



Best Practices to Create Impactful Healthcare Dashboards: Four Client Case Studies



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60% of healthcare CFOs want better dashboards and data visualizations to be able to inform strategic decisions.

“2019 CFO Outlook on Healthcare”

Introduction

According to the 2019 CFO Outlook on Healthcare, 96 percent of healthcare CFOs think that they should be doing more to leverage financial and operational data to inform strategic decisions.

And, over 60 percent want to be able to create better dashboards and visualizations, and be able to pull data from multiple sources into a single report.

A redefinition of value

Healthcare is experiencing a redefinition of “value” due to changing expectations of care quality, reimbursement models, and patient experience. Achieving new forms and levels of “value” requires a more sophisticated understanding of metrics, as well as more insight with less effort.

The CFO Outlook reveals that confidence in their ability to manage the financial impact of evolving business conditions has dropped.

And, because their environment is ever-changing, healthcare leadership teams need to manage a more comprehensive set of organizational performance dimensions.

The CFO’s, and his or her team’s, ability to leverage best practices in data analytics, reporting, and data visualization can greatly improve strategic and tactical decision making as business conditions change.

Building healthcare analytics dashboards on best practices

This white paper will walk you through four healthcare client case studies to demonstrate how to incorporate four best practices into your dashboards and data visualizations:

- 1. Alignment to Goals:** Ensuring that your dashboards and visualizations reveal the right insights to achieve your goals.
- 2. Choosing Dashboard Visualizations:** Creating strategic visuals that make absorbing key metrics easy while revealing the most valuable insights simply.
- 3. Telling the Right Data Story:** Delivering dashboard visuals on the most salient data points and conveying the most useful metrics for each user role.
- 4. Personalizing to Your Organization:** Tailoring dashboards and data visualizations to the unique needs of your organization, leaders, programs, and processes.

If you immediately apply this white paper’s recommendations, like our healthcare clients, you can create healthcare analytics dashboards that will empower your leaders to make better, faster strategic and operational decisions while enhancing trust in the data your team provides.

Case Study #1: Care Management Operational Efficiency

Our client had a cohort-centric care management program that needed to manage services and outcomes for high-risk, high-cost, chronically ill patients. The program had more potential patients than staff to accommodate and needed to streamline and scale their program within resource constraints.

Alignment to Goals: Using our [FAST Goals® methodology](#), we created a goal diagram (Figure 1) that helped the client focus effort towards their top two operational efficiency goals: optimizing their enrollment process and reducing care plan re-work. Achieving these goals would lead to improve logistics and reclaim needed capacity to manage care for more patients without increasing care management team size.

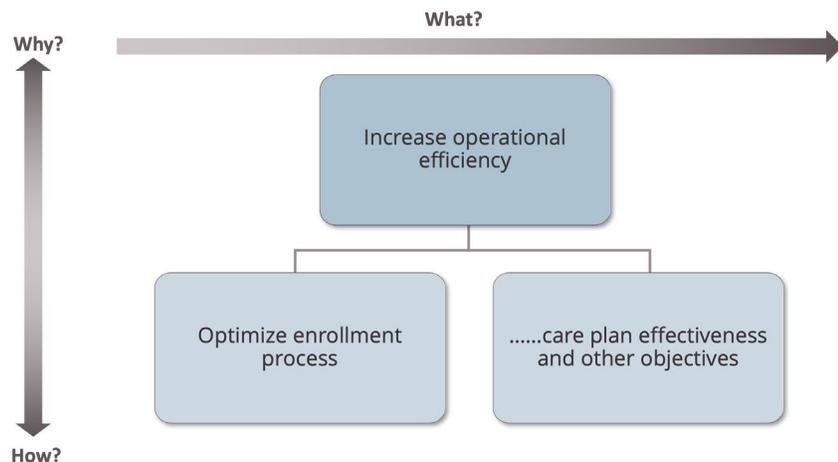


Figure 1: FAST Goals diagram focused on the client's top two care management operational goals.

Choosing Dashboard Visualizations: We needed to create a dashboard that could provide an “at a glance” view of key success and leading indicators that answered only the questions that matter in achieving their two goals.

The visualizations we recommended for this client (Figure 2) are descriptive, answering the question, “What is my status?” This dashboard provided key contributors to, and leading indicators of, their program’s overarching goal of operational efficiency.

- Nurse case load, indicated by nurse-to-patient ratio
 - Serves as a proxy for overall operational efficiency (cost/utilization)
- Cycle time to enroll and percent enrolled (aka conversion into program)
 - Indicates success of the goal to optimize enrollment
- Plan vs. actual interactions
 - Where gaps indicate a level of possible re-attempt or care plan re-work
- Quality of care plan goals
 - How S.M.A.R.T. are the goals?
 - A leading indicator of re-work avoidance
- Time to first outreach and retention
 - Selected leading indicators of success

41% of CFOs are not satisfied with how their benchmarks inform organizational decision making.

