

MULTIPLE KEY PERFORMANCE METRICS DASHBOARD.

Alistair Williams

AGENDA.

- Scenario – Big Picture
- Specifics
- Related Scenarios And Additional Functionality
- How People Use The Dashboard
- Why This Works
- Alternative Approach
- Commentary – Steve Wexler

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SCENARIO – BIG PICTURE.

- You are tired of **maintaining** dozens of different dashboards that address **various aspects** of your business, so you decide to build a **single master dashboard** with **hundreds** of key performance indicators (**KPIs**) that monitor the health of the organisation.
- The dashboard needs to be **compact** and allow **stakeholders** to **easily focus** on the items that are pertinent to them and see how things fit with the **big picture**.
- The dashboard must show, **at a glance**, if you have met your **targets** for the current period as well as if you are consistently **making** or **missing** your targets.
- You also need to allow people to **zoom in** and see details about a **particular KPI**.

SPECIFICS.

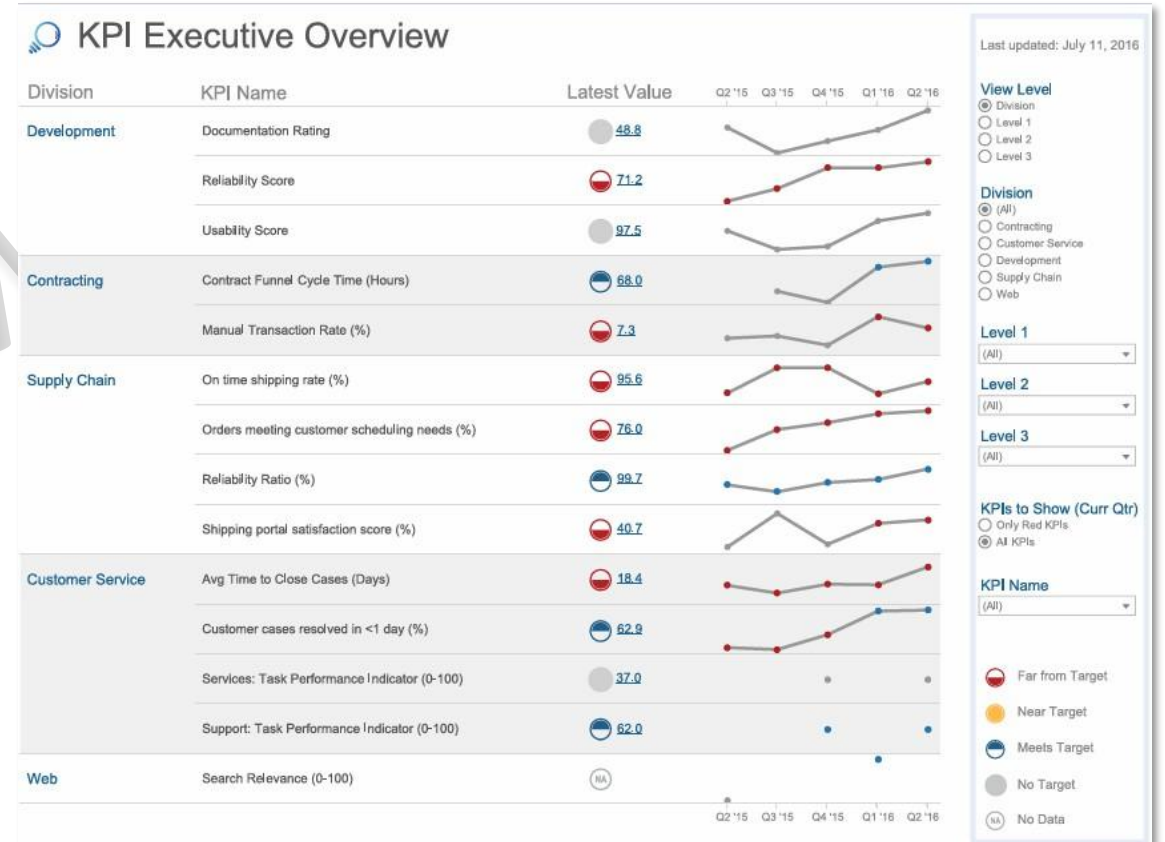
- You need to show **actual values versus targets** for all areas of the business with many ways of measuring **performance**.
- You want to make it **easy** to show only the areas of the business that are **underperforming**.
- Your company does quarterly reviews and needs to see the current quarter along with the **trends** from proceeding ones.
- Your company has set **thresholds** and requires **measured values** to stay within a given percentage above or below that goal.

