

# IT Management and Governance Systems and Their Emergence in Healthcare

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## ABSTRACT

*Today's healthcare IT departments are challenged with understanding the total service demand imposed by their user communities and how much of their limited resources are available to meet that demand. This challenge is being addressed through the use of new IT management and governance (IT-MG) systems. This software supports IT governance and project and portfolio management. IT-MG is a relatively new term to healthcare; it entails reviewing and managing demand for IT services from inception to completion through the application of IT resources. These systems help save time through automated reporting and quicker delivery of services; they save money by more effectively addressing resource needs on time and on budget. The systems also reduce the number of administrative tasks through process automation; increase customer satisfaction by communicating services and deliverables more quickly and accurately; and help executives make better and more informed decisions about priorities and expectations through reporting that was previously nonexistent. This article will explore IT-MG systems and present a case study of a hospital that rapidly implemented this type of system.*

## KEYWORDS

- System implementation
- Project management
- Resource management
- Portfolio management
- IT governance
- IT management and governance (IT-MG) systems
- Demand management
- Hospitals
- Healthcare

IT management and governance (IT-MG) is a relatively new term in the marketplace, especially in healthcare. IT-MG grew out of the need for management to gain visibility into the daily operations of their IT organizations. Increased visibility enables more educated and efficient decision-

making regarding IT investments in the face of limited resources and budgets.

Traditionally, IT organizations did not apply rigor to the governance of managing project portfolio decisions or have a systematic approach to IT operations and the use of

constrained resources, resulting in a high rate of project failure because of schedule delays and budget overruns.

Now, IT governance has grown in importance, with more than 55 percent of organizations recently surveyed reporting having a current IT governance framework that encompasses IT work from its inception to actual selection for investment. About 90 percent predicted they would have an IT governance framework in place by the end of 2006.<sup>1</sup> Nearly two-thirds of all CIOs surveyed find managing cross-business entity work difficult.<sup>2</sup> This stems from the individual business unit leadership believing their own needs should come first. CIOs also believe their efforts to prioritize projects have failed to work. To support emerging governance frameworks, CIOs are looking to IT-MG systems.

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IT-MG systems started as enterprise project management systems in the late 1990s and early 2000s, as a result of Y2K and the increasing need of organizations to track and see groups of projects or “programs.” As these systems matured and became more functional, the term project and portfolio management came into existence.<sup>3</sup> These systems expand IT management visibility into an entire enterprise from simple help desk tickets or incidents all the way to large-scale projects.

The top four vendors in the IT-MG marketplace are CA Clarity, Mercury Interactive, Planview and Primavera. All support IT governance and the PPM concept, enabling CIOs and business unit leaders to have a real-time view into their operations. The key to these systems is what benefits are realized, how fast they can be implemented, to what extent they are implemented and what the challenges are to implementing those systems.

#### **Expected Benefits of a System**

The core benefits of an IT-MG system are to manage growth by controlling supply and demand for IT services; to rein in and manage all types of work inclusive of service requests, projects, maintenance and incidents centered around a standard information technology infrastructure framework and project management body of knowledge; to better align IT with the business objectives of the organization; and to facilitate business and IT investment decisions

through the use of portfolio and program management and better management reporting.

The systems also help to enforce the use of a standard project management methodology for all IT projects; to enable decentralized sites and staff to access a native Web application to manage their day-to-day IT work; to help reduce administratively burdensome and manual tasks through automation; and to facilitate and streamline the use of different business processes into a standard framework to support effective IT delivery of services.

These benefits support both IT management in its pursuit of more effectively managing the IT shop and the needs of business unit leads and the CEO. Without both those sides working together, the true benefits and ROI of an IT-MG system and the overall IT governance process will not be realized. It is important for benefits to be central to the discussion when planning out how to approach the system implementation. Additionally, these benefits will continue to evolve and will necessitate management and tracking by the CIO and his/her staff to make improvements as necessary.

#### **Rapid Approach to Implementation**

To no one’s surprise, the best way to approach an IT-MG system implementation is to plan appropriately. However, there are key components of an IT-MG system implementation that help foster an accelerator concept, which involves moving an organization down the path of IT-MG maturity using a system approach in a timeframe of three to four months.

The different components of an accelerated version of implementation include the concept of determining the proper functionality and process mix to get the biggest bang for the buck; finding out who needs to be involved and when by establishing the core team; involving end users to help drive the benefits and also realize those benefits; and standardizing the approach to use best practices in IT-MG system implementations.