“2019 CFO Outlook on Healthcare”

Telling the Right Data Story: For this client, we had to ensure that the charts went beyond sharing the current status, alone, and provided insights into their complete story.

Figure 2 represents their dashboard:

The enrollment chart (top left) shows that total enrollment is stable and possibly growing. It shows the monthly number of enrollments and dis-enrollments, indicating possible churn from “startup” inefficiencies. The client discovered that they should see an improvement as “time to first contact” decreases.

The plan versus actual interactions chart (bottom right) indicates a consistent gap that raised questions for the client, including:

- Are we experiencing a capacity shortfall?
- Is this a sign of patient non-engagement?
- Are our onboarding engagement plans overly ambitious?
- How S.M.A.R.T. are our goals?

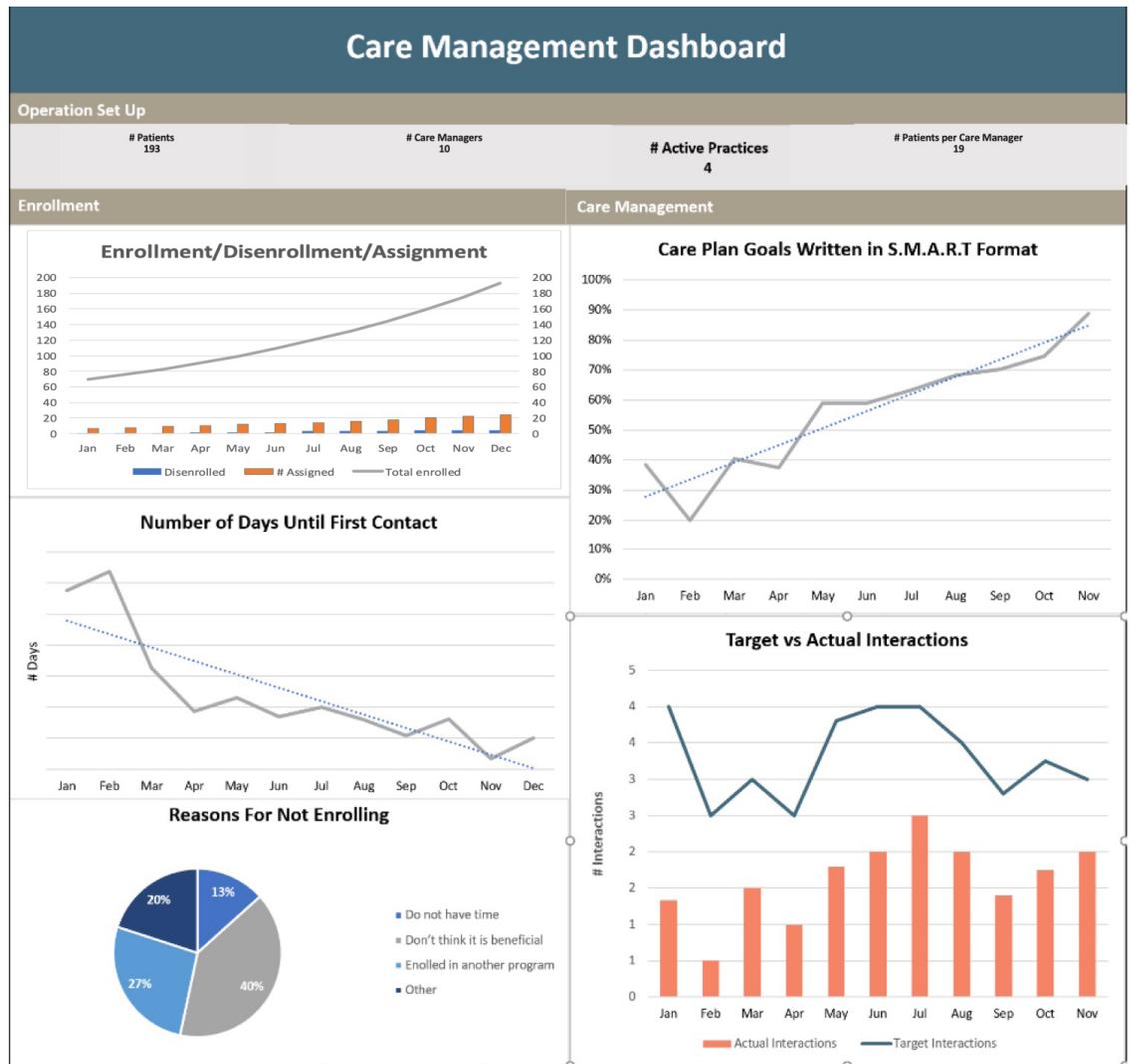


Figure 2: Care Management dashboard highlights member engagement levels with enrollment.

>60% of CFOs want to pull data from multiple sources into a single report.

