

CRITICAL ASPECTS
OF A SUCCESSFUL

**BUSINESS INTELLIGENCE
& ANALYTICS PROGRAM**

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INTRODUCTION

Many Business Intelligence & Analytics (BI&A) programs fail to deliver the positive, measurable impacts needed. The questionable track record of BI&A programs in healthcare is partly the result of organizations treating the noisy symptoms of the problem, rather than the underlying root cause: an inadequate foundation for sustainable success.

Healthcare organizations waste time and resources chasing only the symptoms of weak BI&A Program, while neglecting the real problem.

Common “symptoms” include repeated calls to replace the visualization layer, lack of ‘single sources of truth’ across the enterprise for vital information, and the proliferation of “Do-It-Yourself” BI tools (including Excel) throughout the organization. These, however, are not the real problem. They are simply side effects. The real problem is an inadequate foundation for the BI&A program’s success. Furthermore, an almost exclusive focus on only the technology aspects of this foundation – perhaps because many programs fall within the CIO’s purview – steals resources and attention away from the more important programmatic and procedural aspects that are essential to an adaptable BI&A program with high ROI.

It is far more important to have a strong foundation for your BI&A Program than it is to have the ‘perfect’ technology.

Every healthcare organization is unique, as is every BI&A program. However, a rock-solid foundation for success is largely comprised of six critical aspects, only one of which is centered on technology. The other, typically “missing” aspects are what separate highly successful programs from those that fall short of expectations. Forging a rock-solid foundation for BI&A program success, therefore, must consider all aspects, and ideally each is assessed and bolstered in a specific iterative sequence given their interdependencies.

AtlantiCare (a member of Geisinger Health System) recently completed a broad initiative to assess and strengthen its BI&A program foundation across all critical aspects. Those findings and actionable insights are described below.

One of the biggest barriers to BI&A Program success is lack of business and clinical leader ownership.

CRITICAL ASPECTS OF A ROCK-SOLID FOUNDATION

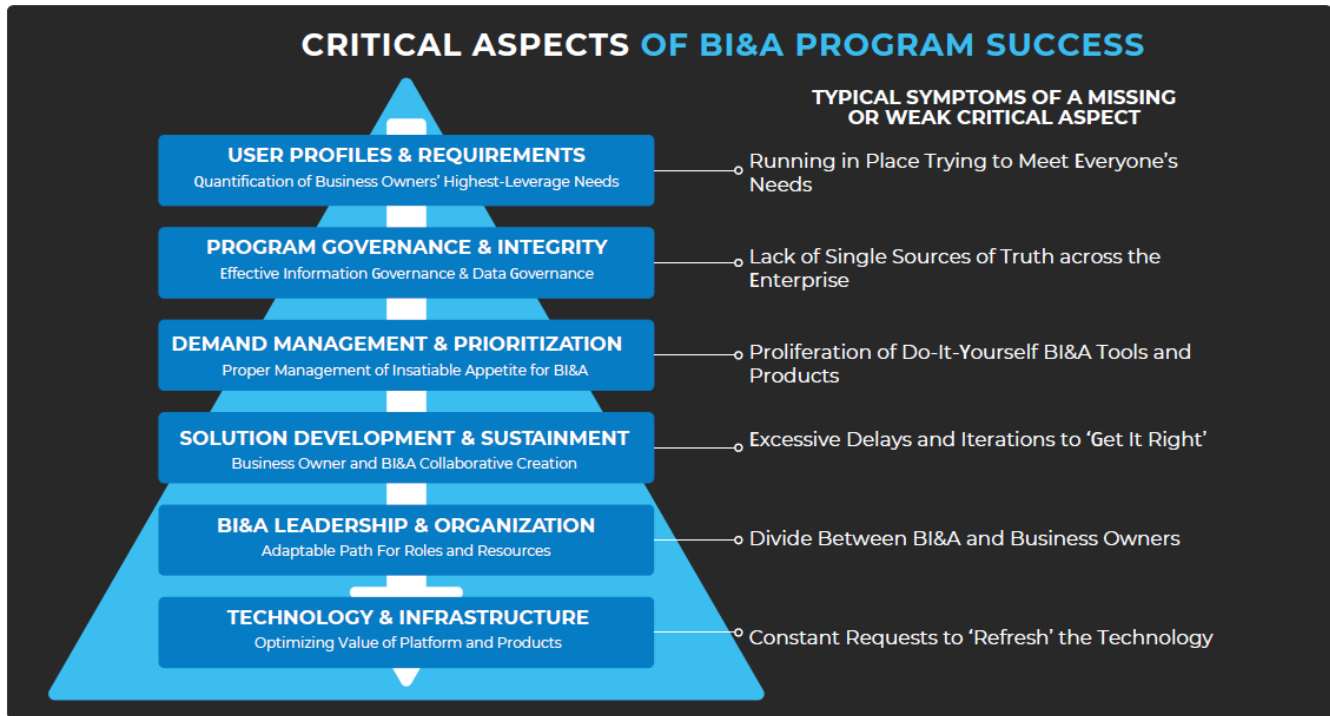
The common challenge facing healthcare BI&A programs can be summed up in one word: more. BI&A programs are being asked to deliver more value and more insights in a more timely manner than ever before.