RELATED SCENARIOS AND ADDITIONAL FUNCTIONALITY.

- You need to **navigate** all levels of an organisational hierarchy to **serve managers** at those levels.
- You need to provide **easy access** to **measurement definitions** and **goal values** for a particular **KPI**.
- You want to show the **numbers behind the calculations** like ratios or percentages in a detail view.
- You need a means of getting to more **specialised views** unique to a business unit of **KPI**.

HOW PEOPLE USE THE DASHBOARD.

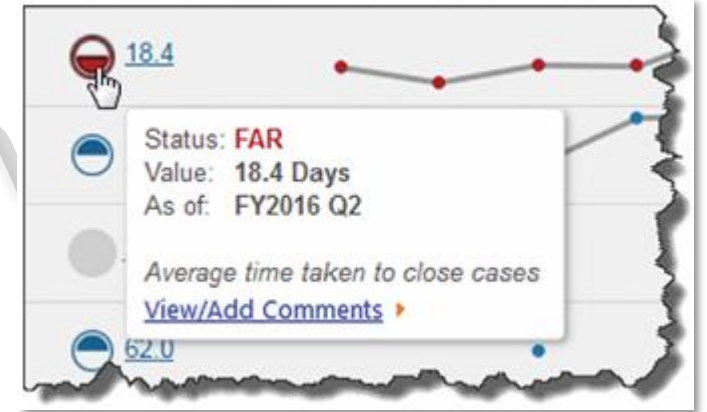
- The dashboard shows KPIs for many levels of hierarchy within an organisation.



HOW PEOPLE USE THE DASHBOARD.



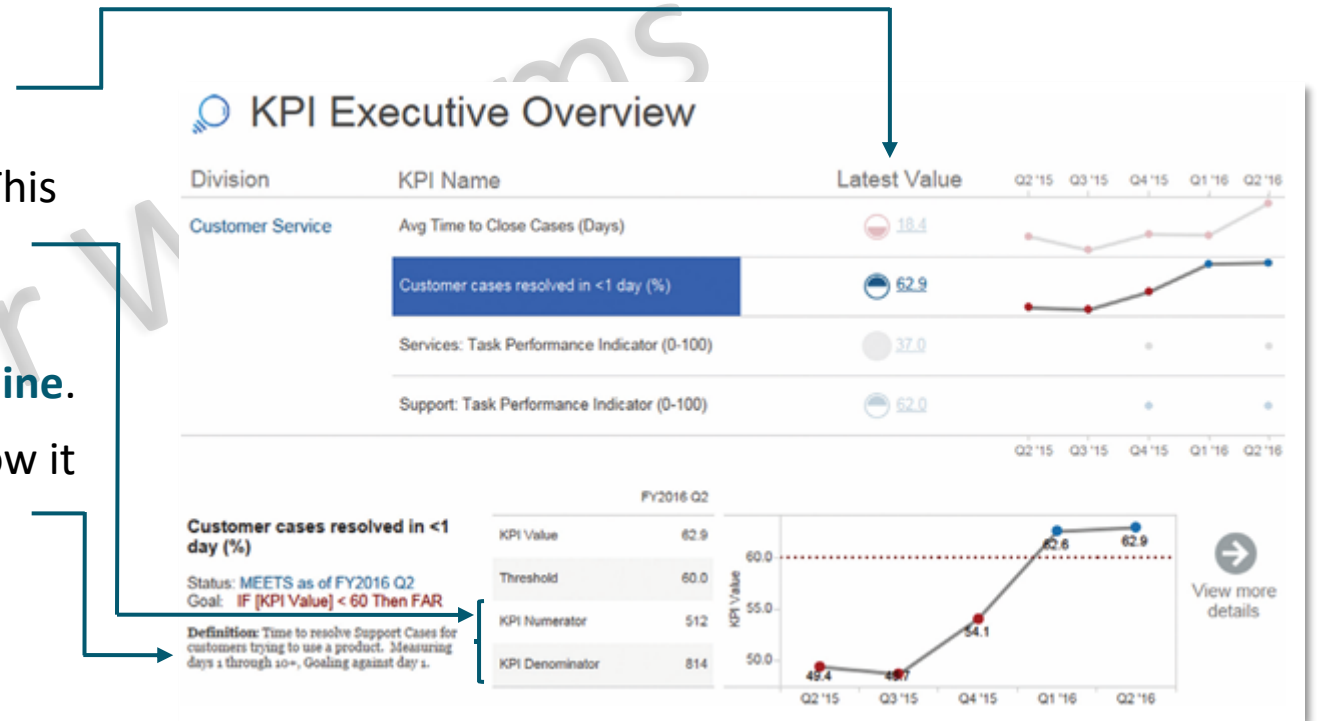
Division	KPI Name	Latest Value
Development	Documentation Rating	88.8
	Reliability Score	73.2
	Usability Score	87.5
Contracting	Contract Funnel Cycle Time (Hours)	68.0
	Manual Transaction Rate (%)	7.3
	On time shipping rate (%)	95.6
Supply Chain	Orders meeting customer scheduling needs (%)	75.0
	Reliability Ratio (%)	99.7
	Shipping portal satisfaction score (%)	60.2
	Customer Service	Avg Time to Close Cases (Days)
Customer Service	Customer cases resolved in <1 day (%)	52.9
	Services: Task Performance Indicator (0-100)	37.0



