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Information Technology Governance: Vital to Healthcare Systems

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Vital to Healthcare Systems

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CERTIFICATE OF APPROVAL

This is to certify that the Master's Capstone Project of

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Information Technology Governance:
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Has been approved

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Introduction

Healthcare in the United States is in transition. Healthcare delivery organizations are undergoing drastic changes in how they care for people. These organizations range from small private physician offices to huge multisystem, multistate organizations. Whether large or small they share the need to manage change. Issues driving these changes include the need to increase safety of care and improve patient outcomes, proposals for changes in payment models, new legislation and regulatory agency rules regarding the use of electronic health records.

Given these changes, I believe health information technology is as essential as medical research in enhancing the delivery of health care. Successful organizations have demonstrated improved safety, effectiveness and efficiency with the implementation of electronic health records and multifunctional interoperable health information technology. (Shekelle & Morton, 2006). Even so, the task of improving quality of health care while reducing cost is difficult. To make valuable changes hospitals and health systems are trying to manage the population better as well as improving care for individual patients. (Morrissey, 2014) Actual change management requires input and analysis of proposed changes, then decisions and prioritization regarding the changes. If reaching a consensus is not possible there needs to be a mechanism to settle the dispute.

Evaluating patient data improves delivery of safe, effective, efficient health care. Collecting and evaluating the data has been time consuming and difficult using paper based patient medical records. The American Recovery and Reinvestment Act (ARRA) of 2009 provided financial incentives to significantly increase the availability of electronic health records throughout the United States. This has upgraded the ability of providers and institutions to collect and analyze patient data. Large data set analysis can provide information that is useful to

develop action plans. Large health systems need to move from isolated applications to integrated collaborative information systems. Smaller hospitals and health systems have difficulty obtaining adequate patient volumes to capture large data sets. Acquisitions and mergers are possible methods for obtaining sufficient population scale for these data sets. Another method involves arranging for sharing information while maintaining independence and is preferable for many hospitals. All of the examples above have problems with operational and information technology strategy. As healthcare moves toward coordinated care, fully functional electronic health record systems can provide predictive models so that care will be more precise and proactive rather than reactive. Overcoming the technical barriers of moving from paper based data collection and isolated electronic information systems to fully functional electronic health systems are in progress. Creating structures and processes to make decisions and resolve issues are even greater challenges. Governance of information technology applications and resources is critical for the utilization of these resources in improving patient care and the success of healthcare delivery organizations.

The following case study is an example of an attempt to structure an alliance between two independent systems utilizing a single instance of an electronic health record. Names of the health systems are changed. I will discuss difficulties with this attempt, with emphasis on governance. I will seek methods for possible improvement through literature search and asking for expert opinions. Suggestions for other institutions starting this journey will be made.

Case Presentation

Ourtown Health System (OHS) has been on the journey to provide quality care at a reasonable cost to the patients they serve. Several years ago, strategic planning efforts

recognized the need to move toward an electronic medical record. They selected best of breed methodology with attempts to develop interfaces to share data between the disparate applications. The system was located in a rural area. The Information Technology (IT) personnel needed to maintain and optimize the applications, develop and maintain the interfaces were difficult to recruit and train.

In an effort to decrease the local talent needed, OHS planned to move toward a preferred vendor with the possibility of eventually implementing an enterprise electronic health record (EHR) with integrated modules rather than interfaces between different applications. The vendor selected was to provide at least 80% of the applications needed. Incorporation of new applications needed to move toward a complete health record seemed to be difficult for our vendor. The vendor purchased many of their new applications rather than research and develop them. Physicians became aware of alternative vendor applications because of marketing of niche products in their specialties. End users evaluated the preferred vendor's Emergency Department and Inpatient Physician documentation applications and felt that they were substandard. This led to maintaining paper workflow in both of these areas. Implementation of an enterprise resource planning application from the preferred vendor failed and the vendor eventually withdrew the product from the market. Implementation of a high quality electronic health record remained elusive.

The ARRA had $19 billion appropriated for the Health Information Technology for Economic and Clinical Health Act (HITECH) and expected to spend $38 billion on this portion of the stimulus. Documentation of meaningful use of the electronic health record was rewarded in stages of the HITECH act, with future penalties for hospitals and eligible providers who do not demonstrate meeting the criteria. OHS received stimulus money after attesting to Stage 1

meaningful use with legacy programs and the installed enterprise applications. The vendor recognized the difficulty in integrating their current platform and had concerns about their ability to meet future meaningful use measures. They announced that they would not be supporting the platform in the future but would move research and development to a different integrated platform based on a single database. After the announcement, OHS decided to evaluate whether to transition to this platform or select a new vendor for a modern enterprise electronic health record.

A task force was organized and a structured market evaluation and selection process resulted in the recommendation to implement Epic (www.epic.com Epic Systems Corporation, Madison, Wisconsin) as the enterprise software vendor. There was concern that attesting for Stage 2 meaningful use with the current platform would be difficult, resource intensive, and this work would be mostly abandoned when transitioning to a new software system.

Rapid implementation and stabilization of the new system, in order to attest to Stage 2 in time for the financial reward, became a strategic plan for OHS. The cost of implementing, optimizing and maintaining an enterprise electronic health record through its life cycle is substantial, especially for a small health system. OHS conducted discussions with several larger systems to determine if arrangements with benefits to both systems were possible. Shared cost and resources for the EHR, ability to rapidly deploy Epic, increased population base with opportunities for data mining and insurance product development were a few of proposed benefits. The Board of OHS was interested in avoiding takeover by a larger system but desired to attempt some type of affiliation including EHR sharing to benefit both systems. The board selected an alliance between OHS and the larger, financially secure, metropolitan City Health System (CHS) to attain these benefits.

The Advisory Board (Umansky, 2014) published a field guide to hospital partnership and affiliation models. They describe five models: clinical affiliation, regional collaborative, accountable care organization, clinically integrated hospital network, and merger or acquisition. The alliance most closely resembled the regional collaborative, which is a flexible structure for collaborating on specific initiatives. It can build a foundation for potential future integration. Shared IT will require capital investment. This model opens communication between providers that can lead to additional partnership opportunities. It requires time but supports expansion of sharing best practices and intellect. Risks of this model include limited ability to hold partners accountable because of the lack of formal legal or financial integration. If the partners are not able to coexist and gain benefits, it is easy to dissolve the partnership.

Formation of the affiliation occurred while CHS was in the process of implementing Epic across their system. The hospitals in their system had made decisions and set priorities. They had a rapid rolling deployment through the hospitals. This was possible based on one of the principles of their implementation, which was that all of the hospitals would share the same EHR settings and work flows. The assumption of the affiliation was that this would continue with OHS hospitals. Implementation and adoption of the shared Epic enterprise electronic health record within the alliance has proven to be challenging. The two systems have different cultures and have evolved different workflows, different approaches to order sets, they have different lab systems, and strategic plans were not aligned. OHS has small critical access hospitals that have particular regulatory and reimbursement requirements that were not adequately addressed in the existing CHS Epic build. Reaching agreement where there was no clear consensus was difficult. The affiliation governance of information technology has functioned well enough to achieve implementation across both systems in the inpatient and ambulatory arenas. OHS stayed as close

as possible to the CHS implementation plans, varying only when necessary. When consensus could not be reached, decisions were postponed with plans to deal with them during stabilization and optimization phases. Implementation of Epic throughout the affiliation hospitals and ambulatory sites was an important milestone in achieving improved care but not an end to the journey.

Implementation does not equal adoption

In order to achieve increased safety and improved patient outcomes from electronic health records the organization must be using the system for clinical benefit. Adoption is a dynamic process that is dependent on engaged leadership, proficient end users, measurement of clinical and financial outcomes, and a plan to sustain the effort for the life of the application. Factors that indicate adoption is at risk include:

-the implementation go-live event as the team's singular focus,

-lack of planning for post go-live workflow changes, end-user education, metrics and overall optimization,

-lack of a clearly defined governance structure to sustain the EMR,

-no sustainable strategy to educate and engage the end users to effectively utilize the new workflow,

-an IT executive as the primary owner of the EHR project with operational leadership disengaged; leaders view the effort as compulsory and not transformational,

-clinicians are rarely involved or are resistant; especially those in formal or informal leadership roles,

-lack of metrics to assess adoption and ultimately achieve projected clinical and financial outcomes. (Haugen & Woodside, 2010)

Several of these factors indicating risk of incomplete adoption were present within the Epic affiliation. Differences between the systems have become more evident and the governance structure has not been effective in moving forward to full adoption. Inability to agree on which areas to converge work flow and documentation or remain separate has led to the decision to evaluate the governance of IT for the affiliation.