Before starting an IT-MG implementation, it is important for an organization to pick the key features that will produce the most benefits in a rapid fashion without causing an increase in the implementation timeframe. The organization should not put in features that the organization is not ready to utilize.

IT-MG systems have nine types of features with basic functionality that need to be used to move the organization down the initial IT-MG maturity path.

**Time management.** All staff must put their time into the system against the tasks and work that they actually deliver. All systems utilize a timesheet concept that enables staff to put time against particular pieces of work. Logging time into the system will enable managers to use utilization reporting to determine where and how much time staff is spending in the IT shop, which drives more effective management.

**Work management.** All types of work must be put into

the system, from incidents or help desk tickets to maintenance, service requests and project-based work. This enables management to see all of the work currently in the queue and work that is being forecasted for the future.

**Project management.** This IT-MG system feature is one that is heavily used, because vendors got their start in this area. All project work should be placed into the system to enable an organization to make full use of this feature set. A standard methodology framework should be configured so project managers have all of their work in one place and IT management can ensure one unified project management methodology is being used to include both tools and documents. Additionally, the schedule management features should be enabled so project managers can place all current workplans into the system for management and visibility, since traditionally these workplans are in different formats utilizing different tools. Also, these schedules will drive task-based progress reporting on large projects, which has always been a problem for IT organizations.

**Resource management.** Another feature area that is rich in overall functionality involves managing constrained resources. At the minimum, an organization needs to map their current IT organizational chart and reporting relationships into the system so resource and team managers can manage what their staffs are working on.

**Knowledge management.** All documentation as it pertains to current work should be migrated into the IT-MG system so it can be searched, utilized and can enable collaboration among project team members. By having all documentation in one place, the project teams can easily collaborate on deliverables that are related to specific projects they are working on.

**Process management.** Most IT-MG systems have a process management component that enables the automation of manually-based processes. The two processes that should be configured in the system at the start should be the project lifecycle process—how a project starts and then follows it to completion—and the IT governance process that determines which projects are proposed as an idea and which ultimately are approved. By implementing these two key processes upfront, the organization can set a foundation for future processes while getting the quickest return on investment.

**Executive reporting and sponsorship.** Although this is not a true feature area because it comprises reporting and the correct system access, it needs to be represented as a separate category because of the importance of executive management reports. Executives, including the CIO and business unit heads, need to be involved in the system to facilitate day-to-day business decisions regarding the IT organization that falls within the IT governance framework. At the minimum, the initial management reports should include the burn rate of resources by work and by unit serviced, a single dashboard indicating the status of all large

scale IT projects and a report that indicates the forecasted demand for IT resources in the coming months.

**Portfolio and demand management.** This feature is important because it drives IT governance oversight by providing visibility into current and future IT resource demand and the overall portfolio of work, indicating the alignment with the strategic direction of the organization. Initially, enabling features in this area should be limited to the current portfolio of work, preferably just project work for the current year. If possible, the view into the portfolio should also extend from the master portfolio down to individual hospital entities being serviced. Additionally, the organization must define the key set of roles that have to be mapped into the system for use in forecasting actual resources.

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**Financial management.** Most IT-MG systems have a financial management component that is most important in determining the total cost of ownership. However, the financial management feature initially should be limited to project-based budgeting on large-scale IT projects. These projects are the ones that traditionally require the most spending and can quickly get out of control if they are not properly tracked financially. Additionally, projects drive the overall project portfolio, which rolls up all of the budgets for management visibility.

#### Developing a Core Team

The core implementation team for the IT-MG system needs to be identified upfront. Many times, organizations jump right into implementing a system and forget both the functional side, such as the data center manager and CIO, and project side, such as the IT-MG project manager, need to be addressed—otherwise the schedule will slip, rework will be rampant, thereby driving up costs, and system rejection will happen even before the system is given a chance to succeed. A system that has the widespread impact and visibility that an IT-MG system has needs to have the correct team involved for the correct amount of time necessary for the project to be a success.

The team members that should be involved throughout the project from the IT side include the CIO, the IT-MG

system project manager, the vendor project manager and an identified post-go-live operational support resources person.