Many forces fuel this escalating demand. Some of those factors include advanced population health management to maximize fiscal arbitrage under at-risk contracts, increased emphasis on service excellence due to competitive pressures and consumerism, and demands for ever-increasing operational effectiveness. At the same time, the technology landscape is undergoing a major metamorphosis with the migration to cloud-based big data infrastructure, enhanced master data management, and emergence of mobile BI.

Despite all these changes and the significant challenges they pose, the fundamentals of a high- performing BI&A program remain the same. If the underlying BI&A program foundation is suspect, then it won’t succeed. The real task at hand, therefore, is to carefully assess and solidify all critical aspects of the BI&A program foundation before taking on these significant challenges. Otherwise, the noisy symptoms of a flawed foundation will only grow louder, and the BI&A program will fall short.

The foundational aspects of a successful BI&A program are depicted in [Figure 1](#). Every organization and BI&A program is unique but the cornerstones of many successful BI&A programs are found across these critical aspects. In assessing and strengthening your foundation, address these aspects in a sequential yet iterative manner starting with User Profiles & Requirements and culminating with Technology Stack & Infrastructure. For example, effective BI&A demand management is difficult, if not impossible, without solid governance providing enterprise-wide input into priorities. And selecting and optimizing BI&A technology without the full knowledge gleaned from the other ‘earlier’ steps is a shot in the dark at best, and quite possibly a bad investment.

FIGURE 1



Again, all but one of these critical aspects for a successful BI&A program center on the program itself

– policies, procedures, and processes — not technology. More specifically, most center on behaviors. Successful BI&A is all about behaviors. Case in point: clinical and business owner engagement and ownership is crucial, as the days of users lobbing BI&A requests over the wall must end. As such, strengthening a BI&A program foundation is an enterprise responsibility, not the job of IT alone.