- Using **filters** along the **right** side of the dashboard the user can **select** a division and related business levels for his or her reporting needs.
- Filter** and **parameter** controls allow the user to focus on the KPI associated with a particular division and level within that division.
- The **left** portion of the dashboard then shows the business level and details based on the **view level selection**.
- Hovering over a shape shows a **tool tip** with a definition and link to a system where users can annotate facts relevant to the selected KPI.

HOW PEOPLE USE THE DASHBOARD.

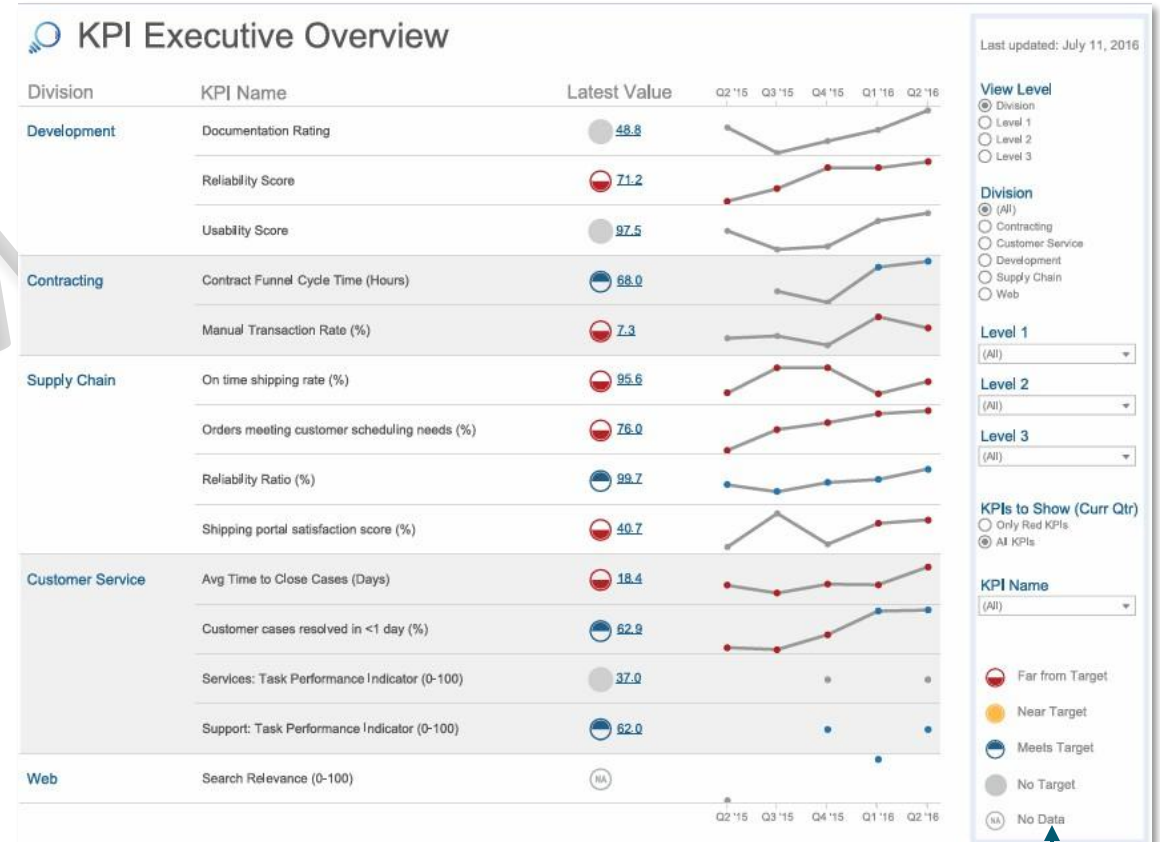
- When a user clicks a **KPI** name, a pane appears with **pertinent** details about that KPI.
- **Specifics** about the goal and whether the values are above or **below** a **threshold**.
- Details related to the current period's calculations. This example shows the cases resolved in one day (**numerator**) and the total cases handled (**denominator**).
- A **larger trend** view with the goal value as a **dotted line**.
- **Definition** of the selected KPI, which may include how it was **measured** or any **expectations** involved.
- A **link** to view more details on a separate dashboard designed specifically for the business unit KPI.