Definitions of Governance

Governance is the way that a city, company, etc., is controlled by the people who run it. www.merriam-webster.com.

Governance is a repeatable, rational process to collect ideas, select projects, and prioritize. (Hites, 2010)

Corporate **governance** is defined as the system of rules, practices, and processes by which a company is directed and controlled. www.investopedia.com/terms/c/corporategovernance.asp.

Corporate **governance:** Providing the structure for determining organizational objectives and monitoring performance to ensure that objectives are attained. (Organization for Economic Cooperation and Development 1999 OECD Principles for Corporate Governance)

Governance for management of information systems defines "who makes decisions, who provides inputs and analyzes the issues, who sets priorities, and who settles disputes when there is no clear consensus." (Yanosky R, 2008)

IT Governance: Specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT. (Weill & Ross, 2004)

Governance Structure

Determining the best governance model for specific institutions and systems involves understanding the current state and selecting a desired future state. Identifying the correct stakeholders and obtaining commitment to the responsibilities of their roles is important. Because there are multiple priorities in every healthcare system, it is difficult to determine scope and develop charter documents. Culture plays a large role and it is important that there is consistent sponsorship from the enterprise and the facilities represented. Decisions have to be made in a timely manner and supported going forward. The simplified strategic plan for CHS for implementation of Epic was a centralized IT model. Within the hospitals and clinics in the system, the build team for Epic stressed standardization and minimal deviation for the operational units. This plan allowed rapid preparation for the Epic electronic health record. The implementation was also done in a rapid sequence fashion. This aligned with OHS's desire to implement Epic in time to qualify for Stage 2 meaningful use payment.

OHS's alliance with CHS occurred during CHS's Epic implementation. The plan for implementation of Epic for OHS would be most efficient if the centralized model was continued. One of the difficulties with this plan was differences between the two systems. CHS had no critical access hospitals whereas the OHS includes four critical access hospitals. The implementation proceeded with the centralized strategy where possible; however, changes had to be made related to different medication formularies, different laboratory systems and different

work processes, particularly with the critical access hospitals. The alliance IT governance during implementation was based on the centralized model.

Centralized model of Integrated Delivery System Information Technology governance

Components of the model include a central Integrated Delivery System (IDS) Information Technology (IT) committee that develops IT plans, priorities, budget, and insures overall integration. A central IT department exists and has authority over local IT groups. Local IT budgets are subject to central approval. The IT plan specifies how the integrated infrastructure and applications will be achieved. Operational units have to choose applications to support local ancillary departments from an approved list. Data elements and identifiers have to use a common dictionary or standard.

Benefits of centralized model include integration of best practices in clinical use and IT methods. There is efficiency of scale with standard process and workflow (standard build for new implementations, standard training for use of the software, improved maintenance of common dictionary and standards). This can result in savings in staffing costs. The centralized model helps to avoid anarchy in the IDS. (Weill & Ross, 2004)
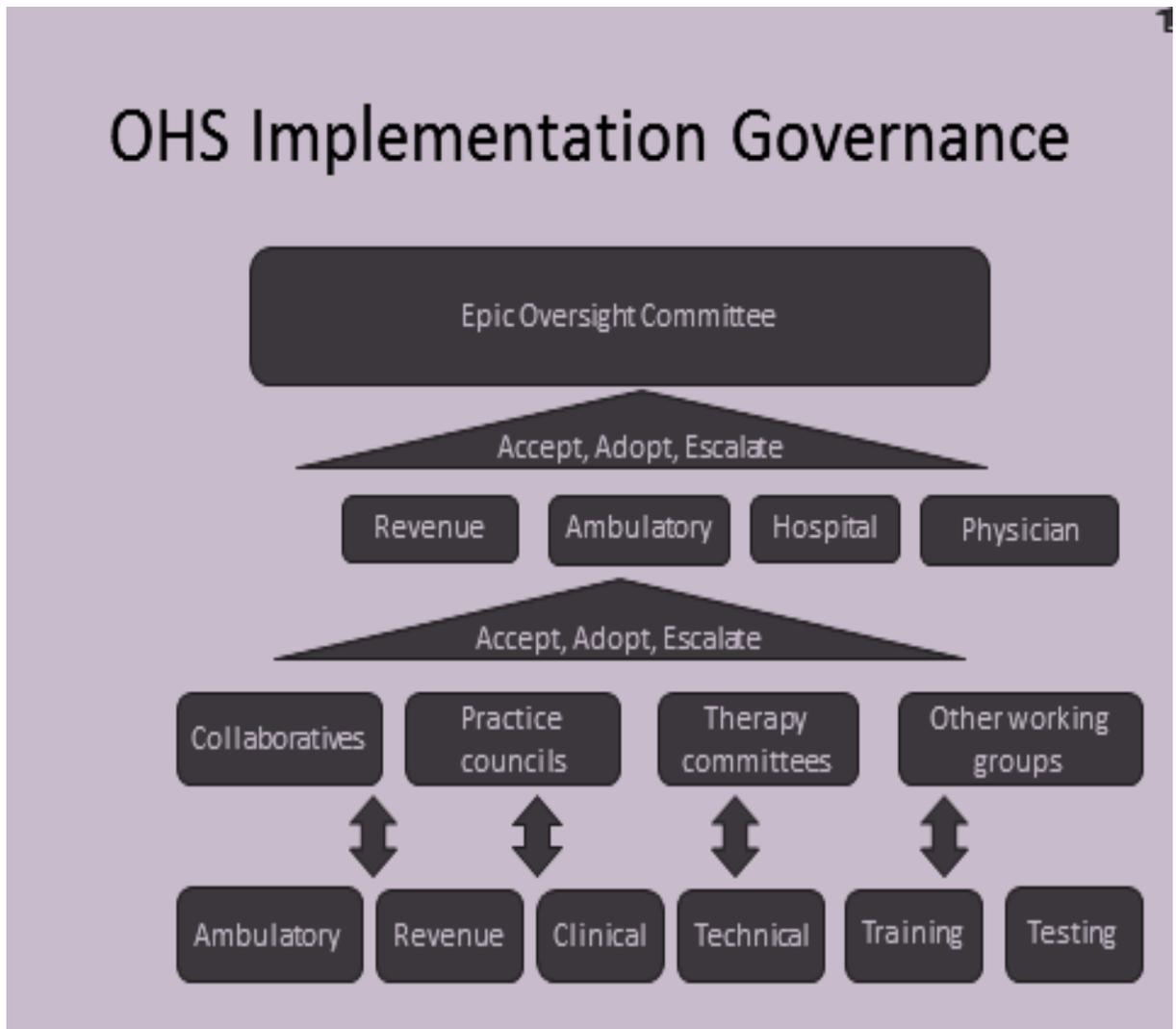
OHS governance structure

During the preparation and implementation of Epic, OHS replicated the governance and committee structure used by CHS and approved by Epic. The governance structure for the Epic Program was responsible for project oversight, management and guidance to ensure that sound decisions, direction and progress were determined in a timely manner.

OHS evaluated the Epic software production and workflows developed by CHS. OHS implementation teams validated that this met the needs of the OHS operating units. The following process and governance was utilized for any needed changes or additions. Adoption Teams composed of operational staff, leaders and process improvement leads reviewed key workflows, design and content utilized from CHS's design and build. Operational Committees from Revenue, Ambulatory, Hospital, and Physicians facilitated decisions that were of a broader impact to the organization. The Epic Oversight Committee provided oversight and direction setting for the implementation effort, project approach, cost, schedule, benefits realization, deployment and sequencing, and funding allocations.

Within this governance structure, teams were encouraged to make decisions at the lowest level possible whenever possible. In the event that a team could not make a decision, it was escalated to the next tier up in the governance structure. The adoption teams rely on Subject Matter Experts (SME) to assist with evaluating Epic workflow for feasibility at the end user level.

OHS Implementation Governance

Epic Oversight Committee

Accept, Adopt, Escalate

Revenue | Ambulatory | Hospital | Physician

Accept, Adopt, Escalate

Collaboratives | Practice councils | Therapy committees | Other working groups

Ambulatory | Revenue | Clinical | Technical | Training | Testing

The Epic implementation project was successful, coming in on schedule and budget. Scope was somewhat limited and multiple issues were encountered. The implementation plan was to postpone dealing with noncritical issues until future work for stabilization and optimization of the software platform. OHS was able to attest for Stage 2 meaningful use on the planned timeline. They were able to transition to ICD-10. These accomplishments were celebrated as they planned for the future.

The original plan to revise the committee structure and governance post implementation was to combine the CHS and OHS implementation committees into a joint Epic governance structure. A joint Analytics Committee was also to be established as one of the operational committees. The purpose of the structure was to provide defined processes for issue identification, escalation and resolution. An additional purpose was to provide oversight and structure to ongoing Epic work as it relates to stabilization, optimization, future upgrades, expansion to new sites and applications, standardization, and adoption of the Epic electronic health record.

