A Case for Fusing Provider Needs with EHR Functionality

Optimizing EHR for the Emory Transplant Care Team

EMORY TRANSPLANT PHYSICIAN

"One of the beautiful things about (our) EHR is that it is seamless and completely integrated. In the past it seemed that we were often in the dark and did not have the full picture. The information is available and adds to the patient experience and the care we are able to render ..."

BACKGROUND

While change is a hallmark of healthcare as an industry and flexibility the signature of its providers, never before has this industry managed such turbulence.

As deadlines for the implementation of Electronic Health Records (EHRs) and their meaningful use bore down, providers worked to get systems in place and train their teams. Though they offer a tremendous foundation for increasing efficiencies and improving patient care and outcomes, the transition from paper-based processes to EHRs is not without challenges.

Lack of time, capacity, and general wherewithal often prevent staff from fully realizing the potential now at their fingertips via their new EHR systems. As a result, what should save time and streamline processes ends up feeling inefficient, with providers plodding through data-entry tasks and experiencing many of the same frustrations they had with old paper-based methods.

In addition to the EHR, healthcare systems continue to use specialty applications or a hybrid solution combining paper and electronic processes. These multiple sources of information lead to confusing and broken workflows, directly impacting quality of patient care and staff efficiency.

To fully harness the potential of any EHR system, organizations must find common ground between their own unique workflows and their system's numerous capacities and tools.

THE CLIENT'S CHALLENGE

At the heart of one of healthcare's greatest modern achievements, Emory Transplant Center (ETC) manages a myriad of patient data from numerous sources. Channeling that data and ensuring the multiple entities involved with the transplant process could readily access it had proven difficult.

Specifically, different stages of data were all handled in different ways, including:

- Pre- and post-transplant patient data was managed in a specialty application;
- Inpatient data was managed in the enterprise EHR system; and
- Living donor population data was managed through a combination of the specialty application, spreadsheets, and manual processes.

This translated to an unwieldy process that prevented alignment, obstructed any level of efficiency, and cost precious time.

An Anecdote of Life and Death

After potential transplant recipients are evaluated and approved as candidates for organ donation, they are added to a waitlist for deceased donor organs. Notorious for its length, a patient may wait five years or more to receive an organ.

In the case of living donation, which takes place when a living person donates an organ (or part of one) for transplant, wait times can be significantly reduced because friends, family members, and even altruistic strangers can donate.

While the benefits of living donation are numerous, from shorter wait-times to better outcomes, logistics are massive. Ensuring data and communication for the multiple providers involved are synced is literally a life-and-death undertaking.

In the case of kidney donation, for example, if there is no direct match from the living donor to the intended recipient, the National Kidney Registry's (NKR) paired exchange program increases the communication complexity.

A paired kidney exchange, also known as a "kidney swap" occurs when a living kidney donor is incompatible with the recipient, and so exchanges kidneys with another donor/recipient pair.

This is a sophisticated scenario with information (and eventually organs) exchanged across multiple transplant centers. To illustrate that point, in 2015, one of the largest kidney swaps involved exchanges between 35 recipients and 35 living donors across multiple transplant centers.

Managing the information, care, and logistics via spreadsheets is a recipe for disaster.

To address these concerns ETC turned to Himformatics for assistance. Through our partnership with ETC, Emory Healthcare's Information Technology team and

the EHR vendor, we were able to jointly create a solution to improve these processes and optimize use of their EHR.

THE SOLUTION

The project's success was dependent upon having the right people committed to and ensuring that the project playbook was correctly outlined. That meant asking and answering crucial workflow questions, designing a solution that addressed how those questions were answered, and ensuring the right tools were implemented.

Along the way, three primary issues emerged that the solution needed to address:

1. Specialty Requirements Had Not Been Fully Addressed. Standard EHR solutions support the processes common to most aspects of healthcare. Specialist and higher-level care operations often require additional customization.

2. Lack of Alignment Between Processes and Systems. Regulatory requirements, such as "Meaningful Use," make EHR implementations particularly time-sensitive. Compressed timeframes often restrict the ability to re-imagine or improve processes.

3. Failure to Fully Leverage the EHR as a Toolkit. Given the complexities, providers may be unfamiliar with the full capabilities of their new EHR system. Ideally, the EHR should serve as a framework, providing a toolkit to create customized care solutions.

The project team's approach assumed the solution already existed but just needed to be brought forth with the right combination of tenacity and focus.