Several user groups should be established from the beginning to help drive faster adoption and maturity and help the system take hold. User groups should span across the IT organization and not just include project managers but all staff, because all work will be managed in the system. These user groups will need to be involved in the implementation, especially during the planning process, configuration and user acceptance testing of core system components, and will serve as organizational champions for the IT-MG system.

The user groups should consist of a project management user group; a resource/team lead user group, which would, for example, include the data center manager who manages all the data center staff; a staff user group that would include all data center staff utilizing the single example from before; and an executive steering committee user group that will include key business unit leaders and the CIO to help drive the business-centric parts of the system and process. While user groups will not directly implement or configure the system, they will play a critical role in providing guidance, feedback and vision as the project progresses.

When selecting the implementation team and user group members for the IT-MG implementation, it is helpful to establish a resource matrix of how long and when resources are needed so the system implementation is not delayed as a result of team participation issues. Additionally, IT-MG team members can start championing use of the system even before it is implemented.

### **Gaining End User Support**

It is extremely important to plan when and how end users—business leads, IT management, staff, project managers and team leads—will be trained in the system. They all have schedules and will need to plan accordingly. Some of the biggest failures of IT-MG systems are a result of little end-user acceptance because of insufficient training, the perception the application is being forced on end users and the absence of champions among peers.

If an implementation is expected to last three to four months, training logistics should be mapped out within four weeks of the start, and end users should be notified of their involvement.

Staff who do the actual project and operational work in the IT organization should get two hours of training. Follow-up training of two to three hours after go live provides an opportunity to review system capabilities after they have had a chance to use it for a while.

Project managers for large projects should get six hours of training on systems project management concepts and another six hours of training if they are going to use a new system scheduling tool.

Resource and team leads and managers, who actually manage teams of people, should get six hours of training to

understand how resources are managed in the system, because most of these individuals are managing resources on spreadsheets and in other manual ways today.

Executive sponsors and management should get two hours of training to go over their access, how the IT governance framework is supported by the system and to which reports and dashboards they will have access.

With an IT-MG system implementation, organizers should standardize their approach on the best-practice tool sets available in the industry. Any vendor that is considered should bring these tool sets to the table when helping with the implementation. Additionally, these tool sets can be obtained from other healthcare institutions or IT-MG clients that have implemented multiple IT-MG systems.

Some of the key tools and enablers that will help move an IT-MG system implementation along in a rapid fashion include a resource matrix worksheet that has all the IT and business resources—for example, IT staff who will need two hours of training during deployment of the implementation—to allow for quick input into the system. Others include a current project dashboard with the key attributes that need to be tracked in the system; a work-item spreadsheet listing all work that needs to be tracked in the system, which will help ease system implementation by forming a preset work framework in the system; all project workplans, organized and indexed for input into the system; a best-practice work plan and schedule with task breakdown from a vendor or client that has implemented multiple IT-MG systems; and a system-sizing and readiness assessment to ensure the platform for running the system is ready.

### **IT-MG System Evolves at UHHS**

University Hospitals Health System (UHHS) is a multi-hospital system based in Cleveland, Ohio. UHHS includes University Hospitals of Cleveland, a 947-bed tertiary medical center, and seven community hospitals with 891 beds. UHHS has 3 million outpatient visits and 110,000 inpatient discharges annually. It is the primary affiliate of Case Western Reserve University School of Medicine.

Senior management has instituted changes in IT governance and project management resulting in an increase in the percentage of IT projects that are on time and on budget to 90 percent from 50 percent over a span of three years. The changes included the creation of a project management office operated by First Consulting Group, which handles day-to-day operation of all UHHS IT resources.

The IT department currently consists of about 200 IT professionals. The current work management breakdown consists of approximately 70 projects, both active and proposed for the current year, and 85 projects proposed for 2007. The department handles about 1,300 help desk incidents and tickets per month, 250 service requests per month and manages around 200 applications and a robust infrastructure platform to support those applications.

UHHS has a well-established IT governance framework that consists of three subcommittees that bring together the IT and business-unit executives from across the hospital system, along with an oversight and decision-making IT steering committee consisting of all of the system executives, including the CIO and CEO. Currently, this governance framework supports proposed and active projects, but UHHS is in the process of implementing governance over all types of IT work in all IT operations.