Governance activities during implementation were very time intensive. Multiple meetings were required, with people serving on multiple teams, councils and committees. The focus of both organizations was successful implementation of Epic. Many areas of day-to-day business were placed on hold during the implementation. This resulted in frustration in the leadership and business units and any delay or denial of proposals or projects was blamed on the Epic implementation.

Post implementation there was concern regarding meeting fatigue and inefficiencies of the joint governance structure. A simplification of the complex implementation structure was desired. After discussions with institutions that had longer experience with Epic a simplified structure was suggested. The revised governance structure was presented to the CHS and OHS Epic Oversight Committees and accepted. The Alliance formed between CHS and OHS to use a single instance of Epic was used as the naming convention. The governance structure was simplified to two committees, the Alliance Epic Steering Committee (AESC) and the Alliance Epic Operations Committee (AEOC).

Alliance Epic governance post implementation

The Chief Operations Officer (COO) from CHS and the Chief Executive Officer (CEO) of OHS co-chair the Alliance Epic Steering Committee (AESC. Responsibilities of the committee: oversees overall management of Epic software, authorizes Epic program scope, determines timelines of delivery of IT projects, adjudicates escalated issues from the AEOC, and recommends budget for the EpicCare program to CHS and OHS. The committee defines decision-making rights over upgrades, new growth, and new modules as well as timeline, resources and budget decisions. It appoints the AEOC members. The AESC meets bimonthly.

The members of the AESC, one each from CHS and OHS, or the equivalent title:

System Chief Nursing Executive (CNE)

System Chief Information Officer (CIO)

System Chief Medical Officer (CMO)

System Medical Staff President

System Chief Financial Officer (CFO)

Hospital CEO/COO

The Alliance Epic Operating Committee (AEOC) is co- chaired by the Chief Technical Officer (CTO) of CHS and the Chief Medical/Quality Officer (CM/QO) of OHS. The AEOC has authority from the AESC to prioritize the work of the Epic Build Team. The Inova and Valley Health appointees collaborate and reach consensus – there is One AEOC and One Build Process for the Alliance.

The members of the AEOC, one each from CHS and OHS:

Physician – Order Sets & Documentation Templates (Orders, Willow, Beacon, Laboratory)

Nurse – Flow sheets and Documentation Templates (ClinDoc, ASAP, MyChart Bedside)

IT Specialists – Security, Technical Architecture, Enterprise Architecture

Hospital Administrator – Work Flows in Hospitals (Radiant, Cupid)

Clinic Administrator – Work flows in Clinic (Ambulatory, Beacon, MyChart)

Financial Operators – Registration, Scheduling, Billing (HB, PB, Cadence, HIM)

PeriOp Leader – (Medical Director of OR) – Work flows in Surgery (OpTime, Anesthesia)

Quality Officers – Best practice alerts and reminders

Analytics leader – Reports, Dashboards, Universes (Clarity, Business Objects)

Clinical Research –input into Registration, Billing, Orders, Clinical Documentation

Managed care – Many modules, Revenue cycle, MyChart, Clinical Documentation

AEOC responsibilities include the following: a dyad comprised of the above committee members from CHS and OHS meet with Application Build Team Lead/Informatics Lead/Operational SME to review changes requested by users for prioritization. The AEOC dyad approves a single list of requests for service (RFS) for the application build team to work on. The build team apprises the members of team's current capacity for RFS work, considering other commitments (upgrades, break/fix, ongoing maintenance, existing RFS work, growth projects). Epic Build Team Lead provides AEOC weekly updates and monthly reports on the progress of RFS work against the list created by AEOC. The AEOC meets monthly.

Post implementation difficulties

The Affiliation instituted the post implementation governance. Multiple problems were encountered over the next year, and questions rose as to the strategy going forward. OHS and CHS did not develop a new strategic plan for operations that integrates the new Epic governance.

- The workflow changes with incorporating a new electronic health record were approved at a high level but were difficult to incorporate at an end user level. Multiple workflow alternatives are the result.

- Epic is only one (large) component of IT responsibility. It may not be possible to combine overall IT governance for independent healthcare systems.

- There are significant differences in the culture and structure of the two systems therefore a centralized governance model is difficult to sustain. There are risks of the centralized model. It is difficult to change culture and work flows that have evolved over time in operational units. Reaching consensus on what is best practice can be difficult when there is not clear evidence. When consensus cannot be reached determining the degree of freedom to give users is an issue. An example is in centrally developed order sets. Do the users have multiple choices? Who decides whether to preselect best practice options? How do you make it easy to do the right thing? Different formularies, different drug suppliers, different compounders cause real headaches in standardization attempts. The workflow for different operational units (large tertiary care, critical access, home health, LTAC) may not be able to be standardized for many aspects of care. All of these risks are critical to evaluate if the software is shared (single instance of Epic) but institutions are financially separate.

- The strategic plan for each system is different. CHS is in large metropolitan area with competing hospitals in close proximity. They need to develop primary care relationships, expand (and maintain) market share to remain financially viable. They allow significant variability in physician practice in an attempt to encourage physicians to practice at CHS rather than a competing hospital or ambulatory center. OHS is a rural system, historically without significant local competition. It has been live on CPOE and other applications for years. It has matured the order sets and nursing documentation. The physicians have embraced standardization of order sets to drive consistent care processes and best practices. Clinical decision support and safety measures were developed as part of the order sets. The culture at OHS has been very collaborative between physicians, nurses,

pharmacists and other caregivers. Physicians choose to practice at OHS or move elsewhere. Because of the different strategies, there is great difficulty in using a centralized IT governance structure.

- The simplified structure of an operations committee and steering committee has not functioned well in two organizations that are newly implemented in Epic. The committees are too large for discussion and decision-making, and have mostly been informational. The AEOC has authority from the AESC to prioritize the work of the Epic Build Team but the mechanisms for decision-making and prioritization were not clear. The dyads were given a matrix to assign prioritization scores to requests for service but there were inconsistencies in application. There was no shared enterprise resource planning application so estimates of work/resources were inaccurate. Operational managers realized that the time required to make changes in the system can be very long and therefore they have developed multiple work-arounds, gaming the system.
- Decisions made at some meetings have not been followed; post meeting influential individuals game the system.
- Communication is difficult with multiple sites in one system, very difficult with 2 systems and many more sites. OHS and CHS do not share common intranet, email naming conventions are different, independent practitioners do not use corporate email.
- Meeting management needed to be improved, pre-meeting communication of agenda was lacking, notes regarding decisions made and action items and owners were not distributed consistently after meetings.
- Smaller projects that could be quick wins do not have an expedited process.

- Combination of inefficiency, understaffing, and an overabundance of work has resulted in dissatisfaction and loss of trained workers.

These problems demonstrate why governance is important. Implementing Epic and meeting Meaningful Use requirements may seem to have reduced the importance of governance but just the opposite is true. Our experience over the last year confirms that IT strategy is much more complicated and needs strong governance structure and processes to ensure everyone's support and to gain value from the technology. (Kropf & Scalzi, 2012)

Developing good governance

Governance structures should be heavily influenced by basic strategic objectives. This will take different forms if the strategy is to centrally govern an integrated delivery system (IDS) as compared to an IDS with desire to be locally responsive. If solid governance exists, the organization can answer the following questions. (Wager, Lee, & Glaser, 2013)

Who sets priorities for IT?

Who is responsible for implementing IT plans?

How are the IT priorities set?

How are IT responsibilities distributed between IT and the rest of the organization and between centralized and decentralized (local) IT groups in an integrated delivery system?

How are IT budgets developed?

What organizational structures are needed to support linkage between IT and the rest of the organization?

What principles will guide the implementation process?

In order to govern IT well that there should be five core structures for governing IT:

1. Board responsibility for IT

2. A senior leadership IT forum and subcommittees to guide agenda, finalize budget, develops policies, and address issues that can't be resolved elsewhere

3. Initiative and project specific committees and roles

4. IT liaison relationships

5. A chief information officer (CIO) and other IT staff. (Wager, Lee, & Glaser, 2013)

Studies examining organizations that demonstrate effective use of IT have identified some common attributes.

- Individuals and leadership matter. Talented, skilled, experienced individuals are critical.

- Relationships are critical. The individual players and the team must be strong.

- The technology and the technical infrastructure both enable and hinder. State of the art technology may be far less important than having good infrastructure architecture.

- The organization must encourage innovation.

- True innovation takes time.

- Evaluation of IT opportunities must be thoughtful.

- Processes, data, and differentiation form the basis of an IT innovation.

