metric selection/definition discussion in a parking lot by scheduling "routine maintenance"

- Review validity of existing measures
- Update definitions & adjustment methods
- Contemplate addition/deletion of metrics
CREATING DATA DISPLAYS USING SYSTEMS MEASUREMENT
Dogbert Consults

You need a dashboard application to track your key metrics.

That way you'll have more data to ignore when you make your decisions based on company politics.

Will the data be accurate?

Okay, let's pretend that matters.
Why is it important to you?

What do your current tools fail to do?

How would incorporating variation advance discussions?

My shoulder doesn’t hurt, but my face does...
Balestracci’s Profound Law of Numbers

Given a set of numbers,
- One will be the LARGEST, one will be the smallest,
- 10% will be the top (and bottom) deciles and
- 25% will be the top (and bottom) quartiles –
- And the biggest difference between any two months will be the biggest difference since…
  …the last biggest difference that happened
[my] **Key Goals**

- Reduce frequency of conversational “False Positives”
- Provide context that transcends anecdotes
- Separate internal performance from external forces
- Direct action
the traffic example:

Knowing these numbers, how would it change your short & long-term behavior if…

…it took you 17 minutes one day

…it an overnight ice storm is in the forecast.

…you had a really important meeting first thing
Control charts add a time element to better assess patterns.
Ask not what your chart can do for you, ask what you can do with your chart.
What is the message?

Can we better distinguish "normal variation" from "special causes"?

A definition of "outlier" points

Recognizes patterns of performance

Puts context around point-to-point changes
Balancing Type 1 and 2 Errors

Can we intentionally manage our risk of false conclusions?

False Negative [Type II Error]

False Positive [Type I Error]

“Sigma” of decision level

Nowhere near scale or scientific. For discussion purposes only.
Pivoting Towards Action/Analyses
if needed

**Special Cause**

An improvement statement might be…

Patterns in our data suggest that something has impacted our process and we want to learn how to reverse [or spread] the impact.

**Common Cause**

The level [or variation] in performance is consistent, but we want to improve [or spread].

**Key considerations for further analysis…**

- Validate timing and nature of impact with process owners
- Re-calculate limits with new knowledge to best aggregate “special” outcomes
- Aggregate full stable state of outcomes
- Segment by key dimensions identified by process owners & search for patterns within
Key Goals

- Reduce frequency of conversational “False Positives”
- Provide context that transcends anecdotes
- Separate internal performance from external forces
- Direct action
All you need to know about pyramids – in the only helpful pie chart ever.

Fascinating chart showing the strong correlation between the Shanghai Composite Index and a map of Virginia.
Power of Data Visualization

Guides
- Prioritizes
- Analyzes

Clarifies
- Context
- Data Decisions

Directs
- Discussion
- Action

Using...
- Space
- Sequencing
- Coloration
- Ink
- Resolution
- Inclusion / Exclusion
Design for Resolution

“Information overload is a **design problem**, not a **content problem**”

~Edward Tufte (practically everything he’s done)
Remove uninformative ink
“Demote” Supporting Ink

- Put documentation of definitions, assumption, etc. within reach, but not front and center.
- Offer detailed context upon request
- Use questions from discussion to guide content here
Choose Wisely...
<table>
<thead>
<tr>
<th>Title</th>
<th>Most Recent</th>
<th>YTD</th>
<th>Target</th>
<th>Benchmark</th>
<th>Performance</th>
<th>Alert Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Mortality</td>
<td>0.62</td>
<td>0.72</td>
<td>0.70</td>
<td>0.70</td>
<td>Higher than</td>
<td>1.77</td>
</tr>
<tr>
<td>[Observed to Expected, ▲ is better]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Safety Indicator Composite Score</td>
<td>0.06</td>
<td>0.28</td>
<td>0.13</td>
<td>0.08</td>
<td>Higher than</td>
<td>0.456</td>
</tr>
<tr>
<td>[Composite Score, ▲ is better]</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Drug Resistant Staph Infection [MRSA] Rate</td>
<td>1.31</td>
<td>0.87</td>
<td>0.75</td>
<td>0.00</td>
<td>Higher than</td>
<td>1.45</td>
</tr>
<tr>
<td>[Standardized Infection Ratio, ▲ is better]</td>
<td></td>
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</tr>
<tr>
<td>Patient Satisfaction</td>
<td>82.25</td>
<td>72</td>
<td>80</td>
<td>90</td>
<td>Lower than</td>
<td>84.21</td>
</tr>
<tr>
<td>[Inpatient Overall Percentile, ▲ is better]</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Length Of Stay</td>
<td>4.30</td>
<td>4.8</td>
<td>4.0</td>
<td>3.5</td>
<td>Higher than</td>
<td>6.01</td>
</tr>
<tr>
<td>[Average Days, ▲ is better]</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Operating Margin</td>
<td>4.1%</td>
<td>4</td>
<td>4.50%</td>
<td>5.00%</td>
<td>Lower than</td>
<td>4.57%</td>
</tr>
<tr>
<td>[System-wide, ▲ is better]</td>
<td></td>
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</tr>
<tr>
<td>Employee Turnover</td>
<td>10%</td>
<td>11%</td>
<td>8%</td>
<td>8%</td>
<td>Higher than</td>
<td>13%</td>
</tr>
<tr>
<td>[System-wide, ▲ is better]</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Change since last reporting:
- Significantly Higher ▲
- No Different ▲
- Significantly Lower ▼