UHHS chose to implement the IT governance module of Computer Associates' Clarity software, hosted by First Consulting Group in late 2003 to address the needs of its new governance framework. The first goal was to align business-unit objectives with what IT could deliver and should deliver, based on the hospital system's overall strategy. Secondly, the CIO and his staff wanted to have access to day-to-day operational reporting and statistics that could be shared with management and enable the IT management to better manage the constrained staff spread among all hospital entities. Thirdly, IT managers needed a better understanding and control of actual and future resources. Finally, the project management officer (PMO) needed a way to track projects from inception to closure following a standardized PMI approach that would help foster continuous quality improvement (CQI) objectives and a methodology that would help bring together sponsors with project managers to deliver projects that were consistently on time and on budget.

The UHHS IT-MG system implementation used an accelerated and rapid approach because of the goals and objectives that needed to be achieved and the need to put something in place to support the IT governance framework with minimal sustained impact on the current focus of IT resources so the system implementation did not inhibit staff from doing their work. The basic IT-MG system was implemented in a four-month period following the rapid approach outlined.

The success of this four-month rapid implementation was based on the four-point premise for a successful IT-MG rapid implementation. First, the critical functionality and feature components in each of the nine IT-MG feature areas were selected and implemented with management oversight. Second, the right team was selected at the start by the UHHS IT management team along with individuals from First Consulting Group's CA Clarity support team. Those selected to run and manage the implementation included the CIO and his staff, an implementation project manager, and several functional and technical support staff to help configure and implement the system.

Third, end-users ranging from IT staff to executive sponsors were trained to use the system during the pilot and training phases. Lastly, a standardized approach to the implementation, using IT-MG system implementation tool sets, helped accelerate implementation. The various stages of

the implementation and their associated highlights are outlined below.

The system was implemented using a four-stage process, which included planning, configuration, testing and deployment. The key highlights from some of those stages include selecting key functionality from the nine-feature areas, utilizing IT-MG system tool sets and involving end users early on.

Some of the key highlights from the planning stage included a full work and resource inventory which fed information into a master resource and work repository for input into the system. Also, a key process mapping was completed on the current project management framework, service request management process and IT governance framework to ensure the key pieces of those processes were mapped into the system, along with any reporting and documentation necessary for reporting and maintenance.

***"An organization that does not [develop a roadmap that includes provisions for management of ongoing changes] could be inundated by changes that cannot be prioritized, and it will have a difficult time communicating where the product is headed."***

In the testing stage, several pilot sessions were held that included members of user groups so different components of the access and configuration could be tested. At this level, changes still could be made to the environment. This helped foster acceptance among the IT organization and got them involved before the system was deployed. User acceptance also was tested prior to deployment to ensure users representing the various populations within the IT department approved the configurations and usage before training began. At this point, the system was locked down to prevent any additional changes.

One of the key highlights from the deployment stage was training sessions held for project managers, resource and team managers, executive sponsors and staff so they would understand and know how to use the system effectively. Standardized training materials provided by the FCG CA Clarity support team were used during these sessions.

#### **Results of the Test**

UHHS had a successful implementation of the IT-MG Clarity System because the project manager followed the rapid accelerator approach and the four-point guide—use the most "bang for the buck" system features in the nine

IT-MG system feature areas; pick the right implementation and user-group team; involve end users from the beginning and explain the parameters of their commitment; and do not create things from scratch, but use established best practices and tool sets to implement an IT-MG system.

Because of the success using the rapid implementation approach, the Clarity system implementation at UHHS yielded valuable qualitative and quantitative results that continue to develop as the system matures in the IT environment. All work managed in the IT environment now could be objectively measured and was contained within one system for analysis of usage and to help with benchmarking.

The system enforced a standard project management methodology in which standard issue lists, status reports and work plans were managed along with a single document repository that enabled standard and consistent communication with executive and project sponsors and project team members that did not exist in the past. The system paved the way for a robust demand management initiative that was recently undertaken that enabled IT and business unit leadership to see current and future IT demand and the resources necessary to address that demand.

The IT governance process for projects and service request management was now in one system, so it could be tracked from inception to closure; reports and dashboards could be produced along the way to track progress and decisions. Finally, true executive and team management reporting now exists to show burn rates of resources on work per entity, overall resource utilization and availability by a particular IT service group, resource forecasts overall and by an IT service group, project and service request dashboards and status reporting. Many complex and unwieldy manual tracking mechanisms for resource, project and IT management were eliminated by tracking and standardizing all work in one system.

