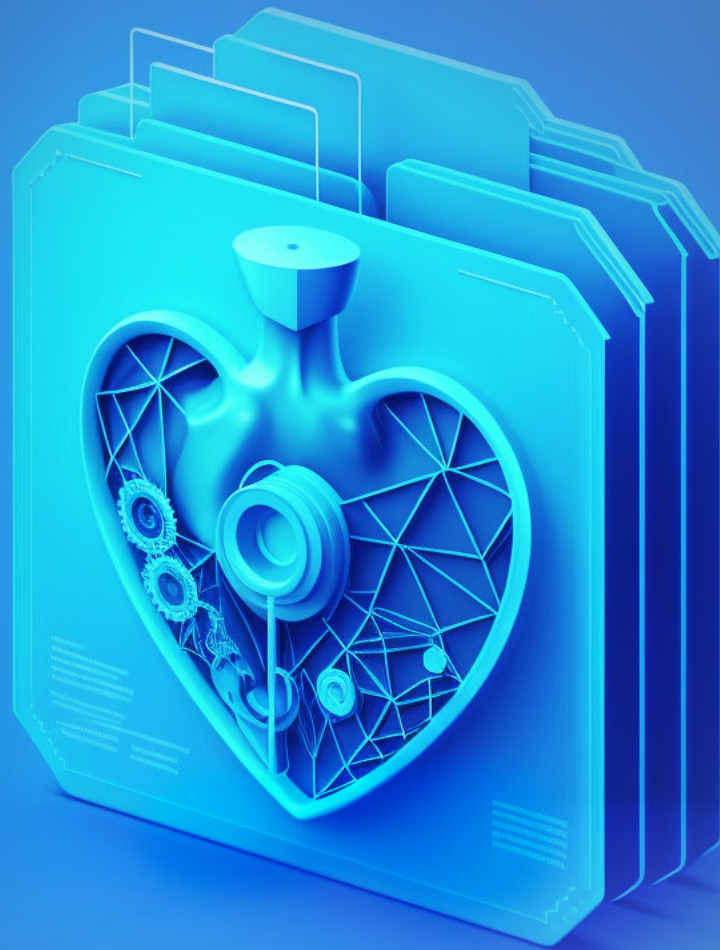


EHR Implementation: Critical Success Factors



Electronic health records (EHRs) streamline the storage and transmission of patient information. This type of system maintains accurate, real-time data that's accessible to both the healthcare provider and the patient. EHR systems reduce medical errors, improve communication and coordination, and enable more reliable prescribing. EHR implementation is important for providing quality patient care that delivers better outcomes and an enhanced patient experience.



The EHR market is expected to grow annually at a compound annual growth rate of about 6.2% between 2022 and 2028.¹ As it continues to expand, it may provide a wealth of new possibilities, like the potential for artificial intelligence to step in and predict clinical outcomes. When implementing an EHR, your organization must consider five key factors for success, which we will explore here.

1. Budgetary Considerations

EHR implementation comes with a significant price tag. While a small provider practice may spend a few hundred thousand dollars, many health systems are spending tens to hundreds of millions on their total cost of ownership (TCO), with the largest groups exceeding the billion dollar mark. In addition to the direct costs of an EHR, you'll also encounter costs to support the EHR such as new hardware, staff time, and dedicated workspaces for both implementation and ongoing use. Implementing your EHR system will typically require a dedicated team of individuals to assist through every stage of the process.



This includes an implementation team that can put in the necessary hours to liaise with your end-user community to tailor the system, configure the EHR, and thoroughly test it to ensure readiness for go-live. You may need to work with other IT professionals and supporting third-parties to assist with the integration of various hardware and device technologies, along with the training process, which requires further allocation of resources, from a dedicated training space to available hours.

In addition to the direct costs, consider:

- Hardware
- Staff Time
- Dedicated Workspaces

An improperly managed budget can lead to costly errors, such as prematurely rolling off the training staff. Though it may help cut costs to minimize training time, this will hinder the optimization of the EHR system and lead to a decrease in ROI. The right upfront investments will help streamline the training and implementation process, cutting costs in the long run. For example, renting a conference room at a nearby hotel allows you to handle training for a large-group setting, so that you can reap the benefits of in-person training, rather than losing attention and retention that can come with remote-training models.