Selecting a KPI (in this example customer cases resolved in under one day) shows details about that KPI.

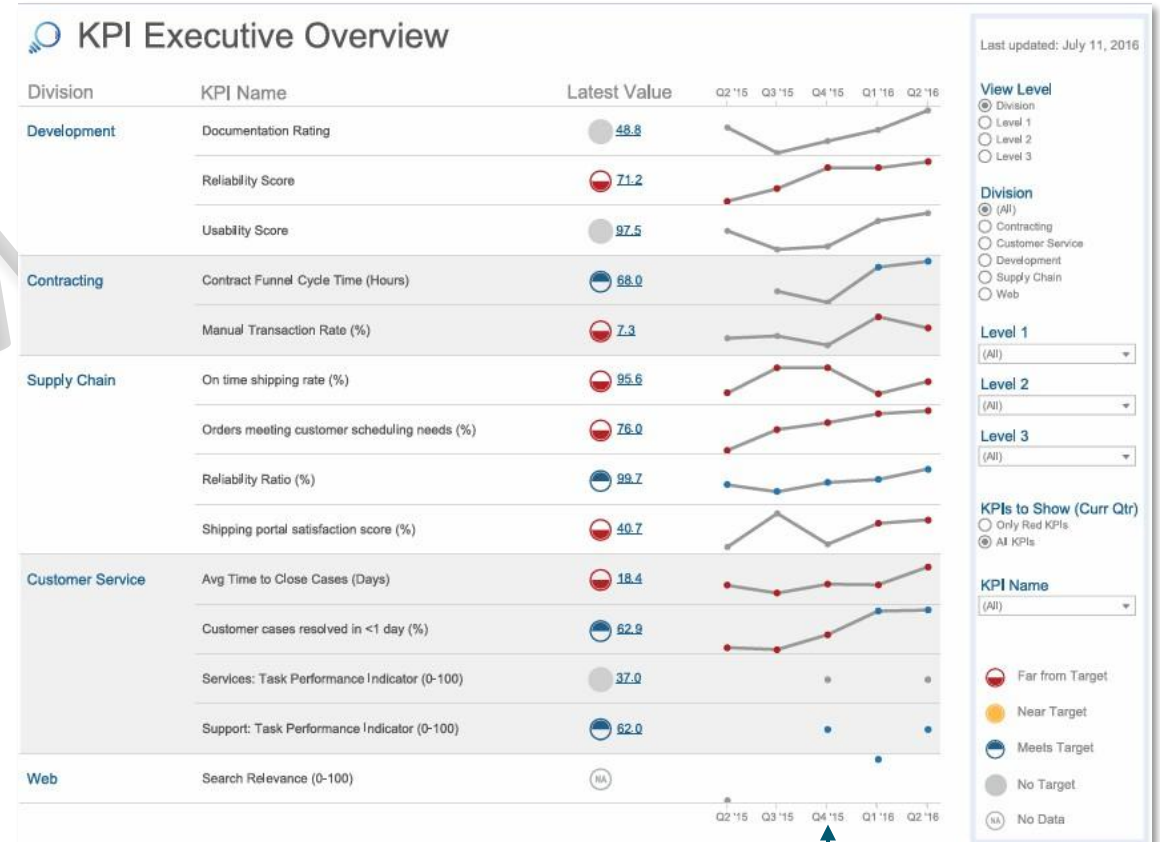
WHY THIS WORKS.