- Alignment between IT and business opportunities must be mature and strong.

- The IT asset is critical. (Wager, Lee, & Glaser, 2013)

The foundation of IT governance has a structure of five interrelated key IT governance decisions.

IT principles – clarifying the business role of IT, establishes the direction of all other decisions

IT architecture – defining integration and standardization requirements

IT infrastructure strategies – determining shared and enabled services

Business application needs – specifications for purchased or developed applications

IT investment and prioritization – choosing which initiatives to fund and how much to spend

(Weill & Ross, 2004)

Governance patterns vary in different organizations because of several factors.

1. Strategic and performance goals. Effective governance reinforces desirable behaviors to achieve organization's strategic and performance goals. Every organization has different goals so the governance has different approaches.

2. Organizational structure was traditionally utilized to align decision making with goals and strategies.   For small organizations, the structure can be appreciated throughout, from executive level to end users. Competing goals, larger geographic areas, intense competition and rapid change have required larger enterprises to identify processes and governance that transcends the organization chart.

3. Governance experience. Less mature enterprises change governance more often and struggle with coordination as they progress. Operational leaders must learn about IT strategy and IT leaders must learn about business strategy to improve decision-making expertise.

4. Size and diversity. With growth and diversity comes competing and conflicting objectives. Desirable behaviors are less clear. The approach to governance is likely to change as the enterprise becomes more complex.

5. Industry and regional differences. Decision-making cultures vary with these differences and governance may need to be approached differently. (Weill & Ross, 2004)

Governance mechanisms – structures, processes and communications

The first step in designing IT governance is determining structures for decision-making. Examples of decision-making structures are executive or senior management committee, IT leadership committee, process teams with IT members, business / IT relationship managers, IT council of business and IT executives, architecture committee, capital improvement committee. (Weill & Ross, 2004)

Effective governance depends on actions as well as decisions. Alignment processes should provide input into governance decisions and communicate the outputs of IT decisions. Key alignment processes include IT investment approval process, architecture exception process, service level agreements, chargeback, project tracking, and formal tracking of business value for IT.

The IT investment approval process ensures that the investments generate significant returns relative to alternative opportunities for investment. Standardized project proposals demonstrate the relative benefits and risks of projects, but they are not as effective as more individualized proposals in establishing how the proposed project contributes to the organization's strategic objectives. Business units may need to establish their priorities based on their objectives while investment committees determine the set of projects that together provide enterprise strategic benefits.

Architectural exception process is the identification of the occasional necessary exception to standards. Technology standards are important for business and IT efficiency but occasional exceptions are appropriate. The process is used to meet unique business needs and to evaluate when existing standards may be becoming obsolete. Business units may ignore standards and implement exceptions without approval unless there is an accepted exception process, leading to

frustration for business unit managers who follow the rules. An effective process requires research and definition of standards and the organization's commitment to technology standards. (Weill & Ross, 2004)

Service Level Agreements (SLAs) describe the services IT offers and the costs of the services. They are negotiated between IT and the business units and help to clarify the requirements of the business units. SLAs can be compared to similar offerings by outside providers. This can result in outsourcing some services or providing them in a cost effective manner internally. It also helps the business units to make rational choices regarding IT requests for issues such as aligning response time requests depending on the importance of the service. Accurate SLA listings require IT units to be able to convert labor, process time, storage capacity and similar issues into charges business managers can understand. Demand for IT services can then be negotiated with the available resources, or decisions made to outsource if necessary.

Chargeback is an accounting technique used to charge business units for the use of shared IT services. Chargeback can be used with SLAs as the means of charging for services delivered or it can be an alternative to SLAs for IT services for which there are no service levels. IT costs are complicated and chargeback may lead to complaints about fair value, lack of trust and even not using shared services. Nevertheless, if IT understands its costs and fairly charges the chargeback process can demonstrate cost savings from shared services. It also can lead to discussions between IT and business units about IT charges with better informed IT governance decisions. (Weill & Ross, 2004)

Project tracking is a critical part of IT governance. There are varieties of tools to support project tracking and top performing enterprises develop the discipline to use project management methodology.

Formal tracking of business value for IT is difficult. IT decisions are more effective when the decision makers understand the value the enterprise receives from IT. Tracking includes monitoring whether expectations for a project's revenue increases or cost reductions actually happen. Outcomes of complex projects are hard to quantify so intermediate objectives may be used as indicators of value received.

Communication approaches include announcements from senior management and the office of CIO or office of IT governance, working with managers who do not follow the rules, web based portals and intranets for IT. IT governance needs a recognized advocate, owner, and organizational home. Most use the office of IT governance or the office of the CIO to communicate governance arrangements. Whoever is responsible for IT governance needs to ensure alignment between IT governance and governance of other assets (financial, human, physical, IP, and relationship). (Weill & Ross, 2004)

The types of IT governance mechanisms: structures, processes and communication, should have the following characteristics. They should define the responsibilities for specific groups, be clear to those who are affected or want to change governance decisions, and engage individuals who are in the best position to make decisions. Effective sets of mechanisms use all three types. Decision making structures should be limited with responsibility for making decisions spread through the organization by alignment mechanisms, not decision-making structures. Membership should be overlapping in decision-making structures with connections between IT and business decisions. There should be connections at multiple levels in the organization between enterprise and business unit governance. The governance structure should enable the strategic objectives at each level of the organization. Management objectives and metrics should be clear.

Leading businesses have common factors of IT governance. The majority of managers in leadership can accurately describe IT governance. IT governance is effectively communicated across the organization by multiple approaches. Senior managers are thoughtfully involved in IT governance. There are clear business objectives for IT investment. Differentiated business strategies are clearly articulated. There are few renegades and more formally approved architectural exceptions. There are few major changes in governance from year to year. (Weill & Ross, 2004)

Weill and Ross have distilled lessons learned from outstanding leaders into the Top Ten Leadership Principles of IT Governance

1. Actively Design Governance

2. Know when to redesign

3. Involve senior managers

4. Make choices

5. Clarify the exception handling process

6. Provide the right incentives

7. Assign ownership and accountability for IT governance

8. Design governance at multiple organizational levels

9. Provide transparency and education

10. Implement common mechanisms across key assets: human, financial, physical, intellectual property, information and IT, and relationships.

Healthcare IT governance should include a physician body or council, with a formal charter to establish the council, delineate membership, and include members from all

departments. EMR supporters as well as curmudgeons should be included. The charter explains responsibilities and accountabilities and includes specific policies, procedures and best practices for physician use of the EMR. The council chair should be a practicing physician, CMO/CMIO and CIO should be administrative staff to the council. The council should develop a vision statement that describes the benefit of EMR to patient, physicians, staff, and the organization. (Haugen & Woodside, 2010)

Adherence to well-defined governance processes ensures that the right people are involved at the right time with the right information. Lack of governance allows the wrong people to debate decisions endlessly, ignore standards easily, and often conclude by making the wrong decision. Establish governance processes to involve right stakeholders to make decisions, establish policies and best practices and evaluate performance against expectations. Governance should be flexible enough to evolve over time. Governance needed during implementation may be very different from the governance needed two years after go-live. Effective governance closes the loop by monitoring actual adoption in end user work product. This creates processes that can evolve over time to meet the needs of the organization. (Haugen & Woodside, 2010)

(Nunno, 2014) published a structured approach to IT governance initiative. We can use this approach to evaluate the alliance IT governance system.

Strategize and plan: Set up business goals and principles for IT governance. Assess the existing IT portfolio. Create a governance framework that describes the proposed IT portfolio, business value and risks.

Develop governance: Establish a governance process to execute the governance framework. Identify and engage stakeholders. Agree on decision making and advisory roles, establish a flow for decision-making. Implement and set up feedback mechanisms.
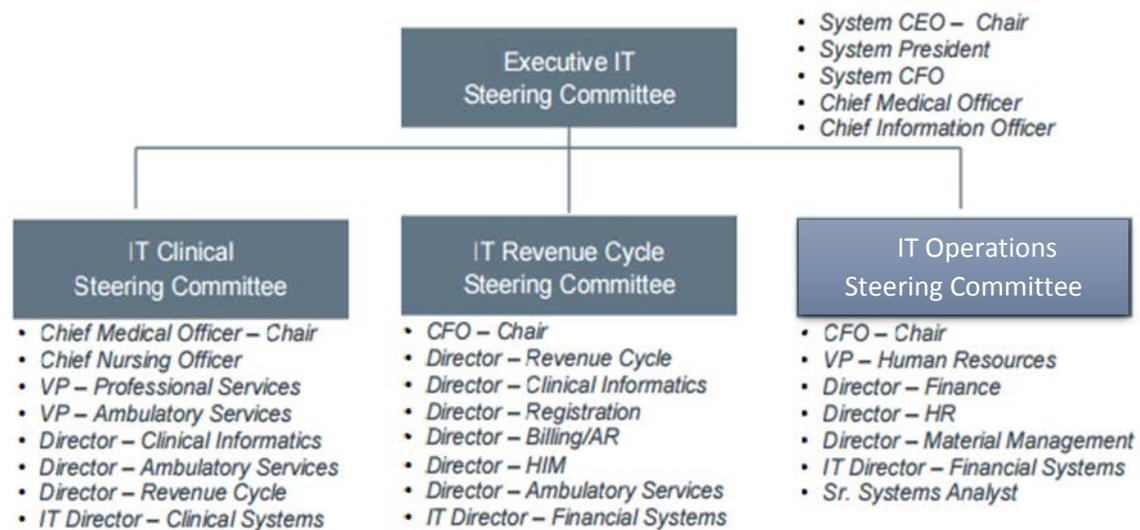
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Drive change management: Setup system to communicate ideas, multiple channels. Get buy–in from stakeholders. Assess progress in business benefits and risk management, drive stakeholder commitment to the changes.