Finally, your budget must provide for unexpected events like staff attrition or underperforming staff and related costs. Even the best plans can fall behind schedule and run over budget. It's important to make sure that you have enough funds available to compensate for these types of unanticipated occurrences by learning from others' experiences and allocating the appropriate contingency.

Best Practice: Create a TCO built on lessons from past implementations.

Before you begin the implementation process, create a detailed TCO to help guide you through the entirety of the project and on into the months to come when you're realizing a return on your investment (ROI). Begin by assessing the hardware and third-party applications currently in use in your organization. Address questions such as:

- Will your EHR system supplant existing third-party solutions, ultimately allowing you to sunset these systems, reduce these expenditures, and consolidate as much as possible to a single system?
- Will you need to upgrade your existing software or hardware to integrate it with your chosen EHR?

- Will you have extra costs associated with integrating these systems into the new EHR?
- Are there gaps between the third-party applications in use today and your new EHR system where you will need to procure new third-party applications to support the new end-state?

If you're supplanting your existing third parties, make sure you have a plan in place to do so. Check any contracts that you currently have to find out when they expire to determine staff ramp-off plans, budgetary costs, and options to negotiate earlier contract terminations.

When it comes to staff members for EHR implementation, training, and support, assess how many of these individuals you can source internally, and compare the cost of in-house help with the expense of outsourcing some of your implementation tasks. Leverage experts and implementations that have preceded you to **determine the right balance of internal and third-party support.** Using in-house professionals can often help save costs and build a team that can retain knowledge of your health system and EHR long-term. Strategically place experienced third-party support in more complex areas and for positions that will see natural attrition as you move towards a post go-live environment.

Prepare a plan that ramps down from your implementation staffing levels to post-live staffing levels gradually. For example, some groups have prepared a TCO that plans for that attrition to happen all in unison, three months post-live. The challenge with this approach is that if it is operationalized as such, the drop off in support will be abrupt for your end-user community and you likely won't be ready to move to a post-live staffing model that quickly. Plan for a gradual ramp-down while leaving flexibility for longer periods of support in some areas so that you can balance managing your costs while maintaining end-user support and allowing them to achieve enhanced efficiency when utilizing the EHR. The costs of this longer support model can be rationalized by the enhanced efficiency and reduction in time in the EHR from your end users, while allowing them to allocate that additional time to patient care activities.

Leverage experts and groups that have implemented your EHR of choice before you, in order to understand the highest value areas to plan for that may not be transparent, as they aren't included in a vendor quote. For example, some groups have added supplements to their training program to optimize the experience for their end users. Does the vendor you are working with do a good job of training their system for end users or is it a holistic experience where they train the system but also how the system changes their job and operational processes?

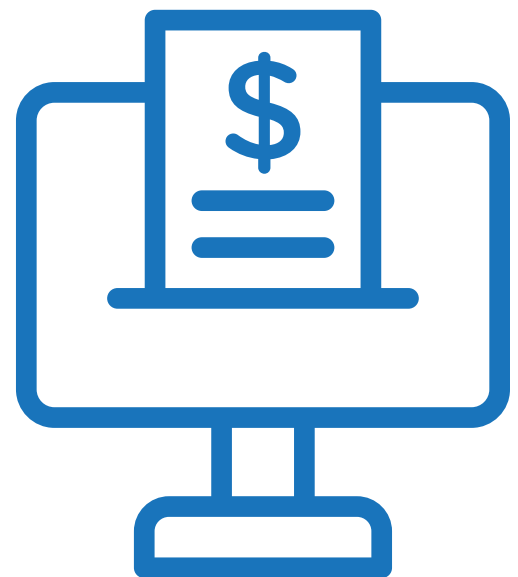


Sometimes allocating resources to closing the gap on the latter can be hugely beneficial to operational efficiency with your EHR. Another example may be offering additional courses purely on a transition to utilizing a computer as a primary means of medical documentation, depending on the comfort level of your end-user community. It is imperative that all care providers can properly utilize EHRs.