### **Lessons Learned for Implementation**

After the implementation at UHHS, the implementation team got together and reviewed the project. There were several areas for improvement in doing an IT-MG system implementation, the team realized.

First, the level of change necessary to implement an IT-MG system is quite substantial. It cannot be assumed everyone does things in a manner that is easily mapped to a system nor that they effectively manage their work together at all levels of the organization. As a result, it is important to plan for the level of change with more user involvement and executive championship.

Second, do not underestimate the need for training. It is necessary to provide refreshers on an ongoing basis for those who do not understand the system as well as others who do but have limited knowledge.

Third, do not bite off more than you can chew. Organizations planning to implement IT-MG systems should

determine the key benefits and functionality that are needed and address those components first. It is a reasonable strategy to return and tweak the system afterward.

Fourth, develop a roadmap that includes provisions for management of ongoing changes. An organization that does not could be inundated by changes that cannot be prioritized, and it will have a difficult time communicating where the product is headed.

Fifth, organizations should implement a lasting support structure that includes face time with management to obtain their feedback, some kind of survey mechanism and ongoing support via the help desk to field user requests. Organizations must be nimble and responsive to users, especially when asking them to make a new software application their daily book or record for all work performed.

Finally, communication is the key, and there cannot be too much communication when implementing an IT-MG system. It might be painful for the implementation team, but the executive management and IT staff will appreciate the extra effort later.

### **Ongoing Challenges**

As with any system implementation, ongoing challenges arise that need to be tracked and addressed in a proactive manner. UHHS has had its share as the Clarity IT-MG system evolves.

One is management of consistent system performance and benchmarking that measures performance against other users of the system in healthcare and in other industries. The organization needs to know how to make the system faster and more effective for delivering data and a better decision support system for IT governance.

It is wrestling with the effort to improve the data archiving strategy to address multiple file stores that exist not just in Clarity but also in other parts of the IT environment, such as SharePoint. If data is archived more efficiently, the system will not be bogged down searching through large amounts of stored data.

Ongoing training of existing and new staff is crucial so knowledge of the Clarity system is kept fresh and the system enables staff to more easily track their work in the system. Also, it must continually manage system expectations and perceptions by management and staff. They want to know what to expect and when, and the level of the maturity of the system and where the current environment and system implementation at UHHS fits into that maturity.

It is also important to provide overall management of the system from a product perspective and a system administration perspective, to improve efficiency and to handle new versions and revisions of the product.

### **UHHS Part Two: The Evolution**

The Clarity system at UHHS continues to evolve into a more powerful system. As the challenges are addressed and

users and management continue to push the system to the limits, more analysis of the data that is being added to the system is needed.

There are several areas where the Clarity system is headed at UHHS. First, there is a push to have the business leaders and not just IT in the system to see reports, “to look through the window” into the IT organization, and find out how their needs are being addressed. Second, continuous quality improvement initiatives using the data, especially on the project side, are being launched to help benchmark future performance and see where the IT organization and its services can be improved. Third, there is a push to automate more of the current IT governance process to follow the development of IT projects from inception as an idea to formation into an approved project. Finally, there is a desire to continue to evolve the portfolio management concept for projects and what projects are slated for coming years.

### **Healthcare Trends in IT-MG**

There are some evolving and interesting trends in healthcare relating to IT-MG systems and their approach. It will be interesting to see what IT-MG vendors do to address these trends in the development of their systems.

These trends include the customer service portal approach, to give IT customers desired data on demand; the focus on demand management and forecasting of that ongoing demand; the creation of a true decision-support model that is embraced by IT-MG system vendors with the goal of making information more simple and straightforward;

continued focus on enterprise resource management and scheduling to drive down the costs of delivery and better manage growth; the involvement of non-IT users in IT projects where they have to track their time and issues and collaborate with IT staff; the continued focus on improving board room and executive management reporting as it relates to the delivery of IT services; and benchmarking the delivery of healthcare IT services, providing comparisons to other similar organizations.

### **Conclusion**

IT-MG and the systems that support the concept are on the rise in healthcare and in the industry in general. Double digit growth of the entire IT-MG system and PPM market is predicted for the next five years.<sup>3</sup> Healthcare organizations such as UHHS are meeting this trend and utilizing available systems to address IT governance needs. It will be interesting to see how healthcare IT-MG trends are adopted by various healthcare entities in their efforts to truly govern their IT shops.

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