- **Shapes** add **context** for KPI values versus target.
 - **Circles** with filled areas above or below the centre show how the **current value** relates to the **target**.
 - The **different shapes** and the colour make it easy for the users to find **underperforming** business units.
 - **Grey coloured circles** show where **no target** is defined or where data is unavailable for the current period.



WHY THIS WORKS.

- **Sparklines** indicate performance **improvement** or **decline**.
 - This dashboard shows several KPIs with **no set target**.
 - For these KPIs, the goal is simply to **continue improving** each period.
 - **Trendlines** easily show **improvement** (or lack thereof) in those areas.
 - Where there is a set target, the trend shows the number of **successive periods** that the business did or did not **meet its goals**.
 - This gives **important** background to find out if a certain area is an ongoing concern or a **one-time problem**.



WHY THIS WORKS.

- **Business hierarchy** navigation serves multiple needs in **one view**.
 - Showing values for the **sublevels** in the **same view** as higher business levels helps users **diagnose points** of interest without **switching** back and forth among dashboards.
- **Filters** allow users to **focus** on KPIs that are **below threshold**.
 - With literally **hundreds of KPIs**, the filter shown to the right allows users to **focus** just on **KPIs** that are **below target** for the current period.

View Level

- Division
- Level 1
- Level 2
- Level 3

Division

- (All)
- Development
- Supply Chain

Level 1

(Multiple values) ▾

Level 2

(All) ▾

Level 3

(All) ▾

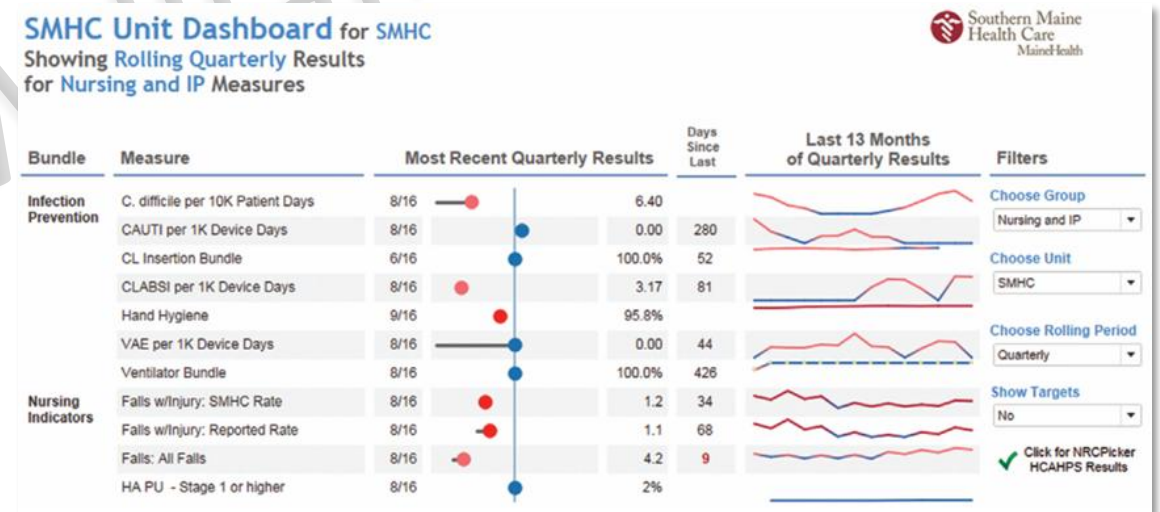
Division	KPI Name	Latest Value
Development	Reliability Score	71.2
Contracting	Manual Transaction Rate (%)	7.3
Supply Chain	On time shipping rate (%)	95.6
	Orders meeting customer scheduling needs (%)	76.0
	Shipping portal satisfaction score (%)	40.7
Customer Service	Avg Time to Close Cases (Days)	18.4

WHY THIS WORKS.