2. Staffing for EHR Implementation

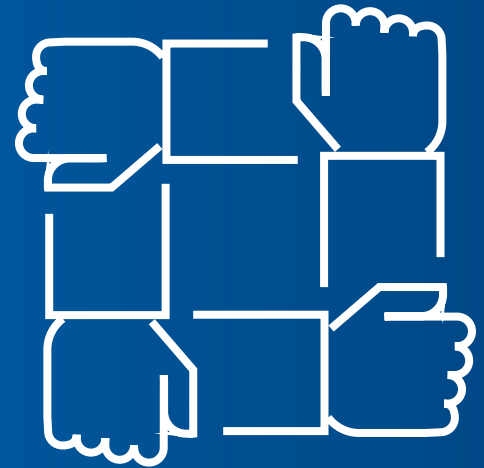
Organizations will often find that nearly **70% of their total costs over a 10-year period relate to staffing.**

Organizations may need to significantly increase their IT staffing footprint to properly implement an EHR system. Some vendors will not proceed with implementation until the organization meets a particular staffing threshold, so as to not immediately fall behind with their implementation plan by not having the right level of support in place. Lack of proper staffing can delay the entirety of the project, recognizing the interconnected nature of one EHR and the dependency of each module on other modules. Naturally, any sort of delay will introduce other costs, so it is important for businesses to prioritize adequate staffing before moving forward with any EHR plan.²



Best Practice: Organize, hire, and empower a well-rounded team.

Set realistic milestones for the implementation hiring process and create critical interim hiring milestones to ensure you have a full team in place with the right skill sets to succeed by the start of the implementation. Ensure that you have a strong toolset in place to identify the right candidates before you begin the sourcing process. At Medix, we utilize a variety of tools to identify the right types of candidates to succeed on an Epic project including aptitude testing, behavioral assessments, structured interviews, and more. By honing this process for over a decade, **we have fine tuned it to yield outcomes such as a 98.6% vendor training certification rate and a 92.4% retention rate of our staff by health systems after two years.**



Your EHR implementation team will work closely together but will have sub-teams within the overall implementation team to directly support each module. As you build each team, you'll want to think through the optimal mix of talent, behavioral traits, operational knowledge, and IT knowledge to make a well-rounded team. By sourcing talent that can ultimately be successful in transitioning to your EHR project but also sourcing individuals with different backgrounds that are beneficial to an EHR implementation, you'll be best positioned to succeed. Even though they likely will not be full-time on the EHR implementation project, make sure to plan for the right level of involvement from

your end users and operational team to support your implementation journey. In order to support this, ensure that allocating time to enable leaders and experts in your end-user community to participate is part of the plan. Getting these staff allocation levels right is critical as they will be key constituents in supporting the design of the system to tailor it in an optimal way for your health system.

The most successful projects are ones that have leadership and ownership from the top of the health system and instill a mindset that it is an operationally-led project, not an IT one.

Their knowledge of operational processes and procedures will be a critical component, as well as by involving them in the process, you help establish that buy-in and ownership. If available, use the vendor's certification and training program for the technical side of your EHR build. By leveraging a vendor certification process, you identify up-front an early indicator as to whether the staff you have identified will succeed, which provides you with an opportunity to make changes early if certain staff are stumbling through training. Planning for and making these staffing changes are difficult but important ones to make so that you don't compound the problem by needing to make changes later in the midst of an implementation.

Similarly, ensure you have a robust plan for ensuring your end users are ready to utilize the system. Many EHR vendors will recommend that you have a mandatory proficiency test for your end users after they complete training. For example, supplement the required training and proficiency test with a mandatory amount of hours spent in an EHR playground training environment with guided scenarios so that users can become familiar with their day-to-day workflows prior to the pressure of utilizing it with patients in a live environment. There will be a period of time where you will need to keep staff in place to operate legacy systems before they are sunsetted in favor of your new EHR system. **Think through staffing levels that will allow you to potentially shift allocated capital from those systems to your new EHR as that will be the future and the one to invest in.** There may be systems where you can move to a more "keep the lights on" approach and processes to put in place that put clear definition on the types of support that will be performed by support staff including but not limited to avoidance of any new projects or significant support requests that don't impact patient care or regulatory requirements.

Leverage experts and implementations that have preceded you to determine the right mix of required, recommended, and optional end-user training activities to yield the best outcomes once you go live with the software.