“2019 CFO Outlook on Healthcare”

Personalizing to Your Organization: This client's goal was achieving operational efficiency within their care management program's staff capacity. Our goal was to tailor this dashboard to the unique needs of this healthcare team.

Their care management leadership wanted to be able to conduct analysis across six metric dimensions:

1. Planning and execution
2. Demand/capacity or Idle Time (the focus of Case Study #2 on page 7)
3. Process optimization or Cycle Time; driven by the Time-per-Task, Number of Tasks, and task re-work
4. Volume of Work Handled or Number of Patients Treated; adjusted for complexity
5. End-to-end or Overall View of Operations, indicating problems to address or key leverage points to speed up better outcomes
6. Underlying causes of sub-optimal performance as improvement projects unfold

Figure 2 (previous page) demonstrates how this unique dashboard delivers key metrics in a visualization that this client's team found useful and helped them hone in on successes, as well as areas to measure, adjust, and monitor closely.

Because dashboards can quickly become unwieldy, and lose usefulness if they become too complex, it's important for this client to revisit the [FAST Goals methodology](#) and diagram to ensure that their dashboards and visualizations answer the right questions and focus on priorities as they evolve and change.



Case Study #2: Workforce Optimization

This client needed to provide the right care with the right staff at the right place without an intolerable wait for the patient.

Their objective was to optimize the care delivery workforce, matching capacity to increasing patient demand. At face value, the client thought that this was about schedule management and utilization, but that undervalued the potential and the best approach to achieving their goals.

From an operational standpoint, their goal translated into managing cost and satisfaction. Overstaffing could accomplish the mission, but that would erode margins and, not necessarily, improve patient experience.

Alignment to Goals: Figure 3 depicts the FAST Goals process we carried out with the client, ensuring that the client's goals were clear and focused on the most salient areas that could impact cost, care, and experience.

1. Reduce and optimize cost basis
 - a. Sub-goals focus on staff composition, activity costs (indicating process), and idle time (indicating scheduling)
 - b. Allows for adjusting services as a means to optimize cost
2. Provide the right care in a timely fashion
 - a. Drills into the direct objective of scheduling logistics
 - b. Level demand by, for example, redirecting patients to alternate sites within acceptable geographies
3. Sustain and improve employee satisfaction
 - a. Focus on the scheduling aspects of satisfaction only, which are within the boundaries of this problem space

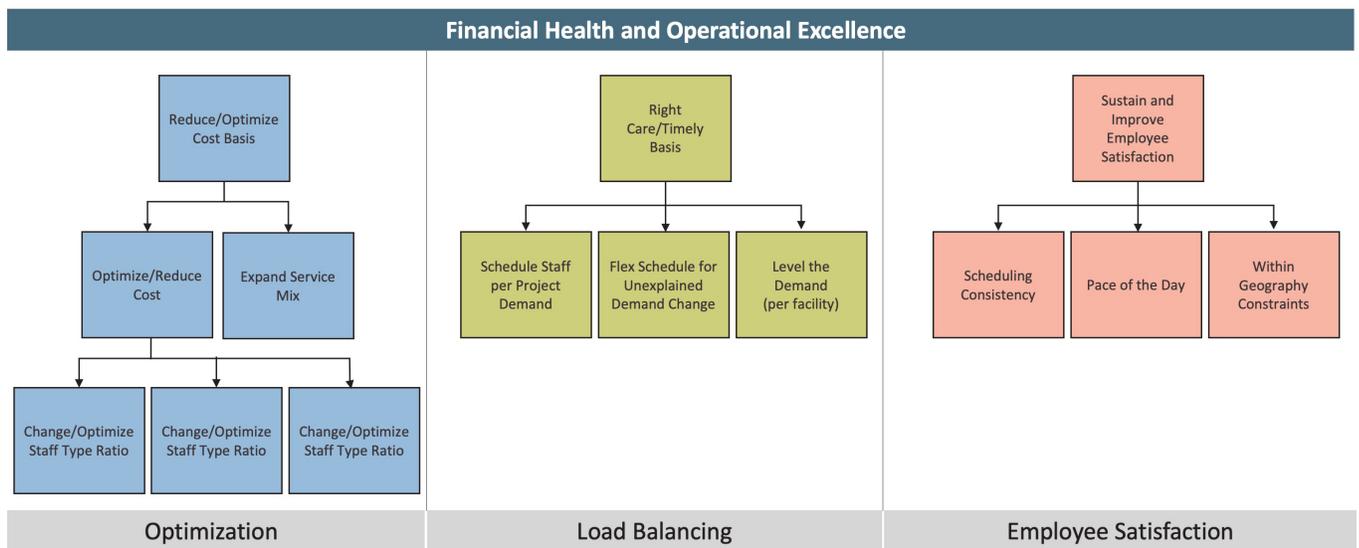


Figure 3: FAST Goals diagram illustrates the top-level objectives and the goals to realize the vision of care, cost, and experience.