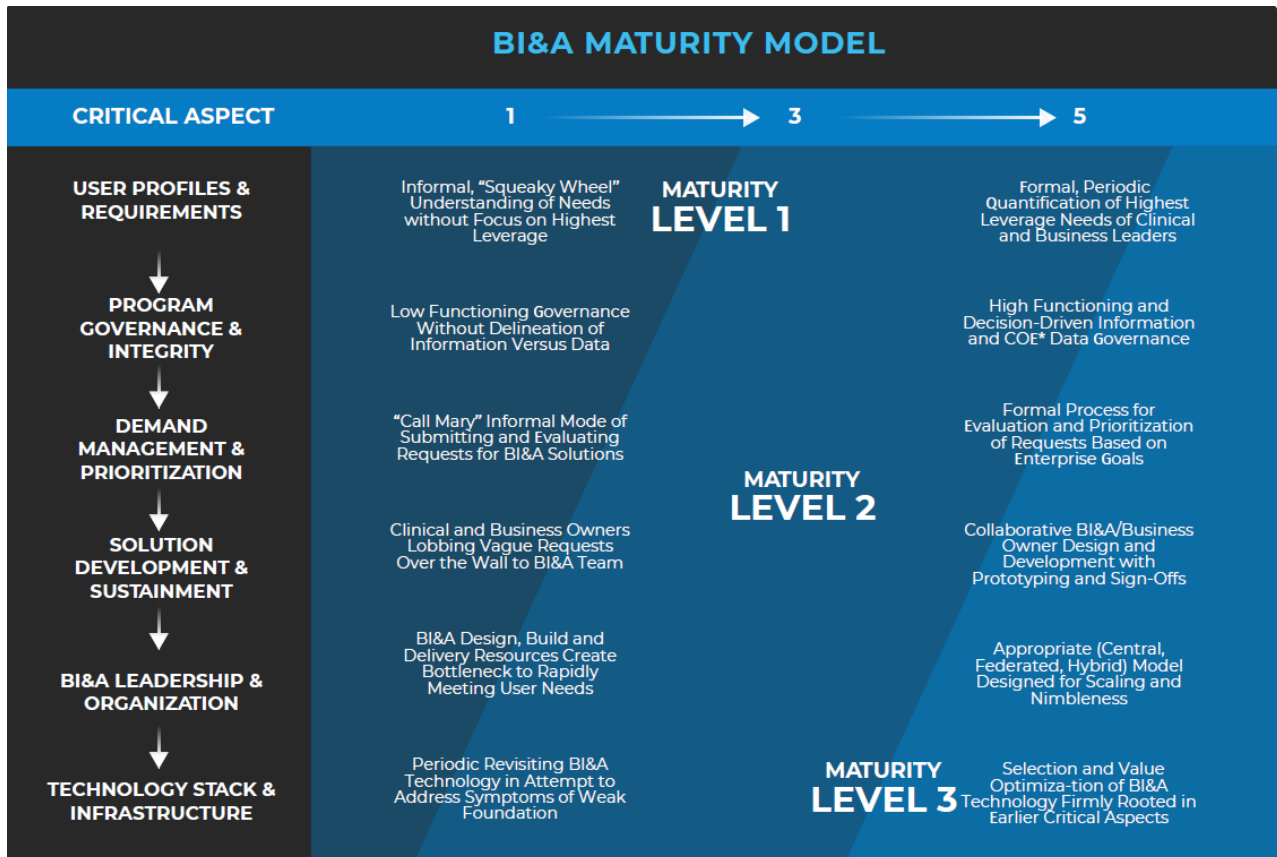
BI&A PROGRAM MATURITY MODEL

To be clear, very few BI&A programs get all of these critical aspects perfectly 'right.' They don't have to. A high-value, high-ROI program is achievable as long as all aspects are addressed reasonably and those most pivotal to an organization's situation and goals are strong. All too often, however, multiple aspects are completely missed or ignored, thereby undermining the foundation to the point where many of the noisy symptoms mentioned above persist and proliferate.

It is important for an organization to craft its own well-defined, tailored path toward an increasingly mature and impactful BI&A program. This is true even for BI&A programs that are getting the job done today, given aforementioned forces for change that await all organizations. medSR's **BI&A Program Maturity Model** (Figure 2) provides a high-level guideline for doing so. The premise for this model is the reality that each critical aspect is based squarely on the strength of the prior 'earlier' critical aspects. In other words, the model subscribes to the crawl, walk, run philosophy of improvement.

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FIGURE 2



*Clinical and Business Centers of Excellence

Moving from the fundamental critical aspects in the top left to the advanced critical aspects at the bottom right is the overall path for increasing maturity – although each organization’s own path is likely to be a tailored adaptation of this concept. The model certainly is not meant to convey a linear movement toward maturity. Any given organization will be in different states of maturity across the critical aspects — perhaps even being more advanced with the ‘later’ than ‘earlier’ critical aspects. It is a fluid, approximate model.

Still, at a high level, Maturity Level 1 establishes the fundamentals and delivers incremental value even if Solution Development & Sustainment is poor and the BI&A Leadership & Organization Model questionable. Strengthening these critical aspects (building upon the fundamentals) advances the BI&A program to Maturity Level 2. Ultimately, you need the foresight and fortitude to constructively challenge the resourcing approach and the Technology Stack & Infrastructure to align with the prior critical aspects elevates a BI&A program to Maturity Level 3. Again, it is not an exact science but time-proven guideline for any organization interested in strengthening its BI&A program.

CASE STUDY: ATLANTICARE BI&A PROGRAM REVIEW

Christopher A. Scanzera, VP & CIO at AtlantiCare Health System in Egg Harbor Township, New Jersey, recognized that enterprise demands on the BI&A program would only continue to escalate as the health system pursued innovative strategic directions while expanding its ACO’s at-risk portfolio. Major imperatives centering on population health management, value-based payments, operating effectiveness, quality and safety improvement, and more necessitated a stronger, more robust BI&A program. New metrics and analytics were essential to monitoring the health and progress of the enterprise.

The BI&A program that supported the organization up to this point may not be able to do so going forward. He recognized that emerging issues – such as the lack of single sources of truth, repeated calls for a new visualization technology, and the growing proliferation of departmental BI&A tools — were merely symptoms of the need for a strengthened BI&A foundation that would be able to meet the strategic challenges at hand.