Implementing EHRs can be a complex and lengthy process. Celebrate milestones and build a positive team culture. Provide the proper compensation that is competitive with local health systems to help retain team members through this potentially challenging time. Create both career paths and financial ramps that will allow them to stay engaged and interested in staying at your health system long-term and after you go live. Strive to minimize turnover, but build a plan to replace struggling team members and execute on these plans if needed to keep your implementation program moving forward.

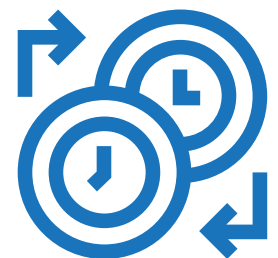
3. Implementation Timeline

Implementing an EHR requires a significant investment in time.³



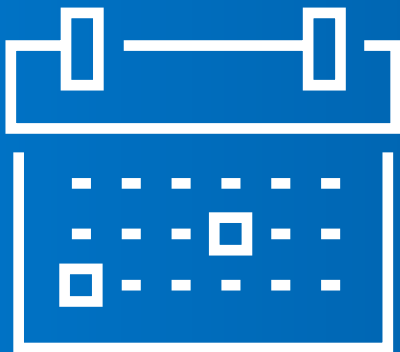
It then takes usually anywhere from another six months to two years to get an EHR system implemented and live, with potentially longer timelines for very large health systems. With an implementation timeline spanning a large period of time, you may encounter a variety of challenges that knock your projected schedule off track. Unexpected roadblocks, third-party dependencies, attrition, decision reversals, and team inefficiencies can all slow things down. We often see that when health systems keep weaker team members that are struggling on a given module, the stronger team members that are picking up the slack will often leave, which adds time and cost to the implementation process as you're required to hire and train replacements.

Compare your timeline to the health system calendar and you may find barriers to efficiency that are likely to slow things down like holidays, vacations, and other operational initiatives. While you can foresee some of this, you may face unforeseen complications as well, like outages, natural disasters, or a pandemic that can wreak havoc on the healthcare system.



Best Practice: Network, communicate, and adjust.

Network with peer organizations that have a similar profile and that utilize the same EHR. This can help you identify potential pain points and uncover tips and tricks for overcoming these issues. Account for possible delays and decision reversals when setting up your timeline by considering levers such as interim milestones for your team that put them ahead of the pace needed to make a final milestone.



Identify other health system projects, key dates, peak volume periods, and peak staff outage periods. These can help with (1) working with leadership to deprioritize or halt other projects that are not critical to patient safety or regulatory requirements so that time and focus can stay on the new EHR implementation, and (2) to ensure that plans are put in place with respect to overall timeline and go-live date for the non-negotiable competing priorities or key dates.

Promote a culture of honesty and feedback throughout the entire process so you can improve your processes as you go and promptly make adjustments if there's an issue. Empower decision-makers to actively make adjustments to people or processes so no one is mired in red tape that keeps them from effectively moving the project forward. **Set a timeline and supporting governance process that allows for all decisions to be made in 1-2 weeks** to allow for the project to progress at the needed pace while obtaining the right level of input and consensus from your governance teams.