Execute: Operate the IT governance initiative in accordance with goals. Establish an exception process to encourage continuous learning, innovation and evolution of the governance system.
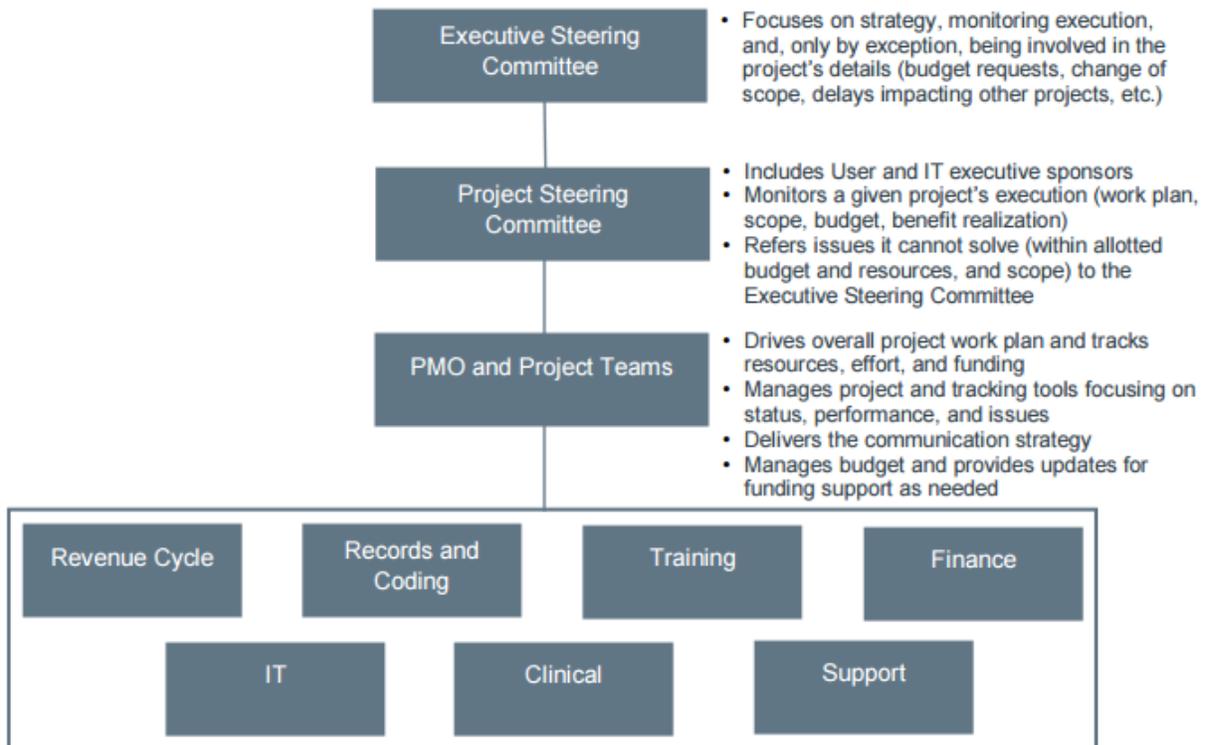
The Advisory Board Company in a Health Care IT Advisor published the IT Governance Charter Toolkit. (Health Care IT Advisor, 2014) The following recommendations taken from the toolkit are helpful when developing (or revising) IT governance.

Organization and Structure of Governance – Carefully streamline governance structures to provide appropriate input but maintain the efficiency of decision-making. See figure 1 for an example of a functionally oriented structure and figure 2 for project-oriented structure.

Figure 1: Example IT Governance Structure with Functionally Oriented Subcommittees

Figure 2: Example IT Governance Structure with Project Oriented Committee Structure

| Executive Steering Committee | • Focuses on strategy, monitoring execution, and, only by exception, being involved in the project's details (budget requests, change of scope, delays impacting other projects, etc.) |

| Project Steering Committee | • Includes User and IT executive sponsors • Monitors a given project's execution (work plan, scope, budget, benefit realization) • Refers issues it cannot solve (within allotted budget and resources, and scope) to the Executive Steering Committee |

| PMO and Project Teams | • Drives overall project work plan and tracks resources, effort, and funding • Manages project and tracking tools focusing on status, performance, and issues • Delivers the communication strategy • Manages budget and provides updates for funding support as needed |

Revenue Cycle — Records and Coding — Training — Finance — IT — Clinical — Support

Purpose - Each committee and subcommittee should have a purpose statement, can be used to refine roles and responsibilities, determine membership and establish meeting frequency.

Committee roles and responsibilities - Articulate the roles and responsibilities for each governance committee clearly.

Membership - Select committee members with the authority to fulfill the purpose of the committee.

Meeting frequency - Align committee meetings with the organization's planning cycle.

Blend locally responsive and centralized model for IDS IT governance

The centralized model for IT governance was selected for CHS and OHS because of published benefits to central control. (DeFord, 2005) An alternative to the centralized model is the locally responsive model. There is also a blend of these models in some integrated delivery systems, gaining benefits while reducing risks. The affiliation should consider a blended model. Many health care organizations have moved to a relatively decentralized structure.

The locally responsive model has a small central IT group which assists local IT plan development. The group has an advisory and coordination relationship with the local IT organizations. The local IT steering committees develop local IT plans according to processes and criteria defined locally. Central IT steering committee reviews these plans to identify and advise on areas of potential redundancy or serious inconsistency. IT budgets are developed locally according to overall budget guidelines established centrally. Examples are rules for capitalizing new systems and selecting the duration to use for depreciation. Some data is standardized to ensure the IDS can prepare consolidated financial statements and patient activity counts. Local sites can select departmental systems but the system must be able to support centrally defined security requirements.

Benefits of a locally responsive model include maintenance of culture and work flows that have evolved, particularly as it pertains to disparate operational units. Inability to reach consensus when there is not clear evidence can be accommodated. Individual IT units can develop systems that fit their needs and can respond promptly to requests that match the local priorities. End users can develop small applications that increase productivity. The decentralized structure may have a better chance of implementing innovative systems. The model allows time to integrate infrastructure and applications and move toward standardization. (Oz, 2006)

There are risks of a locally responsive model. It is resource intensive and the benefit of efficiency of scale possible in the centralized model is not achieved. Standardization of best practices and common dictionaries across the system is difficult. Anarchy is difficult to avoid.

Centralized, locally responsive, or blended IT governance models are useful to consider when considering mergers, acquisitions, and affiliations for shared IT services. Integrated Delivery Systems can be defined in different ways. They can be tightly integrated, becoming full members of the group with complete involvement in activities. For this type of integration, the centralized method of governance functions well. In contrast, the IDS can be much more loosely formed with members becoming part of a larger system but maintaining local differences. The locally responsive model is a better form of governance for this system. These two models offer different definitions of integration. Because they use different definitions, the IT governance will be different. The governance must match the strategic objectives. (Wager, Lee, & Glaser, 2013) If the strategic objectives are very different for healthcare delivery organizations, careful planning is required to set up the appropriate governance. There is tension between centralization vs. decentralization with organization at the top needed and ability to meet end user needs at the local level. A blended model with features of centralized governance in some areas with locally responsive governance at others might best match the strategic objectives of the CHS-OHS alliance. The strategic plan for the Epic portion of the alliance is to operate under one instance of Epic. Economy of scale, standard workflow and documentation should be possible in many areas. Governance at this level should be central. As we go down the organizational structure, some strategies diverge, for example the differences necessary in handling medications. The governance structure should have the ability to accommodate necessary differences at this level.