~60% of CFOs lack access to clean, consistent, and trusted data, and want to be able to drill into reports to understand underlying details.

“2019 CFO Outlook on Healthcare”

Choosing Dashboard Visualizations:

We helped this client choose four data visualizations in Figure 4 (below) to zero in on the metrics that would best direct analysis and effort to achieve the overarching goals. We created visuals to represent the overall view, including demand (upper left), capacity by staff and facility, as well as employee satisfaction (bottom left).

Telling the Right Data Story:

Operational leadership wanted to access metrics that could, reliably and quickly, answer five key questions:

1. How much spare capacity have we had, month-to-month (all staff types blended, also facility capacity)?
2. How much of our capacity situation is driven by demand?
3. How is the combined demand/capacity situation affecting our cost? And, how is that affecting our revenue?
4. If we are significantly below or above capacity, how is it impacting employee satisfaction (and, ultimately, patient satisfaction)?
5. And, are the answers to all of these questions the same for all facilities?

In Figure 4, outright patient volume is the key driver, indicating that, as volume increases, the system can easily adapt through capacity management.

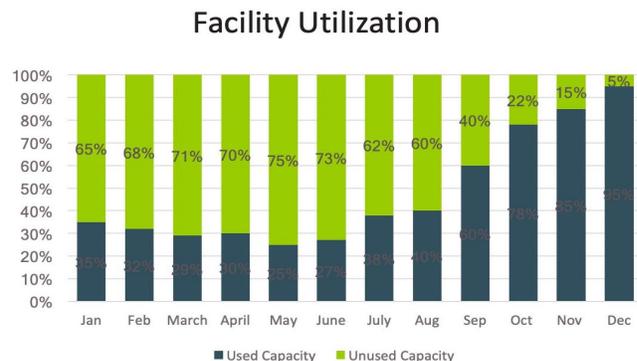
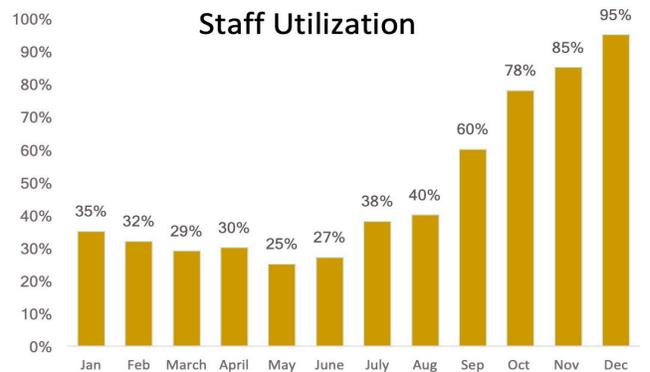
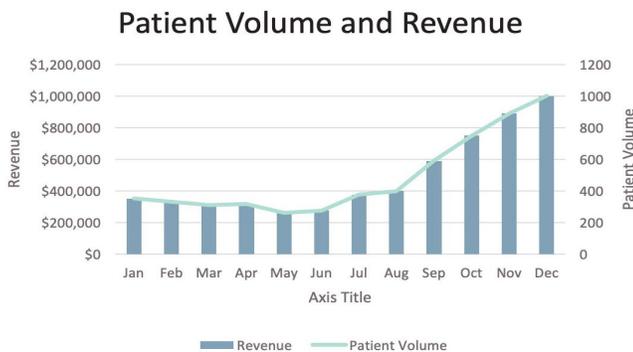


Figure 4: Workforce Optimization dashboard, highlighting connections among patient volume, capacity, and satisfaction.

Drilldowns were created to show facility-to-facility variations for each chart. This dashboard helped the client see how variations in demand affect capacity, utilization, and satisfaction. For instance, overall utilization might be 85 percent, but one facility could be working overtime while others have time to spare. This insight was crucial to their efforts to manage facility schedules and staffing.

Personalizing to Your Organization:

This client needed to optimize their workforce across a multi-facility healthcare organization. A single-facility scenario could also work by removing geographically-oriented sub-goals.

The FAST Goals diagram in Figure 3 covered all of the activities that optimize cost, as well as operations with real-time load balancing and employee satisfaction.

If an operational leader is unsure of where to focus, he or she should begin with creating a baseline of relevant measures. Start with improvement projects focused on addressing gaps in care or staffing. Here, [simulation analytics](#) may be a valuable tactic to road-test operational adjustments before implementation.

Regardless of the area needing improvement, a comprehensive healthcare analytics dashboard is still recommended. The example dashboard in Figure 4 is slightly broader, leaning towards a balanced scorecard.

Only 7% of CFOs are very satisfied with their performance management reporting, down from an already low 8% in 2018.