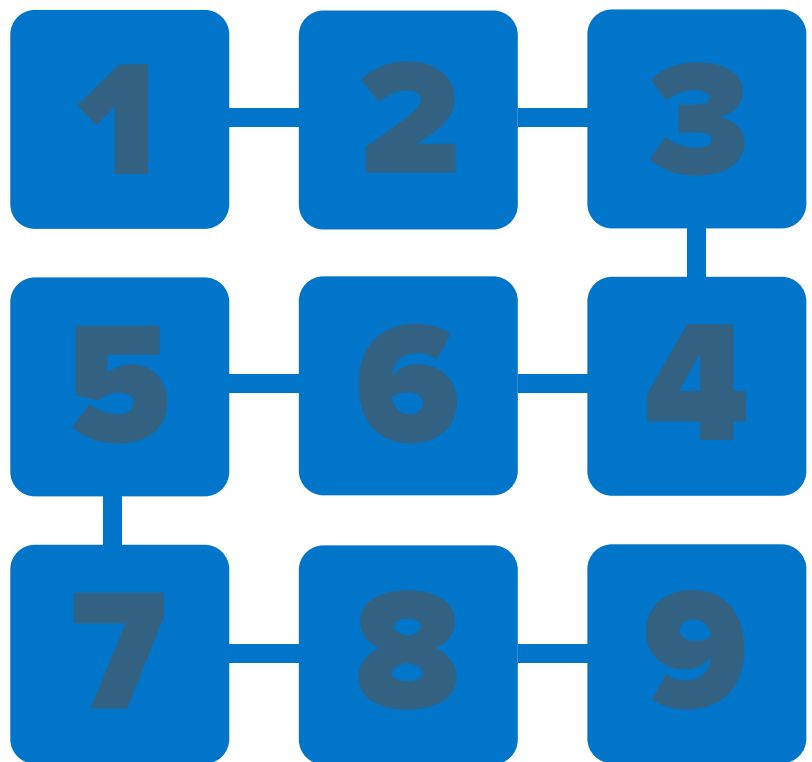
Communicate regularly with team members, both internally and externally to stay on top of performance milestones. Set stretch goals to foster high effort and consider connecting these to opportunities or rewards for added motivation. Celebrate your wins throughout the process to help keep everyone motivated and fully on board with what's happening.

4. Implementing Go-Live

Finally, your budget must provide for unexpected events like staff attrition or underperforming staff and related costs. Even the best plans can fall behind schedule and run over budget. It's important to make sure that you have enough funds available to compensate for these types of unanticipated occurrences by learning from others' experiences and allocating the appropriate contingency.

One: Module Sequencing

Historically, many health systems would split up go-lives between care settings in order to manage size and scope of their go-live(s). For example, going live first with all their outpatient clinics and then several months later going live with their hospital(s). Some of the benefits with this approach include the ability to share super-user support across go-lives, minimizing the size and scope of your go-lives in contrast to one big bang go-live event, and allowing the team to focus on one of these care settings before shifting focus to the other. Some of the considerations with this approach include designing the EHR for two end states for any workflows that cross between outpatient and inpatient settings, a slower realization of benefits, needing to retrain users that cross between care settings, increased cost relative to a big bang implementation due to an elongated timeline, requiring users to operate in two systems when they cross between care settings, and more. With these considerations, we've seen an increasing number of groups move to select between one of the following two options presented for go-live sequencing.





Two: Big Bang

Big bang implementation involves a large-scale rollout of the EHR system to all user sites within the system's functionality at one time. In one broad stroke, the entire organization adopts the method of utilizing the new EHR to facilitate the delivery of patient care. In recent years, the majority of EHR implementations have taken the big bang route. Using the big bang approach, your organization will begin realizing results from the new system as soon as possible. You can retire your legacy system in a shorter amount of time, reducing expenditures on these systems. The big bang moves you immediately and completely from one system to another. This eliminates

interim periods where you may have staff operating between multiple systems or patients moving between EHRs as they shift between care areas or sites. A big bang approach also eliminates the need for retraining should staff members cross over between care settings or sites since everyone is on the same system. The downside of the big bang approach is that it is typically more intensive with support needs. Everyone in the organization requires training at the same time, and you'll need to have adequate support staffing for the various questions, concerns, and issues that are likely to pop up in the first few months that you're using the new EHR system. For organizations with multiple sites, they aren't able to share super users from one site to another by supporting each others' go-lives and helping minimize external go-live support needs as you would be able to take advantage of in a rollout go-live sequencing model.

In a large organization, the big bang approach isn't always feasible for this reason. The scope of the implementation and resources required to instantly integrate a new model across the board is better suited to a smaller health system that can handle this kind of major organizational impact.

Three: Phased Implementation

A phased implementation rolls out the EHR by site or by groupings of sites while still going live with all modules. For example, for a health system across multiple states, going live with one state's clinics and hospitals at a first go-live and six months later taking the second state's clinics and hospitals live. Typically go-lives are separated by three to six months to allow for enough time for stabilization of the initial sites going live and ramp up for the next site to go live. A phased implementation allows for an initial set of users to go live with all modules in a smaller go-live event and then one or multiple additional go-lives. Some of the benefits of this include a smaller organizational impact of the go-live event, learnings from a first go-live to apply to future events, the ability to share super users across sites, and a gentler approach that delivers more focus and attention to each individual event. A few disadvantages to a phased implementation include slower realization of benefits, interim workflows for those that cross sites, staff using multiple systems that cross between sites, and perhaps most importantly, an increased time and cost of the implementation. The longer timeline associated with a phased approach translates to higher overall costs.