Another example is at the Critical Access Hospital level, which requires different work flows compared to the larger hospitals. Algorithms for standardization of care can be very helpful at a high level but must be functional at the clinician patient interface or they will fail. End user input is needed when developing centralized standardized work flows. At any level where the standard is not possible, governance flexibility may be necessary. The architectural exceptions process noted above could be a method to deal with the issue and will need to be applied at any level where the exception is unavoidable.

Governance of a complex organization can be compared to our political government. Tension exists between economy of scale and meeting the needs of the population (end-users). Many rules and regulations are nationwide, federally written and enforced. States have specific rules not covered by the federal government and this is further divided into county, city and even neighborhood rules and regulations. IT governance could follow similar divisions with rules for enterprise level, hospital-facility level, department within facility level.

Input from informatics leaders

The decisions regarding development of governance for healthcare organizations can be difficult. In order to gather information regarding best practices, part of my project involved getting input from informatics leaders around the country. I sent emails asking for willingness to participate with either an email survey or a telephone interview. Several leaders were willing to give their input. I developed an email survey based on a health care IT advisor from the advisory Board in 2014 and Wager, Lee and Glaser seen below. A group of chief medical information officer's and IT consultants answered the survey or were willing to discuss governance via the phone interview. Relevant responses are summarized below.

Twenty Questions for Informatics Leaders

1. Who gives input and decides what principles will guide IT strategy?

2. How does your organization ensure that the corporate strategy and IT strategy align?

3. Who sets priorities for IT?

4. How are the IT priorities set?

5. Who is responsible for implementing IT plans?

6. How are IT responsibilities distributed between IT and the rest of the organization and between centralized and decentralized (local) IT groups in an integrated delivery system?

7. How are IT budgets developed?

8. What organizational structures are needed to support linkage between IT and the rest of the organization?

9. What is purpose of the governing (steering) committee?

10. What are the roles and responsibilities of the steering committee members?

11. Who sits on the steering committee? Is it a rotating or permanent membership? Do members have the authority to fulfill the purpose of the committee?

12. At what frequency do the steering committee meetings take place? Are they aligned with the organization's planning cycle?

13. How do you streamline governance to provide appropriate input without compromising efficiency of decision-making?

14. Are subcommittees of the steering committee required at your organization? If so, for what purpose?

15. What is the organizing principal for subcommittees? (For example: Based on functional areas?)

16. Who will serve as the common link between each subcommittee and the steering committee?

17. To whom does your CMIO report? Would you be willing to share your organization chart (deidentified) for IT governance?

18. How do you ensure Board responsibility for IT?

19. Has your organization educated leaders (CMO, CMIO, Med staff and Business leaders) about standards and best practices for IT, analogous to evidence based medicine efforts?

20. How do you get operational leaders at all levels to put IT strategy and governance into their planning and workflow?

CMIO from a not for profit health care system with medical centers, critical access hospitals, ambulatory clinics and labs. IT strategy has been divided in two parts, technical and clinical/business. The Information Services Technology (IST) group deals with issues related to infrastructure, servers and other typical IT issues as well as participate with Informatics and the medical group in the clinical and business automation strategy. Alignment of corporate and IT strategy is attempted by senior leaders in clinical, IT and operations but not always accomplished. Governance involving IST, Informatics, Safety, and Quality does prioritization. The CIO is responsible for implementing technical IT plans; clinical/business is CNO/CMO/CMIO with IST. The majority of IT responsibilities are centrally run with some PACS analysts and informatics at local level. The leadership is responsible for linkage of IT and rest of organization, working jointly on strategy, resources and planning. The governing (steering) committee is responsible for budget, timeline and scope. The governance structure aims to be able to make decisions that do not have to be escalated but the priority based on time,

cost, and resources may need to go to higher level of governance. They do not have subcommittees of steering committee. CMIO reports to CMO/CNO dyad. IT best practices are explained at IST and some informatics leaders (ITIL, ISO etc.). Medical staff is not involved. Change Management and adoption teams are critical to get IT strategy and governance into operational planning and workflow. There is involvement of operational leaders with informatics support.

CMIO at a not for profit healthcare system with three hospitals and ambulatory services. Senior leadership gives input and decides principles for IT strategy, much coming from budgetary planning rather than business needs. They are developing an IS steering committee, recently hired the CIO and CMIO. Informatics should be supporting the linkage between IT and rest of organization. Most support of IT is centralized but some applications such as PACS have their own IT support. Currently the CFO and CMIO report to Board to ensure Board responsibility for IT.

CMIO of a faith based not-for-profit entity with over 80 hospitals, thousands of outpatient practices, nursing and continuing care facilities. There are two levels for governance, enterprise and local. Major decisions across the system such as purchase and policies governing large software platforms and meaningful use strategy occur at enterprise level. Local project managers and IT resources manage smaller projects. Forums are used to communicate local needs (but it is difficult in very large systems to have equal representation). The Senior Leadership ensures Corporate and IT strategy alignment, VP level positions of the CIO and CMIO. Alignment is not as tight at the local level. There are local IS Steering

committees with COO/VPMA, Nursing Director, CFO, CIO, IT manager, CIO, and CMIO as permanent members. This structure frequently results in late input by IT and Clinical Informatics in decision-making. Streamlining governance without compromising efficiency of decision making is part of the constant tension of corporate governance, alleviated by constant vertical and horizontal communication. Enterprise Shared IT services, Enterprise Clinical Informatics, and Local IT Steering Committees set priorities. There is regular review of clinical informatics requests, regular review of regulatory and security requirements, and regular review of infrastructure. Implementation is done by collaboration with the enterprise project management office, vendors, local IT resources and clinicians. Local initiatives such as implementing new functionality of existing enterprise software that is not in use elsewhere are chartered and approved at enterprise level if they require capital dollars and corporate resources, then trained, implemented and supported locally. Links between IT and rest of organization are also at enterprise and local level. The enterprise has multiple teams/collaboratives such as Clinical Informatics Oversight, CMIO council, Clinical Decision Support Steering, Order Set Checkpoint, Sepsis, Heart Failure, ED Care Re-design. At the local level, the CMIO manages the Clinical Informatics Council that is multidisciplinary and reviews and coordinates new projects, plans training and support. The CMIO attends Medical Executive, Physician Peer Review, IT Steering, P&T, and Core Measures Quality Committees. The CMIO reports directly to the CMO/COO but has no budget or staff. All IT staff report to CIO and are employees of the enterprise, not the local hospital. Local CIOs have general reporting relationships to CMO/COO, CNO, VP Marketing, and CFO, but reports directly to enterprise CIO. Weekly operational rounding with senior leadership and regular meetings with informatics leads in all departments are held to imbed IT strategy into operational leader planning and workflow.

CIO/CMIO for not-for-profit faith based health care system operating multiple (27) hospitals across 5 states, over 35 non-acute facilities. IT function rated at 3/5, very large projects involving Project Management Office and very small projects are done well. Medium projects are difficult to prioritize, do not move forward smoothly. He was a clinically trained (MD) CIO and feels that with appropriate training people with clinical background can be very effective as CIO's. Clinicians and operational leaders who are involved in IT governance are educated and given routine information regarding IT best practices. There is variable understanding of IT best practices for most clinicians who are not involved in governance. The enterprise is governed centrally in all aspects, this is positive because of standardization of IT and use of electronic health record, but at noted above prioritization of medium sized initiatives has been difficult.

CMIO–CMO director of a health information network comprised of outpatient facilities who receive federal assistance for underserved populations. The board is responsible for major decisions; data stewardship committee decides policy and procedures centrally. At this level there is no local freedom. Within the service level there is a lot of freedom. Even though they are using the same EHR (Epic), the software has the capability of providing standardized central policies and procedures and the flexibility at the service level. (Example of a locally utilized flowsheet that was different from central procedure for race and ethnicity documentation). The smaller institutions need to be at the table for decisions regarding Service Level Agreements from the central level such as Implementation SLA, maintenance SLA.

MD Consultant that provides strategic planning, information technology consulting service for healthcare providers. Many organizations have implemented EMRs and are now looking to get value from their investments. Consulting firms are assisting in developing informatics programs in these organizations. IT strategy historically did not mesh well with organizational strategy but now it is very important. All operations require IT, the community requires IT so the strategy for both must be coordinated. It is proving to be very hard to converge different organizations into a common IT platform. It works well with total integration as in purchase or takeover models but not easy with loosely affiliated distinct organizations. He is not sure if the loose affiliation is a stable arrangement for long periods. In order to be efficient the efforts must be collaborative with nursing, pharmacy, etc. They suggest a Physician Committee that is populated by Medical Executive Committee, administrated (but not chaired) by the CMIO. It should meet monthly and share issues with nursing group. Handle all enhancement requests in an overlap group, with suggested enhancements based on estimates from IT regarding capacity for work. This gives the Medical Staff and Nursing control over work on their perceived needs. It is unclear how well this would scale up to a large system. A central structure with local subcommittees seems to work best; a federation model (with more local control) is chaotic. Vendors are good at sales and implementation. Service delivery (optimization) is not their business model. Epic and Cerner are moving to improve their support of optimization but they still do not have significant experience. Third party consultants have the most experience and have moved to fill this gap even though they are expensive.