“We need to develop this capability as a core competency and strategic differentiator for AtlantiCare to move our organization from adhoc or opportunistic users of traditional analytics to strategic and transformative consumers of data-driven intelligence.”

– Christopher A. Scanzera

In collaboration with medSR, Mr. Scanzera launched a focused yet rigorous assessment and planning initiative aimed at identifying the actions with the most potential for enterprise-wide improvement. The initiative leveraged and refreshed work that previously had been done (by AtlantiCare and third parties) to narrow scope and focus to areas in greatest need of attention. As such, the mindset driving the program review was to realize quick wins as soon as possible from kick-off. The review fell under the direct oversight of the AtlantiCare Senior Leadership Team (SLT) who provided formative guidance and valuable input into emerging findings and recommendations.

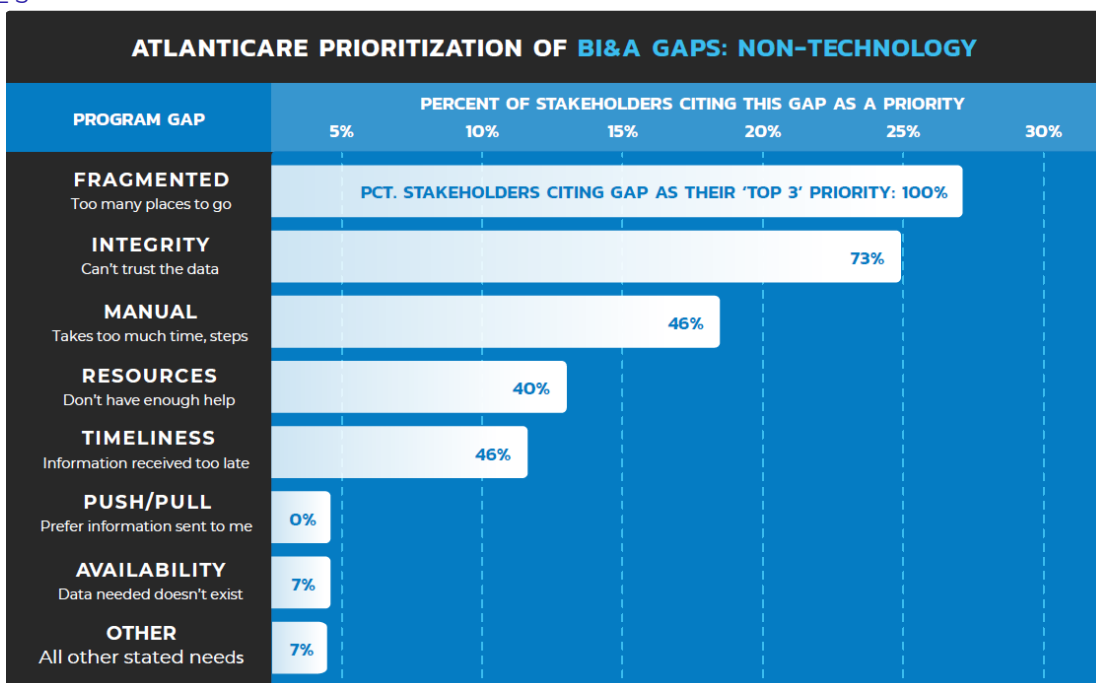
Prioritizing Highest-Leverage Gaps

As stated above, all successful BI&A starts with User Profiles & Requirements: a clear and quantified understanding of the current and anticipated requirements of decision-makers and business leaders. To this end, Mr. Scanzera and the SLT identified over sixty (60) key stakeholders in areas throughout the enterprise — representing ACO, clinical, financial, operational and IT areas — for explorations into their needs. These discussions were carefully structured into three parts: current needs met, current needs not met, and anticipated needs. Doing so helped maximize the value of the input while minimizing venting. In addition, each area’s top ‘wish list’ items were gathered along with any DIY BI&A tools and practices that had taken root within the area.

The information and input obtained through each interview was translated into a tool that enabled it to be cataloged, categorized and analyzed. For example, common terms and phrase words were documented and mapped into broader categories. Their frequency was recorded. In doing so, major themes for improvement were identified within and across areas. The themes derived from User Profiles & Requirements expanded across all other critical aspects. They were divided into non-technology and technology groups.