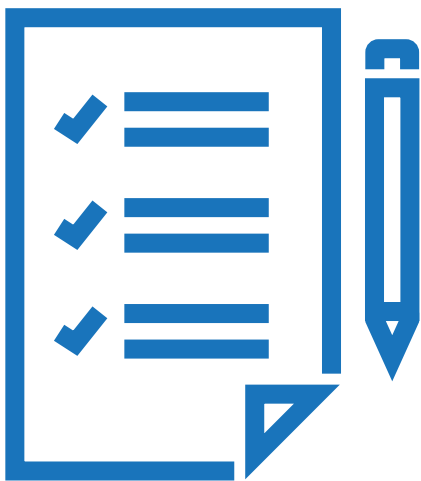


5. Determining EHR Governance

Finally, your budget must provide for unexpected events like staff attrition or underperforming staff and related costs. Even the best plans can fall behind schedule and run over budget. It's important to make sure that you have enough funds available to compensate for these types of unanticipated occurrences by learning from others' experiences and allocating the appropriate contingency.

Consensus-Building and Adoption:

End users who will have the most contact with the system are the ones making the majority of the decisions about it. Involvement from these users fosters buy-in throughout the health system, as the employees who are being consulted and involved in the project will understand why decisions are being made, and when paired with a strong communication plan, will articulate back the impact of those decisions to their peers.



Prioritization:

Issues that will have the greatest impact to the health system, end users, and patients will be addressed first. The governance process will have established criteria to funnel the right types of issues that require governance or operational input to the governance committees as well as those with the highest impact. By providing insight into this criteria, end users will better understand why certain decisions are given time and prioritization over others rather than just being determined by the loudest voice.

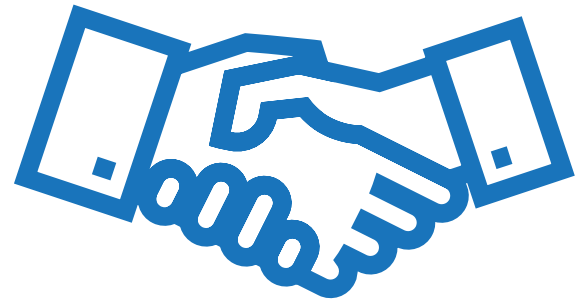
Transparency:

All stakeholders in the project will know the current status, what decisions have been made, and why the governance teams settled on those choices. This requires pairing a strong governance process with a good communication plan, but when executed effectively, it leads to the strongest operational buy-in as well as an understanding of future workflows.



Accountability:

Everyone involved in the governance process understands their role, responsibilities, and required deadlines. Decisions are not revisited without ample reason to do so to ensure that the project moves forward at a steady pace.



Communication:

End each governance meeting with agreed upon talking points. Identify who is affected by each decision made and ensure they are communicated to regarding both the decision made and why. Ideally, peers communicate to peers.

Attributes of a Good Governance Model

A strong governance model assigns clear roles and responsibilities to each individual involved in the project. The model should have a group at each layer of authority that is empowered to make decisions that affect their particular subset of the organization. Should it not be able to be resolved at a lower level or if it impacts a group beyond just that one, a decision can cascade up the governance chain as needed. By empowering groups at the lower layers to make decisions for their areas, **an optimal governance team is making less than 10% of decisions at the executive steering committee level, freeing up that team to focus on the most important decisions that impact timeline, budget, or scope.**