“2019 CFO Outlook on Healthcare”

Case Study #3: Payer Claims & Billing Processing

This client had multiple domains in their payer operational environment that they wanted to manage through better dashboards and visualizations, including enrollment, claims, billing, customer service (for members and providers), care management, as well as internal functions like finance, actuarial, underwriting, and informatics.

Alignment to Goals: Again, we used our FAST Goals methodology to help this client align their specific request to “report on acceleration of claims and billing processes” to their related business objectives.

Asking our “why” question revealed three foci. Specifically, this client wanted to ensure that their efforts towards growth, efficient operations, and customer satisfaction worked symbiotically as a three-pronged approach:

1. Increase market share
 - a. Focus on enrollment, having a cyclical dependence on customer experience
2. Accelerate claims and billing processing
 - a. Focus on several cycle times and re-work cycles (i.e. reduce appeals and grievances)
3. Enhance customer experience and satisfaction
 - a. Include the cyclical dependence on other processes and factors that could increase customer service calls
 - b. Improve call-handling performance metrics

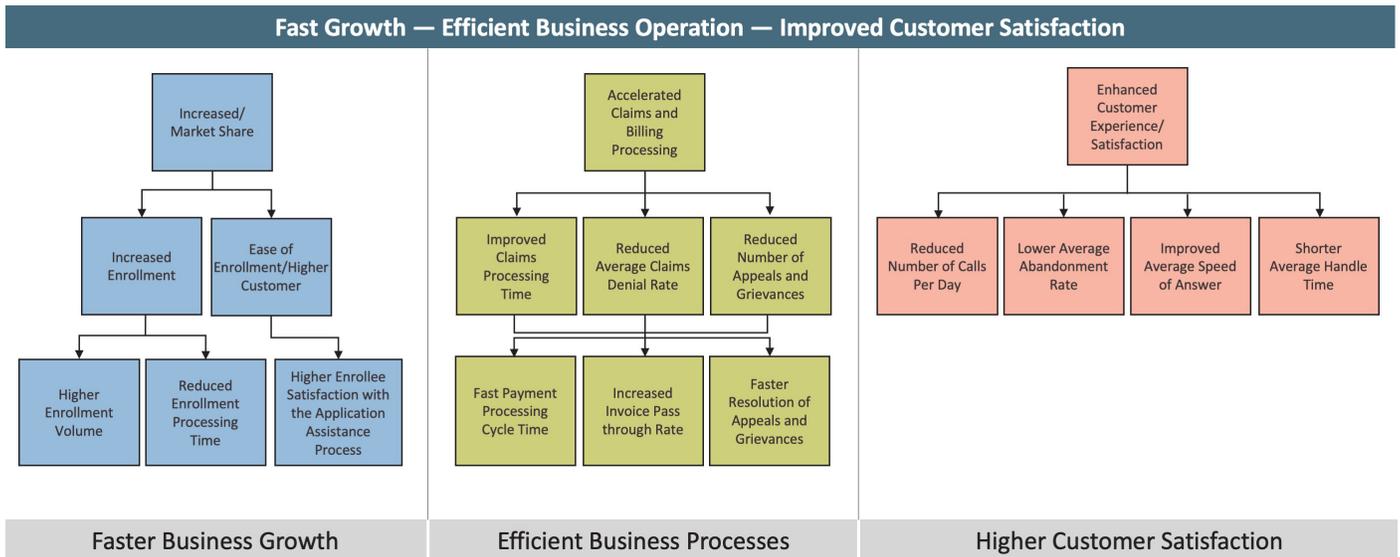


Figure 5: FAST Goals diagram for payer operations makes goals and sub-goals explicit and easy to align to the dashboard.

Choosing Dashboard Visualizations: This client had an expansive set of goals and sub-goals that needed to be represented appropriately, but not overshadow the key insights this client required on a regular cadence.

We recommended the following visualizations to balance the broad and specific views, as well as highlight key metrics across all three goal areas:

- Figure 6 focuses on operational reporting and enrollment data; a sub-goal of increasing market share.
- Figure 7 highlights claims, appeals, and processing time; a sub-goal of accelerating claims and billing.
- Figure 8 hones in on customer service via call volume, speed, and resolution metrics; a sub-goal of enhancing the customer experience.

Telling the Right Data Story:

While these visualizations are more complicated, and cover more performance areas, our goal was to ensure that the client could see connections and have insights within one goal or sub-goal area, as well as see patterns across the three goals that may have some causative relationship.

- Related to enrollments: when volume increases, cycle-time worsens.
- Claims processes show variability, but are generally steady. The improvement projects implemented had not, yet, demonstrated ROI.
- Given an increase in membership, and an anticipated increase in demand, the client needed to further analyze staffing, which could run counter to their higher-level goals.
- The call center dashboard shows that processing time and abandonment rates are increasing with incoming call volume. While the client expected this, they will need to address it to maintain progress on customer satisfaction goals.

Personalizing to Your Organization:

For this client, process improvement was a starting point for dashboarding and other healthcare analytics. They needed clarity on the mission driving their improvements.