At AtlantiCare, this analysis of stakeholders’ input revealed striking consistency throughout all areas in terms of the important non-technology gaps to be filled (Figure 3). Virtually all priorities fell into a handful of major themes regardless of area, with less than five percent (5%) of stated priorities lumped into a catch-all ‘Other’ category. The gap ‘Fragmented,’ for example, was the #1 cited gap for all areas except one (where it was #2). This consistency suggested that these non-technology gaps were experienced equally throughout the enterprise, and the stakeholder community clearly recognized the associated problems.

FIGURE 3



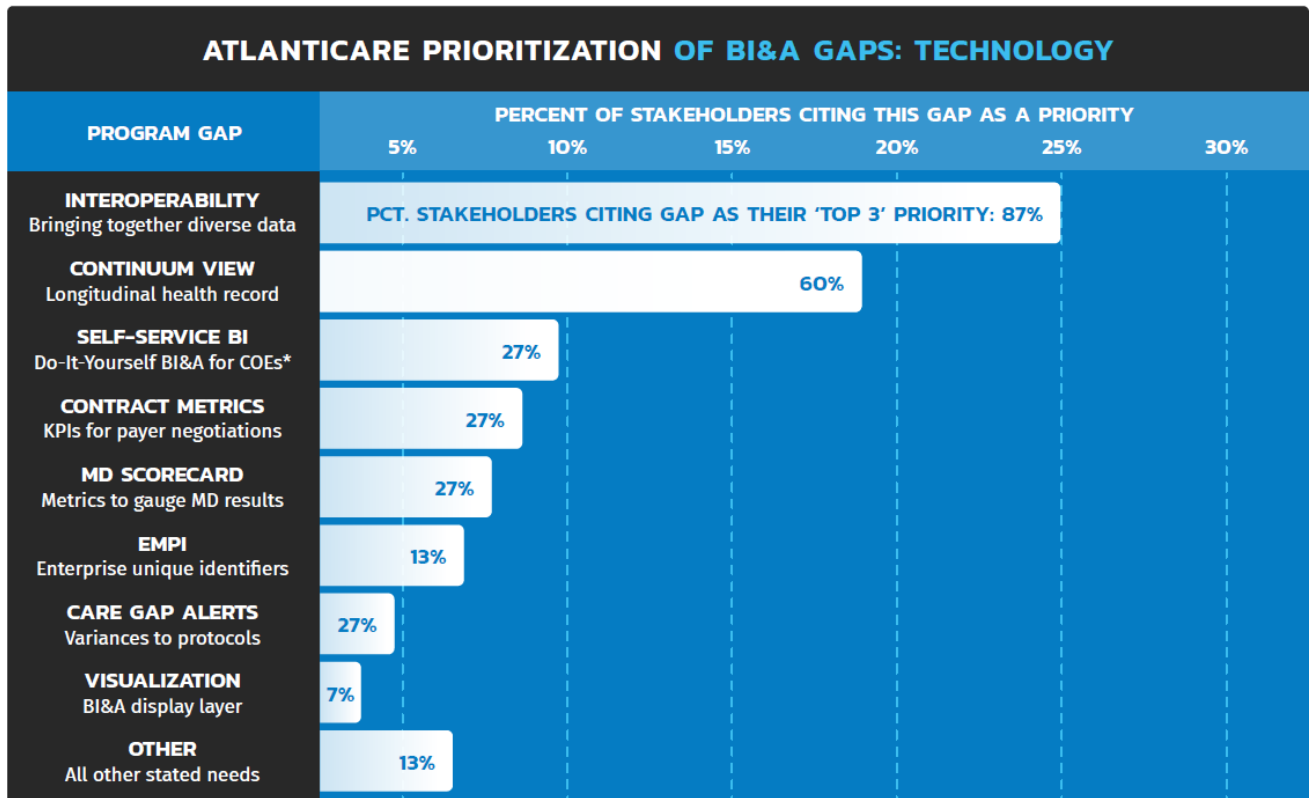
These prioritized gaps and themes were discussed with the SLT, and evaluated given considerations such as relevance to strategic goals. These considerations slightly modified priorities. In the end, a clear hierarchy of non-technology gaps was established to be filled by strengthening AtlantiCare's BI&A program foundation (Figure 4). This hierarchy took into account interrelationships among themes by defining First Order (highest leverage) and Second Order (lesser leverage) gaps. The notion was to initially close First Order gaps and, in doing so, the Second Order gaps at least will be partially addressed.