- How do you **visualise** the **progress** towards a goal ?
 - In this dashboard we chose a variety of **circle icons**.
- To make **identification easy**, viewers must **learn** the colour and shape of each icon.
 - That's a **small disadvantage**, although not much of a burden for anyone using the dashboard regularly.
- Since it is a **KPI dashboard**, it should be used **regularly**.
 - The circles also take up **very little space**, which is a big **advantage**.

ALTERNATIVE APPROACH.

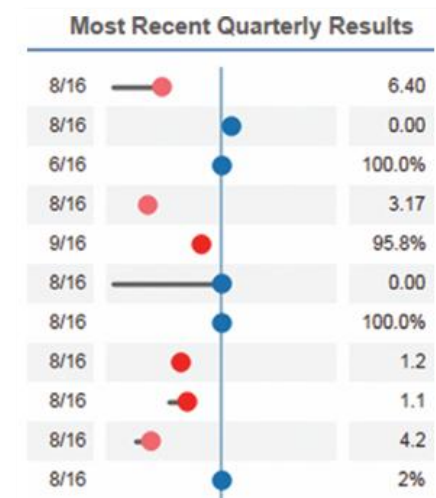
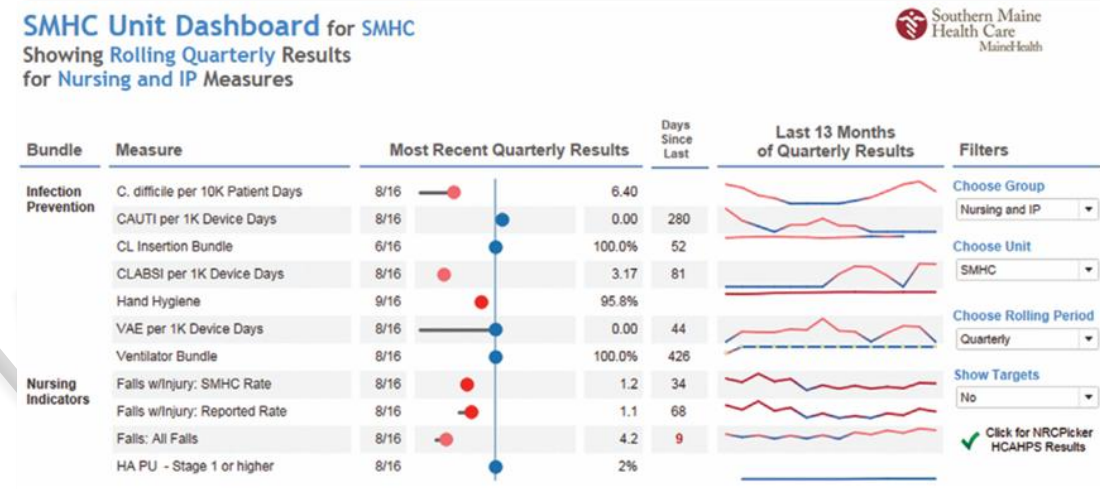
- Next, we propose an **alternative** approach on a similar KPI tracking dashboard.
 - This dashboard tracks occurrences of infection issues and nursing issues, such as the number of falls, number of cases of 'Clostridium difficile' etc.
 - There are major **similarities** to the first dashboard.



One row per KPI
Coloured sparkline showing trends
Allows lookup of exact values.