The cycle-time improvements were aligned with a broad spectrum of business objectives. Then, they included sales-to-enrollment process improvements (to increase market share) and call center improvements (as a more direct leverage point for customer satisfaction). This is a familiar scenario for many payers.

Other healthcare organizations may want to tighten the connections between market share and customer satisfaction to claims and billing processes as these are the core of what a member experiences day-to-day with his or her insurance company.

In this scenario, the healthcare analytics dashboard might include the same measures, but be organized differently, depending on executive or user needs.

The top four organizational performance areas that CFOs want to improve are financial health (85%), patient experience (80%), quality of care (80%), and operational efficiency (69%).

"2019 CFO Outlook on Healthcare"

Operational Reporting Dashboard

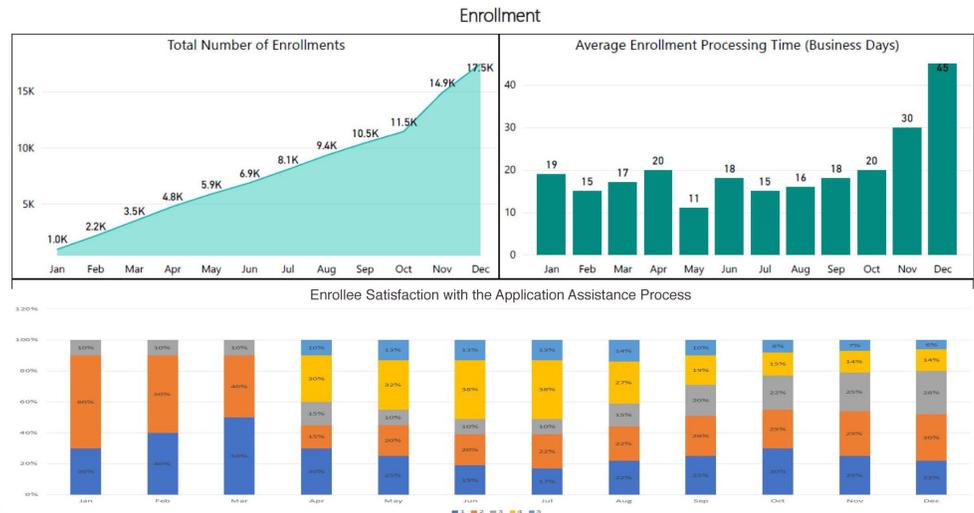


Figure 6: Payer Operations dashboard shows effect of enrollment, process time on satisfaction.

Claims

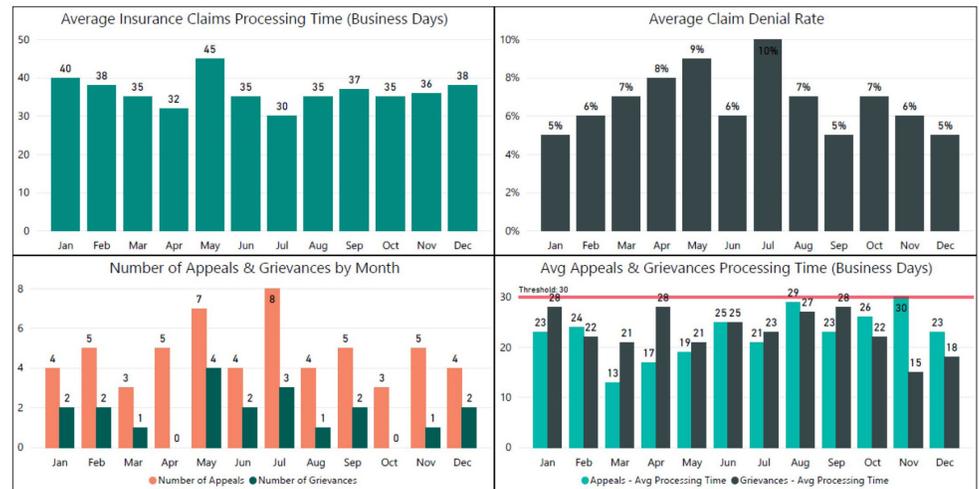


Figure 7: Payer Claims dashboard raises questions around processing time and denial rates.