FIGURE 4



The same prioritization process was conducted in much the same way with stakeholders' input into technology-related gaps. These gaps were not necessarily directly associated with technology assets, such as applications, systems, warehouses, etc. Instead, they were gaps that could be directly addressed through a technology solution. Again, the analysis of technology-related gaps revealed almost as much consistency across stakeholders' input as non-technology gaps (Figure 5). A similar hierarchy of technology gaps was created with First Order and Second Order priorities.

FIGURE 5



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ATLANTICARE PRIORITIZATION OF BI&A GAPS: TECHNOLOGY

This review of stakeholders' needs generated vital, candid input from across all areas of the enterprise. In turn, that valuable input established clear priorities for BI&A program improvement across both non-technology and technology lines – all aligned with medSR's BI&A Program Maturity Model. Perhaps most importantly, the needs assessment ensured broad clinical and business owner engagement and ownership in the effort to strengthen AtlantiCare's BI&A program foundation.

“For this initiative to be successful, we understood the need to broaden and elevate ownership and accountability for analytics to the enterprise level with a conscious shift away from a more traditional IT-centric effort.”

– Christopher A. Scanzera

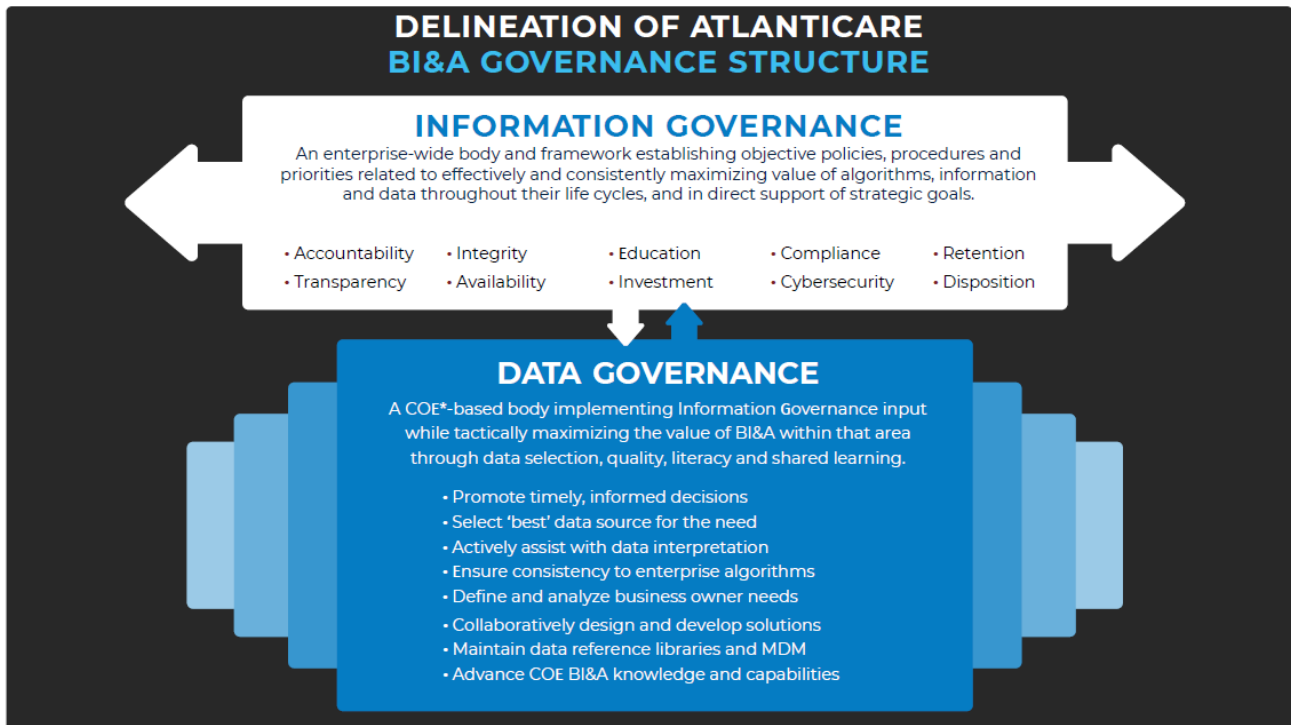
STRENGTHENING THE OVERALL BI&A PROGRAM

The joint AtlantiCare/medSR team reviewed all other critical aspects of BI&A program success. The level of effort invested in each aspect matched leadership's thoughts on the current state with the focus still riveted on quick wins. A summary of the key findings and recommendations for each critical aspects follows.