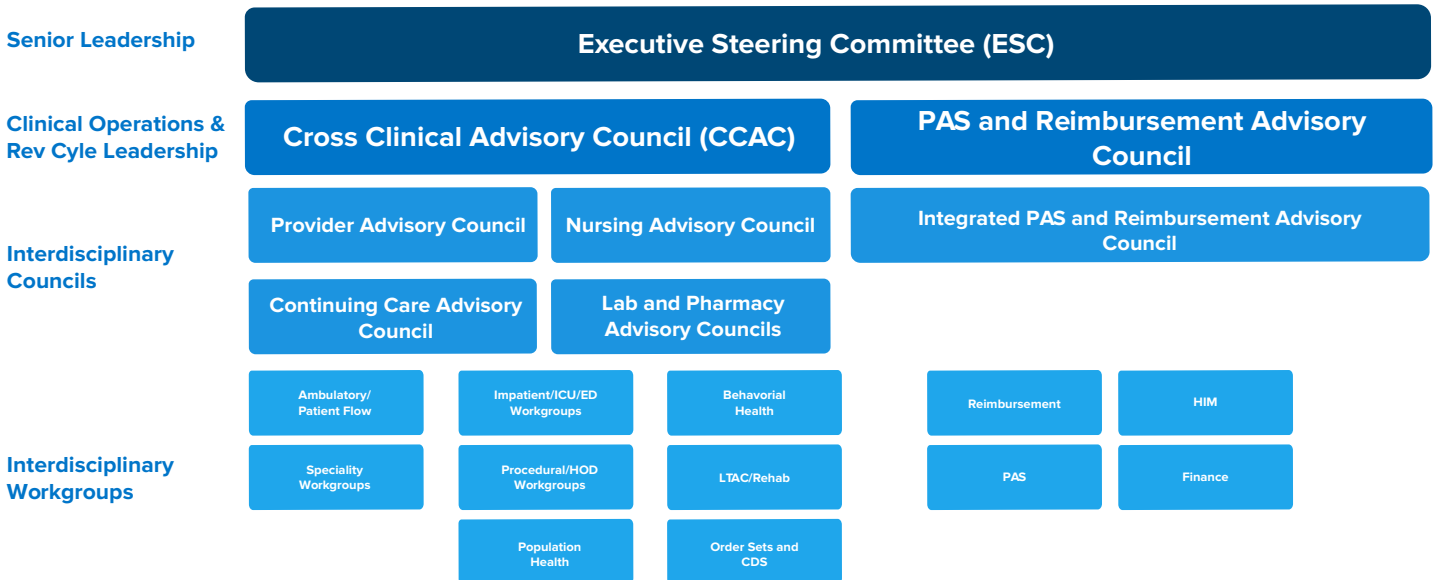
Every level has an important role to play, and employees understand both their own roles and those of others. In this manner, the group can enjoy the benefits of delineated decision-making authority. Each group understands the decisions that they're empowered to make as well as the decisions that should be passed up to the next level or down to the level below. While everyone stays within their lane of expertise, they also collaborate effectively to build a finished project that has everyone's distinct fingerprint on it.

The governance team must communicate clearly within and outward to the organization and community as a whole. A good governance model lays out clear communication expectations. Governance teams should address key communication points in each meeting and determine how to share these points with the organization and the public. This keeps messaging clear and consistent and ensures that everyone can easily stay in the loop.

Sample Governance Model

A solid governance model should come together from the top down. Individuals on each layer will choose those for the layer beneath them and help to take work off participants' agendas to afford them time to serve. Your governance model may look something like this:

EHR Governance Model & Integrating IT



In Conclusion

As we've discussed, creating a detailed TCO at the start, built on the lessons learned from others, to help accurately budget for the full scope of the project and ensure all technology needs and staffing needs are met is critical. Staffing can account for up to 70% of your total costs, making it imperative to build a project team with the right blend of internal knowledge of the organization, experienced external talent, and new talent that has the right aptitude for success in the role.

Once your budget and staff are in place and you have considered the health system calendar, you will have a clearer understanding of the scope of the project and can begin to develop a more detailed implementation timeline and associated go-live sequencing, tailored to your organization's needs and lessons learned from similar groups. Selecting the right individuals for your governance teams, and then closely adhering to the governance processes and procedures will allow you to shift from a mindset of this being an IT project, to one that is clinician or organizationally led.

Launching a new EHR is a daunting, yet potentially high-return technological transformation project for any healthcare organization. While there are myriad pitfalls from pre-planning to post-live support, there is an unparalleled opportunity to improve the quality of care delivered, key clinical and revenue cycle metrics, patient engagement, provider communication and collaboration, and, ultimately, patient outcomes. Much of your organization's ROI starts and ends with a successful implementation.



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