Customer Calls

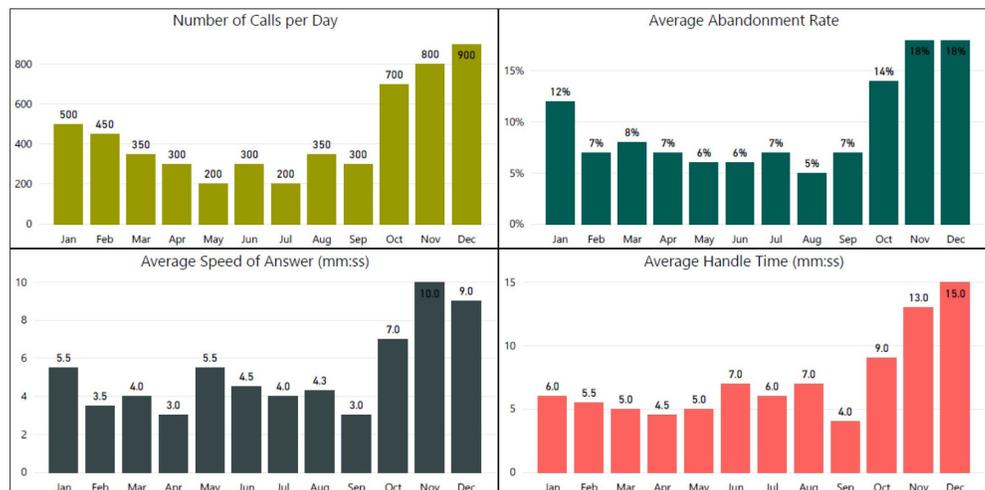


Figure 8: Customer Calls dashboard shows tight connections among call volume, abandonment, and speed to answer.

Case Study #4: Care Delivery Optimization

Healthcare organizations must pursue multiple avenues towards improving care delivery and health outcomes while realizing their value-based reimbursement goals. These initiatives require involvement from multiple roles, influencers, and users, increasing the need for comprehensive, yet, user friendly dashboards and visuals.

Alignment with Goals:

The FAST Goals diagram in Figure 9 visualizes the five goals this client chose to focus on as the path to achieve optimized care delivery in their organization, including:

1. Standardize clinical pathways
2. Reduce clinical care costs
3. Reduce administrative costs
4. Improve member/patient experience
5. Address barriers to care

Ultimately, the client needed timely data delivery to the point of analysis and decision-making in order to measure, monitor, and implement strategies and tactics.

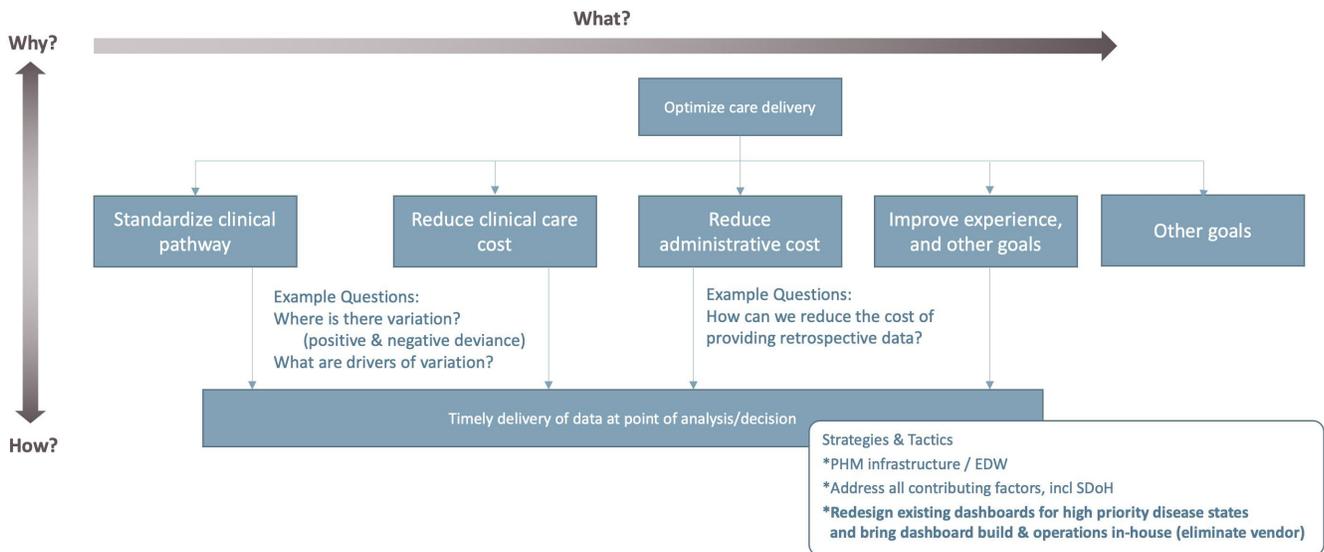


Figure 9: FAST Goals diagram for achieving optimized care delivery via five sub-goals.

Choosing Dashboard Visualization: This client required a high-level dashboard across all goals, highlighting pathway implementation, cost, satisfaction, as well as the leading indicator - member/patient engagement. We helped them select four bar chart visualizations, that appear complex, but easily deliver multiple data points in a colorful and clear fashion.

Telling the Right Data Story: We discovered that several causative relationships existed among changing data: as engagement increases, adherence to standard protocols increases, cost goes down, and satisfaction appears to increase.

We chose healthcare data visualizations that could display time trends and show clear progress towards performance targets.