Program Governance & Integrity

An assessment of AtlantiCare's existing BI&A program revealed a functioning governance structure that could be improved in order to meet increasing demands. A central feature of the improvement recommendations included more clearly delineating between information and data governance. Without succumbing to an academic debate on their definitions, AtlantiCare defined the charter, membership, responsibilities and expectations of information versus data governance (Figure 6). The existing information governance structure was renewed (particularly related to BI&A prioritization) and bolstered to be more decision-driven, while a data governance structure was established in an initial Center of Excellence (COE) with the intent of replicating it within other COEs once successful.

FIGURE 6



Demand Management & Prioritization

AtlantiCare's BI&A demand management had historically been defined by informal request channels and inadequate prioritization. A plan was established to address the former gradually as the BI&A organizational model is modified (see BI&A Leadership & Resourcing below). Initial steps were taken, including well-defined and communicated policies and procedures, management controls, and a process for review/approval of all incoming requests. The prioritization issue became part of the information and data governance charters but was stop-gapped with a simple (spreadsheet) tool that scores each in-coming request based on several key criteria related to strategic goals, investment requirements, expected ROI, and so on. AtlantiCare's BI&A Demand Management & Prioritization will be continuously improved over time as other critical aspects are advanced.

Solution Development & Sustainment

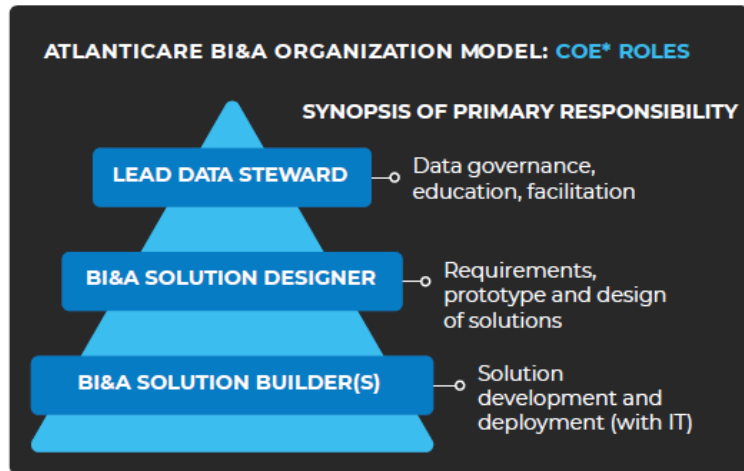
Improving the specifics of how BI&A solutions (dashboards, scorecards, etc.) are designed, developed and sustained enters Maturity Level 3 of medSR's BI&A Program Maturity Model. As such, it was not an immediate priority for AtlantiCare. A cursory review of this critical aspect at AtlantiCare showed a pair of typical patterns: the need to address the perceptions that 'it takes too many' iterations to 'get it right,' and the need to establish a closer working relationship between BI&A solution users and builders. In particular, the review showed a clear need to increase business leader and BI&A user ownership of their own BI&A solutions. The damaging perception that creating BI&A solutions was IT's job had to be addressed. An initial construct was prepared to address these challenges over time through role redesign and collaborative solution design and development between BI&A resources and business owners, including rapid prototyping, formal sign-offs, and applying the concepts of Lean.

BI&A Leadership & Organization

To enable and support many of the above plans and recommendations, Mr. Scanzera called for a critical review of the current BI&A organization model. The existing model had virtually all BI&A resources, mostly report writers, within AtlantiCare IT. Possible new models evaluated were fully centralized (within IT or another area), fully federated (or decentralized), and a hybrid model where certain activities and responsibilities were centralized while others decentralized. Criteria were established for this evaluation, including: consistency with the new BI&A Governance & Prioritization structure, alignment with the above-mentioned hierarchies of program gaps, ability to implement envisioned Demand Management & Prioritization improvements, and empowerment of clinical and business leader increase their ownership of BI&A solutions.

FIGURE 7

In the end, a hybrid model was established as the target state and a plan created to migrate toward it in incremental steps. Under this hybrid model, AtlantiCare IT continues to be responsible for BI&A technology stack and infrastructure (with a new Director BI&A role) while clinical and business COEs (e.g., ACO, financial, clinical/quality) each train existing resources in three important but part-time BI&A roles (Figure 7) consistent with its data.



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Technology & Infrastructure

A complete inventory of all AtlantiCare's BI&A related technologies was documented and scrutinized. A full description was prepared for each application, system and data warehouse to include: name, vendor, version, internal 'owner,' client server versus remote (hosted or cloud), count of frequent users by area, license expiration, implemented (and used) functionality, unused functionality, and an integration diagram illustrating all major input and output data flows. In addition, an overall enterprise BI&A integration diagram was created. The primary purpose of this documentation was to overlay it onto the prioritized gaps in technology (obtained in User Profiles & Requirements as described above) and identify the minimum set of technology changes required to implement the near-term recommendations.