Targets:
- As defined by Senior Leadership for FY2019

Sparkline Legend
- Positive Shift
- Interpret with Caution
- Negative Shift
# Key Metric Definitions & Supporting Information

<table>
<thead>
<tr>
<th>Title</th>
<th>Most Recent Value</th>
<th>Sparkline TimeFrame</th>
<th>Key Metric Definitions</th>
<th>Data Collection Type</th>
<th>Reported?</th>
<th>Strategic Pillar</th>
<th>Responsible Executive</th>
<th>Metric Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Mortality [Observed to Expected, + is better]</td>
<td>Nov-18</td>
<td>Dec-16 to Nov-18</td>
<td>Measures the rate of patients who expire in our hospitals as compared to rates that could be expected in similar patient populations. 1.0 is considered &quot;expected&quot;, and lower scores indicate better performance. Data is pulled from &quot;Comparative Data Reporting Tool&quot;, hospice patients excluded. 2018 CMS risk adjustment methodology used. Data updated as of Dec 09, 2018.</td>
<td>Administrative Coding/Billing Data</td>
<td>Indirectly [disease-specific mortality is a component of many public programs]</td>
<td>Clinical Excellence</td>
<td>Dr. Julius Pepper, Chief Medical Officer</td>
<td>Melanie Hammer, System Quality Director</td>
</tr>
<tr>
<td>Patient Safety Indicator Composite Score [Composite Score, + is better]</td>
<td>Nov-18</td>
<td>Dec-16 to Nov-18</td>
<td>Measures the rate of 10 indicators of preventable harm to patients in our hospitals using a proprietary algorithm developed by the Agency for Healthcare Research &amp; Quality. Component measures are available by request. Data is pulled from &quot;Comparative Data Reporting Tool&quot;’s VRUM Indicator Engine: PSRO version 7.2. No manual exclusions. Data updated as of Dec 09, 2018.</td>
<td>Administrative Coding/Billing Data</td>
<td>Yes [disease-specific mortality is a component of many public programs]</td>
<td>Clinical Excellence</td>
<td>Dr. Julius Pepper, Chief Medical Officer</td>
<td>Melanie Hammer, System Quality Director</td>
</tr>
<tr>
<td>Drug Resistant Staph Infection [MRSA] Rate [Rate per 100 patient days, + is better]</td>
<td>Oct-18</td>
<td>Nov-16 to Oct-18</td>
<td>Measures the rate of hospital-acquired Methicillin-resistant Staphylococcus aureus (MRSA) per 100 patient days. Data is pulled through surveillance of our Infection Prevention experts using Centers for Disease Control (CDC) guidelines. MRSA colonizations and bloodstream infections are included in this rate. Data updated as of Nov 22, 2018.</td>
<td>Pathology data &amp; clinical review</td>
<td>Indirectly [risk standardized rates are a component of many public programs]</td>
<td>Clinical Excellence</td>
<td>Dr. Julius Pepper, Chief Medical Officer</td>
<td>Melanie Hammer, System Quality Director</td>
</tr>
</tbody>
</table>
BAD HABITS

Jeopardizing your reports one misstep at a time
I know there’s a forest in here somewhere…

Burying the Lead
Overcomplicate the story

Think different

Regard a subject in an original way

Use your mental capabilities to achieve an idea, opinion and/or belief, in a way that differentiates from other individuals of the human species

Through electrical pulses in the encephalon located inside the cranium which you possess, concede a vision about a certain topic which is recommended not to be in any way equal to another living being's one, so that it becomes disparate, more specifically, unique.
Optimism....is neither weak nor naive. It can be tough and pure and earned just as clearly as any brooding existential despair.

— Charlie Pierce —
Oversimplify
The greatest trick the Devil ever pulled was to allow analysts to right click on charts to create a trend line.

– Dan
Overextend
Guess at understanding

If you look for the $x$ in people expecting to find it, you surely will.
~~Abraham Lincoln *

* Not actually said by Abraham Lincoln. $X$ = “bad” in Disney’s *Pollyanna* [1960]
SUMMARY & CONCLUSION