70% of CFOs say that their data analytics must improve within two years for value-based care to succeed.

“2019 CFO Outlook on Healthcare”

Figure 10 shows the pathway adherence chart (bottom left) and member/patient metrics (bottom right). As expected, the former is a leading indicator for the latter. However, if the gap widens too much, it will require further investigation.

The cost chart (top right) shows per member, per month (PMPM) cost reduction (from the payer point of view) and reduction in avoidable events (from the provider point of view). These should go hand-in-hand.

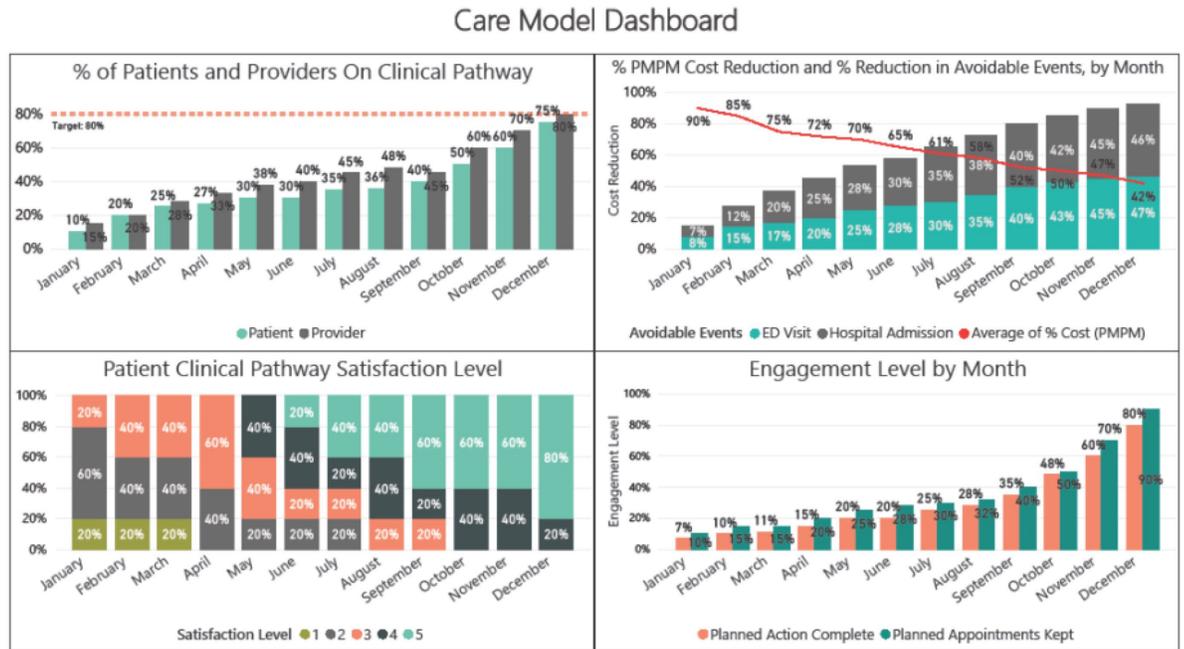


Figure 10: Care Model dashboard demonstrates that increasing engagement reduces cost and avoidable events.

Personalizing to Your Organization:

This client started with a strategic objective that involved a group of goals that were broad in scope. The dashboard, however, drills down into the clinical pathways’ branches necessary to achieve the higher-level goal. It includes patient satisfaction, as it relates to the pathways, as a key indicator of improvement in the client’s eyes.

The part of the organization that was implementing new waves of pathways used this dashboard regularly. But, because many factors drive overall patient/member satisfaction across different organizations, other organizations should consider adding this metric as well.

Lastly, because provider and other stakeholder satisfaction metrics are sidestepped in this example, consider including employee, physician, or ancillary staff engagement and satisfaction.

Conclusion:

These four client cases demonstrate challenges and solutions to creating healthcare data analytics dashboards on the path to achieving value-based goals, improving care management operations, optimizing the care delivery workforce, enhancing billing and claims processing, as well as improving cost and efficiency for sustainable growth and consumer satisfaction.

By using our FAST Goals methodology you can gain clarity on your objectives and determine a prioritized path to success like they did.

Your FAST Goals diagram will anchor the goals and provide boundaries when choosing the right healthcare data visualizations and dashboards. This is critical to ensuring that executives and users have focused and useful information to make decisions and take timely action.

You can use these client case studies, and specific healthcare dashboards and data visualizations, to think through your own approach when designing effective ways to track and measure healthcare program and operational goals.

Healthcare Solutions Realized:

Over the past decade-plus, SDLC Partners has helped create digital, operational, procedural, and financial solutions for our healthcare clients.

Related to healthcare data analytics, we equip healthcare organizations to not only gain clarity on the best strategies to achieve their value-based goals, but to create dashboards and visualizations that give them the power to make effective, mission-critical decisions.

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