In evaluating options for each possible technology change, two factors had to be taken fully into consideration. First, during this initiative to strengthen the BI&A foundation, AtlantiCare was becoming a member of Geisinger Health System (GHS). This dynamic introduced added complication and opportunity into the evaluation. Second, several large-scale technology projects, such as acquisition of a population health management platform, were in flight and, therefore, the evaluation

needed to synchronize with them. As such, Mr. Scanzera and the SLT defined a set of evaluation criteria maximizing existing investments and increasing the value proposition of the BI&A initiative as much as possible (Figure 8). AtlantiCare settled on only five technology changes entailing: a point-of-care visit planning and outreach tool, a BI&A visualization product, a cost accounting system (not solely for BI&A purposes), a predictive analytics application, and a care gap alerting product. For all these changes, the main recommendations fell into evaluation criteria #3 and #4. Significant and sustainable improvements toward a stronger BI&A program foundation can realistically be achieved with minimal technology investment.

“Our organization looks to BI&A to be both a supporter and driver of business and clinical decision-making. We place a high priority on analytics initiatives that reinforce our pursuit of IHI’s Triple Aim – Better Care for Individuals, Better Health for Populations, and Lower Per Capita Cost.”
– Christopher A. Scanzera

FIGURE 8



Implementation Planning

With this suite of key recommendations approved by Mr. Scanzera and the SLT, the final step in the initiative to strengthen AtlantiCare’s BI&A program foundation was to establish a high-level roadmap for near-term implementation. Mr. Scanzera’s knowledge and experience suggested the best approach with the highest likelihood of success at AtlantiCare was an implementation based on continual small wins (rather than a ‘big bang’ type roll-out) and ‘layers’ of improvements affording AtlantiCare the opportunity to continuously apply learning and adapt to changing priorities. As such, an eighteen (18) to twenty-four (24) month horizon was established to complete the initial wave of improvements – in part driven by certain AtlantiCare strategic objectives and related in-flight projects. The roadmap was defined to give sound, specific structure to major activities and milestones without undue detail (which could imply lack of flexibility moving forward).

Mr. Scanzera also recognized that successful implementation of the key recommendations to strengthen AtlantiCare’s BI&A program foundation depended upon building solid early traction through wins. As such, a clear set of 120-day activities was defined in detail, and an owner and completion dates assigned to foster accountability. Weekly status meetings of BI&A, clinical and business leaders help keep the implementation on track and the level of enterprise-wide engagement and ownership high.

Today, Mr. Scanzera, in conjunction with the organization's quality, finance, and population health senior executives, leads the execution of the roadmap. They do so with medSR's continued assistance, paying special attention to shared learning and adoption of 'best practices' throughout the process, celebration of realized wins, and adaptation of the roadmap and the rolling horizon 120-day plan as required by evolving priorities and events.

CONCLUSION

Many healthcare organizations fail to reap the promised benefits of a highly impactful and nimble BI&A program because they do not see beyond the noisy symptoms of problems into the underlying root causes of a flawed foundation for success. Too often, changes are limited to technology refreshes and updates and, therefore, significant and sustainable improvements prove fleeting.

Mr. Christopher A. Scanzera, VP & CIO of AtlantiCare, in collaboration with medSR, conducted a comprehensive initiative deep into all six critical aspects of a rock-solid BI&A foundation. Key findings, insights and recommendations were established across aspects consistent with a philosophy based on quick wins and continuous learning. Today, the vast majority of recommendations – very few of which center on technology — are being implemented actively with minimal incremental investments or added personnel.

Strengthening all critical aspects of a BI&A program foundation improves clinical and business leader ownership and satisfaction, increases the tangible value and ROI of BI&A solutions, enhances nimbleness in discovering and responding to changing priorities and emerging opportunities, better supports the migration to value-based care, and generally positions the organization for greater success in the years ahead.

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ABOUT medSR

While the name may be new, our history is not. MedMatica Consulting Associates and medSR merged on January 1, 2021 becoming medSR, significantly increasing our healthcare industry presence. We provide a complete portfolio of IT and Operational services including strategic consulting; EHR implementation, training, activation, optimization, and support; while also assisting with a full range of revenue cycle consulting and managed services.