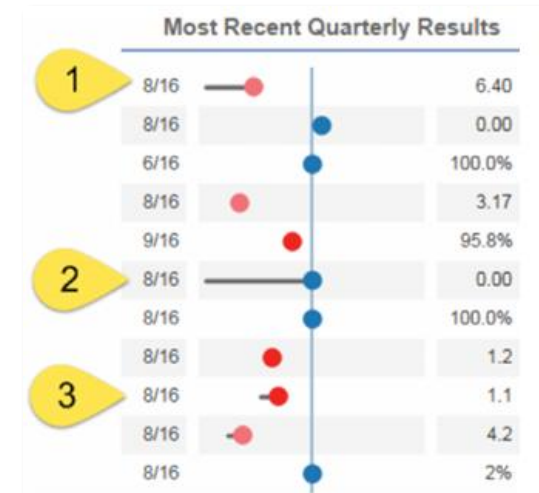
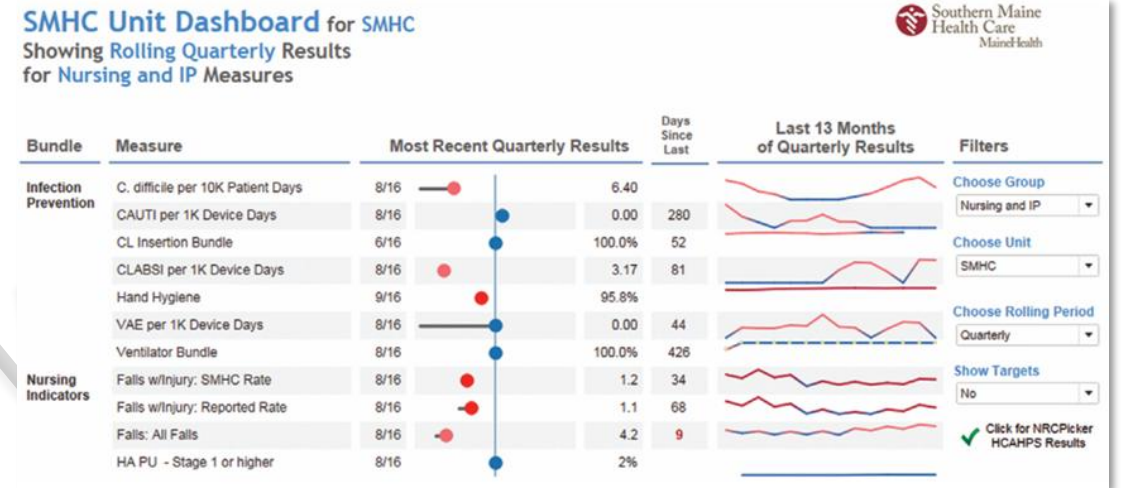
ALTERNATIVE APPROACH.

- The big difference is the **lollipop** in the **centre**, which is an interesting and **useful approach** to tracking progress.
- Here's how the **lollipop** components work:
 - The vertical **blue** line marks the target.
 - A circle to the **right** is meeting the target.
 - A circle to the **left** is underperforming.
 - **Blue** circles show targets that are performing above target.
 - **Red** circles indicate low-performing, high-priority measures compared to target.
 - **Pink** circles represent low-performing, lower priority measures.
- The **lollipop stick** shows **comparison** to the prior period (usually a month, sometimes a quarter).
- The stick runs from the previous period's performance level to the current period's circle.



ALTERNATIVE APPROACH.

- Let's see how the **lollipop** chart works.
 - The **circle** marked 1 is **pink**, indicating that it is not high priority for the group selected in this dashboard.
 - It is **underperforming**, but the lollipop stick indicates that it is **improving**.
 - The circle marked 2 is **blue**. It is **on target**, just.
 - The **lollipop stick** shows that there has been a very large **improvement** over the last period.
 - The circle marked 3 is **red**.
 - It's a **high-priority** target that is **underperforming** but has improved a little since the last period.



COMMENTARY – STEVE WEXLER.

- This dashboard **solves** a **major challenge**.
 - How do you **visualise hundreds of KPIs**?
 - One way is by **extensive filtering**.
 - Another way might be to pack all the KPIs in **tiny sparklines** on a huge screen.
 - Although they are valid design solutions, it might be worth asking a more fundamental business question.
- **Why does the business have so many KPIs?**
 - When **designing** dashboards, it is always worth while to challenge the design brief.
 - In this case, how will you **measure** whether the KPIs get looked at ?
 - I would recommend this business monitors which KPIs are **actually looked at**.
 - If many of the hundreds of KPIs are never looked at, I would recommend the business **reassesses** how we **measure success**.