CMIO of university teaching hospital, children's hospital, research center with plans for region connect to smaller hospital to form a clinically integrated network (CIN).

Reasons to consider the CIN are many shared patients, the institutions are relatively close geographically, and medical staff works at several hospitals and ambulatory sites.

Governance principles that will lead to building a shared EMR platform:

1. Move toward (or implement) the Epic foundation system. They are not close to foundation but are doing 2014 and 2015 combined upgrades and going back to foundation build. Customization and variation from the foundation build make future upgrades more difficult, and foundation designed to incorporate best practices from Epic customer base. The governing steering committee has involvement from all institutions in the CIN. They determine that the only way not to follow foundation is if all stakeholders agree. An example was given of a build in Epic foundation that only applies to a limited geographic area, not in the university hospital area.

2. The steering committee can decide to incorporate application options that are not part of foundation but are felt to be best practice by Epic.

3. Best practices as determined by some expert group, could be incorporated if all agree.

4. Customization of system outside of foundation– only done by the institution who really feel they need and are willing to pay for development. If this proves to be accepted and expanded to all, the original innovator will be reimbursed.

5. Provide Service Level Agreements (contracted) for IT services to all of the others in the Clinically Integrated Network.

As changes are made moving toward foundation, try to get opinions from all. The members of the clinically integrated network will have representation on steering Committee. They have a voice, but admittedly the bigger institutions will tend to drive the changes.

CIO for a health system with six hospitals, 50 clinical sites.

IT Governance Council – Serves as the strategic oversight body for IT function; chaired by CIO, members are operational and strategic leaders (CEO, SVPs, and VPs). It is responsible for translating organizational strategy into IT strategy, investments and organizational capabilities, ensuring broad operational engagement in IT direction and priorities, promoting a culture of excellence, transparency, and collaboration, approving IT financial plan and annual IT performance measures and developing and promoting IT guiding principles for effective, consistent decision making.

Informatics Governance – guides informatics capability and oversees an extensive, inclusive structure for clinical direction of the electronic health record and other related systems. Membership: CMO, CNO, CIO, CMIO, CNIO. Responsible for: establishing the overall informatics direction, providing formal connection between senior leadership and the clinician – led structure (Physician Advisory Council; Nursing and Ancillary Advisory Council; Specialty user groups, etc.).

Information Privacy & Security Committee – Provides oversight and direction to programs promoting compliance with privacy and security regulations and best practices.

Initiative Specific Executive Steering Committees – Provides oversight for major IT enabled operational initiatives, ensuring successful adoption and use, fit with business needs, adherence to approved charter (scope, schedule, and budget). Example committees include

Enterprise Resource Planning (ERP), Time and attendance, Patient Incident reporting, My Health, Business Intelligence.

Academic medical center Chief Medical Information Officer (CMIO). The Medical Center has moved to a centralized governance with input, decision making and priority setting from C-suite and vice deans. Historically siloed departmental IT groups have been moved centrally, with some left as "specialty apps". A governance (steering) committee does strategic and capital budget support – says "no" unless business need demonstrated. It advocates/defends appropriate off budget cycle projects, cancels low performing initiatives. CXO are voting members, IT managers do not vote. Advisory subcommittees have authority to make decisions within guardrails but elevate contentious issues to steering committee. Subcommittees are mission/function based – clinical, infrastructure, data, education, research. The CXO or vice dean for each subcommittee area serves as the link between subcommittee and steering committee. CMIO reports to CIO, CIO reports to Board so they have responsibility for IT. The biggest challenge they face is in educating leaders and users in best practices for IT. Use of the EMR is variable in efficiency and effectiveness by objective time and activity measures. An optimization team is being launched because it has been inadequately resourced for a decade.

CIO and CMIO from a regional health care system. The purpose of IT governance is transparency with engagement of clinical and administrative leaders in understanding the challenges of IT, speed and scope of IT utilization. IT governance provides a way to make decisions about resource utilization, sets priorities, assures value from the systems. There needs to be alignment between the organization's strategic plan and IT strategic plan. Projects should

no longer be seen as IT projects, but strategic projects enabled by IT. Committee Structure includes a project to implement common applications across the system.

The CEO chairs the IT Governance committee. The leadership council that includes senior managers of the system and CEOs of member organizations appoints members. There are no fixed terms. Members of the governance committee include CEOs of member facilities, the system CMO, CIO, CFO and VP for continuum of care, 2 hospital nurses and the CMIO. The system board of directors does not have an IT committee.

The IT directors group has membership consisting of IT directors at each member hospital, system CIO, the Medical Center CMIO, system directors of customer support, clinical applications, member services, business process support, provider services, enterprise infrastructure, programming and interface, business systems and Project Management Office (PMO).

The Clinical coordinating committee is comprised of the CMO, CNO, and president of medical staff of each member organization. Subcommittee of this committee is the Clinical Systems Steering Committee – makes design decisions about EMR. A decision support work group of physicians makes decisions on order sets and clinical pathways.

Project prioritization was previously done with an annual prioritization process, IT governance committee ranked all major projects. They have moved from this centralized project prioritization process to a more decentralized process. The governance committee allocated IT staff project and work request hours to each member organization. The allocation was based on the percentage of money contributed by each member facility. This process will change because of multiple regulatory requirements that will consume all of the available IT staff hours. It is likely that projects proposed by individual facilities will be system projects and the governance

committee will have to prioritize those projects. The operating committee of the sponsor should do post implementation review. IT budget is done at an enterprise level then the CFO determines percentage allocated to member facilities after board approves budget. Communication can be difficult; not every facility is on IT governance committee. The CIO communicates in person to each facility.

CIO, CMIO, CFO and CNO from single hospital. The purpose of IT governance is to help the customers (senior leadership, clinicians, and business sponsors) make the right choices. It should leave people feeling they had a voice and understand why decisions were made. The Information Management Steering Committee (IMSC) is the decision making body of senior management. It defines and guides development, support, and funding of corporate information management (IM) policy framework. It sets policy, recommends and monitors initiatives. The IMSC has final decision-making authority on information management proposals, monitors strategic metrics, approves the IT/IM strategic plan and associated capital budgets. IMSC assures that the IT/IM strategic plan is aligned with the organization's strategic plan. It provides regular IM updates to the appropriate board committees. The CIO is the chairperson, the CEO is the executive sponsor, members include CFO, CMIO, CMO, CNO, VP marketing, VP business development, and VP outpatient services.

Advisory committees report up to IMSC. They work on issues brought to them or raised by their members, including project and budget decisions. Issues are brought to IMSC for disposition. Business sponsors usually bring projects first to advisory committees, if accepted then send projects forward to IMSC but may require revisions by the sponsor. Advisory committees include the Clinical Operations Committee, Business Systems, Committee, Revenue

Cycle Action Team, HIPAA and Information Security Committee, and IT Infrastructure

Committee.

Keys to successful IT governance include having strong leadership, delivering on

promises, good communication and feedback about IT projects, having low tolerance for

bypassing the governance structure and speaking directly with someone who has tried to go

around the process but providing a way to handle exceptions.

Governance mistakes to avoid include not supplying the right level of data for the

decisions that need to be made, compromising on what is right to make the pressure go away,

allowing a siloed process that separates physicians, nurses, and managers. Remember that the

people who do not agree with you are not your enemies.

Recommendations for the Alliance

Ourtown Health System developed a strategic plan to move to an electronic medical

record. The journey has been hard but rewarding for their patients. Structuring an alliance

between two regional health care systems to share a modern electronic health record was even

more difficult. They have reaped benefits but have much work to do to continue stabilization

and optimization of the system. The case study presents significant opportunities for

improvement.

Strategize and plan

- Updating strategic planning is critical for both systems
- Set up business goals and principles for IT governance with a future state in mind.
  The top priority should be patient centered, safe, effective, efficient care. Properly
  adopted electronic health records and multifunctional interoperable health

information technology can assist in this care. If done poorly it can be a very expensive failure.

- IT strategy should be split in two parts; technical and clinical / business with the technical governed centrally and clinical / business having a more regional or local governance. Major decisions such as conversion to Epic lab system from different platforms at each system should be across the alliance enterprise. Local project managers and IT resources can manage smaller projects. Even though they are using the same EHR, the software has the capability of providing standardized central policies and procedures and flexibility at the service level.

- Move the Alliance toward the Epic foundation system. The existing customization and variation from the foundation build makes future upgrades more difficult. The foundation system incorporates best practices from the Epic customer base.

- Consider forming a clinical coordinating committee comprised of the CMO, CNO, and President of medical staff of each member organization. A subcommittee could make design decisions about EHR to reinforce supporting safe, effective, efficient patient centered care.

- Work groups of physicians, nurses, pharmacists should make decisions on order sets and clinical pathways.

- Both health systems must assess their existing IT portfolios.

- Strategically plan to standardize the portfolios when possible and use each other's expertise when evaluating new products and software.

- Standardize time tracking and reporting by role and work type for IT resources using the same methodology.

- Create a governance framework that describes the proposed IT portfolio, with the business value and risks.

Develop governance

- Establish a governance process to execute the governance framework

- Identify and engage stakeholders.

- Implement and set up feedback mechanisms.

- Agree on decision making and advisory roles, establish a flow chart for decision-making.

- Agree upon shared strategies and define areas where the systems have divergent strategies. Some initiatives may be specific to either system, a hospital within one or both systems, or an operational area in one or several hospitals (which may cross to both systems). The initial assumption for any proposal should be that it would have an effect on both systems. Analysis of the proposal and prioritization should be done by both systems unless it is determined that it will only involve a more limited group. This will allow formation of IT governance that clarifies shared decision making and appropriate input channels. If there is no clear consensus on shared proposals there needs to be defined governance structure to determine who settles the dispute. Governance of the critical access hospitals is an example where local responsibility for decisions is appropriate. A service line available in a single hospital such as cardiac transplant is another example of where local decision making works best.

- Revise the structure of the Alliance with clarification of responsibilities of the Alliance Oversight Committee. This group determines the use of IT within the Alliance.

- Develop a charter for the Alliance Epic Steering Committee with specification of roles and responsibilities, authority to make decisions and settle disputes.

- Implement tools such as dashboards for reporting.

- Split the Alliance Epic Operating Committee into governance councils with defined charters to cover operational areas, ambulatory, inpatient, revenue cycle, analytics, and outpatient services. The councils should have decision-making authority and the ability to create advisory groups to evaluate requests and analyze issues.

- CHS and OHS are responsible for communication and education of changes specific to their specific health system.
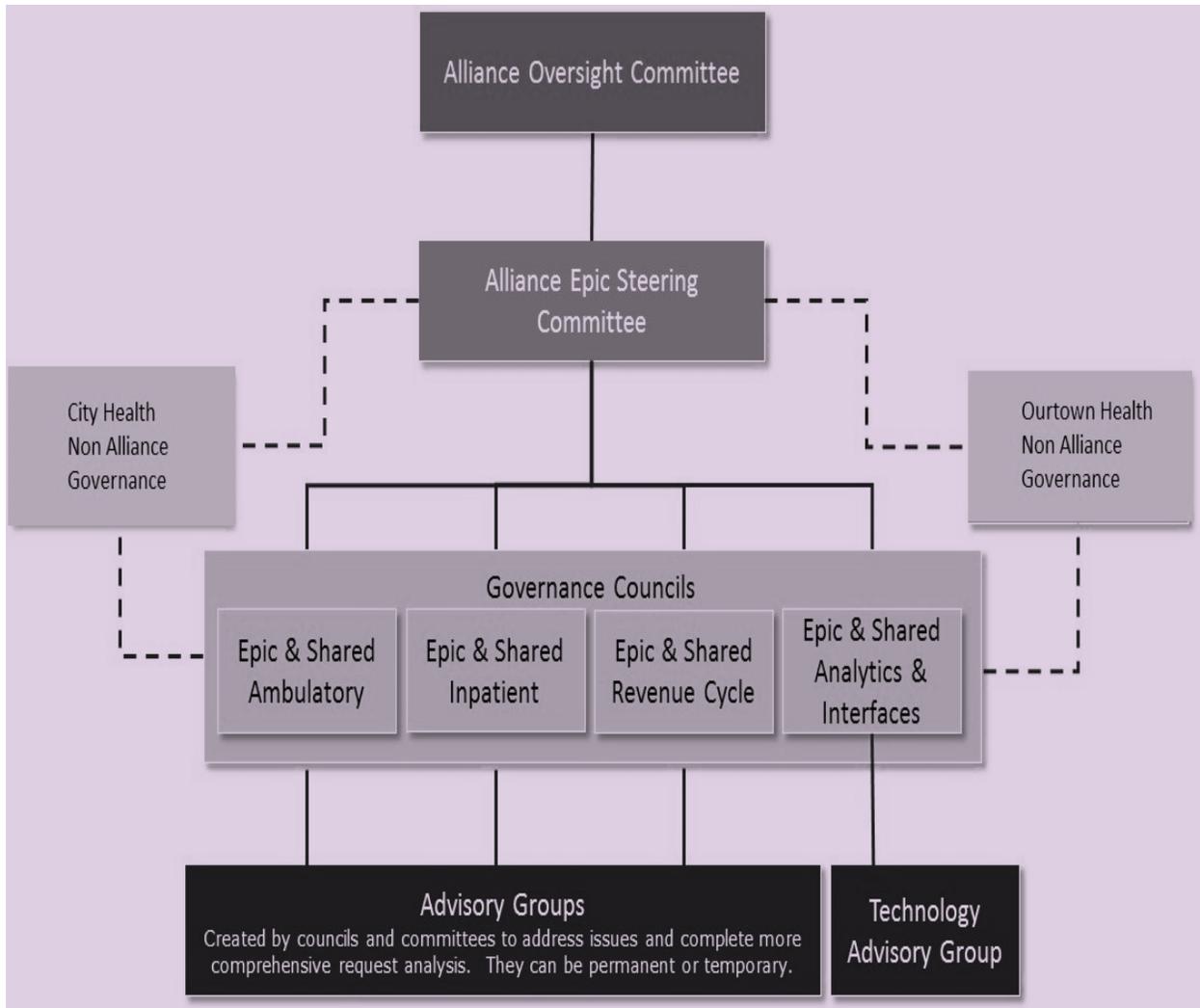
Drive change management

- Setup a system to communicate ideas using multiple channels.

- Agree upon standard, common terminology across the Alliance.

- Get buy–in from stakeholders.

- Assess progress in business benefits and risk management, drive stakeholder

  commitment to the changes. Streamlining governance without compromising

efficiency of decision making is part of the constant tension of corporate

governance, alleviated by constant vertical and horizontal communication.

Execute

- Operate the IT governance initiative in accordance with goals.

- Establish an exception process to encourage continuous learning, innovation and evolution of the governance system.

- Provide Service Level Agreements (contracted) for IT services.

- Review performance metrics regularly to discover areas that need improvement.

It is proving to be hard to converge different organizations into a common IT platform. It works well with total integration as in purchase or takeover models but not as easily with loosely affiliated distinct organizations. The limited ability to hold partners accountable in the regional collaborative affiliation model has the risk of failure of the alliance if they are not able to gain benefits and coexist. Moving toward a blended model of governance, with centralization whenever possible (but local control for issues that cannot be standardized) will allow time to converge infrastructure and applications and move toward standardization. It is best to facilitate shared governance within the alliance by examining each system's governance outside of the alliance and converging where possible. The alliance has successfully implemented a modern electronic health record, one of the best currently available. Continued work can make it even better for patients, the communities and the caregivers.

Summary

Healthcare delivery organizations must govern information technology applications, personnel, end users, and the processes involved. They determine "who makes decisions, who provides inputs and analyzes the issues, who sets priorities, and who settles disputes when there is no clear consensus." (Yanosky R, 2008) Single organizations have been able to depend on simple governance mechanisms: structures, processes, and communication. As organizations become more complicated, governance remains critical and has increased complexity. Acquisitions, mergers, affiliations or simple growth generate the necessity to evaluate IT governance and revise as needed to become top performers. Much of the difficulty revolves around the variability within healthcare. There is no best practice or single model for governance that will work for all organizations. The leaders and individuals involved must determine which structure will promote the best decision-making. The same is true for processes; assess them for the particular situation, evaluate regularly and change if needed. Effective communication is critical in managing necessary changes. Successful IT governance requires strong leadership, delivering on promises, and the ability to manage change. Good IT governance aligns decisions about use of IT with desired behaviors and organizational objectives. IT is expensive and must focus on strategic priorities. IT value depends on more than good technology. Top performers' governance make transparent the tensions around IT decisions such as standardization versus innovation. (Weill & Ross, 2004) In the end, our compass should direct us toward serving our patients best. If we keep our focus on patient outcomes, we will not be led astray.

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