The team began by outlining guidelines that incorporated basic best practices. We proposed to:

- Leverage the capabilities as well as the financial investment in the enterprise EHR;
- Think holistically and consider the entire care team;
- Put the patient at the center of the process and focus on the patient experience; and
- Avoid so-called "sacred cows." The *why* should never be answered with "because that's how we've always done it."

Determining the "What" Then Crafting the "How" of Design

A multidisciplinary team took on the task of re-imagining the current state of managing living donors. By focusing on what was and wasn't working, they uncovered the ideal state. At this phase of the project, the key was focusing on the *what* rather than the *how*.

The project team then established the following scope to help optimize the living donor-patient management process, which emerged like this:

- Establish a way to "connect" recipients and potential donors in the EHR while maintaining HIPAA compliance;
- Give each transplant team member (i.e. physicians, coordinators, techs) access to key data relevant to their role;
- Show relationships between a recipient and their donors;
- Allow access to all donors and recipients and their current stage in the donor process;
- Provide program tracking and accurate global metrics; and finally,
- Enable management of recipients outside of the Emory spectrum, such as NKR and other healthcare organizations.

The final Living Donor solution was designed to ensure that all participants affected - from staff members to patients - were considered. This "outside-in" approach translated to:

- Including all members of the care team (from surgeons to secretaries to technicians, etc.) in weekly design sessions and guaranteeing all perspectives were represented throughout the process;
- Mapping existing patient workflow end-to-end;
- Identifying pain points where the process could be redefined or technology could be leveraged to improve the process;
- Eliminating redundancies;
- Evaluating wish lists for impact; and
- Considering any regulatory requirements and reporting needs.

This process resulted in a future state mapping. It was time to leverage technology to efficiently support patient population management and provide role relevant information quickly and accurately to each member of the care team.

IMPLEMENTATION & OUTCOMES

With a roadmap that carefully managed ETC's particular needs alongside the universal challenges involved with organ donation, new tools were created to capture discrete data of recipient and potential donors. With a high priority on streamlining process, these tools wove data capture into ETC's natural workflow and reduced disruptions and added tasks.

Additionally, recipients and donors were linked to improve visibility into the relationship for improved overall patient management. This allowed query and viewing of data for potential donors and recipients.

Finally, custom modules were designed to provide easy access to essential information about individual populations, key program indicators, and critical information needed to efficiently run the business unit.

The result was improved satisfaction and efficiencies across the spectrum. Specifically, ETC noted:

- Advantages to clinicians and patients from the new processes that utilized the primary EHR, keeping everything in <u>one</u> system rather than spreading data out over multiple systems;
- Nurse coordinators were grateful that the new tools were "less disruptive" and more of "an enabler";
- Nurses quickly adopted the new system;
- A decrease in patient complaints;
- An increase in donor throughput (see chart below);
- Role-based access to data for members of the care team saved time across the board; and
- The ability to manage different configurations in the lifecycle of donors and recipients enabled the coordinators to move away from the use of manual spreadsheets, sticky notes and other inefficient, siloed processes.

Metrics	Outcomes
Living Donations (timeframe)	65 in 2014 → 100 in 2015
Time to "Work Up" Donors	6-9 Mo. → 4-8 Wks.
Call Escalations/Complaints (Manager)	$10/\text{Day} \rightarrow 1/\text{Wk}.$
Time savings for tracking and "conferencing" patients (surgeon, nephrologist, coordinator, HLA lab)	10min/pt →5 min/pt. x 10 pts. /wk. = 50 Minutes/wk

FINAL THOUGHTS

As providers work to make the most of their EHR systems and ensure their staff is not navigating a world of redundancies in the interim, this project provided several takeaways for consideration.

Harness Your EHR's Power and Merge it with Your Unique Workflow. EHR vendors are bundling additional functionality for different healthcare specialties. Organizations must take the time to evaluate their routines and staffing models alongside the vendor capabilities of their EHR system.

The most successful solutions are the result of designs that carefully consider provider workflow and leverage built-in functions and custom features so that staff is able to work more efficiently and affect the overall patient experience for the better.

Engage the Entire Team. Consistent commitment across the organization is critical. Resources who understand care team processes and technology should be involved from the beginning. Design sessions are much more productive when technical feasibility can be evaluated in the moment. An engaged and respected physician champion who is willing to make tough decisions can be a key component of project success.

Sustain Systems and Workflows through a Continuous Cycle of

Improvement. Optimization is best achieved through standardizing, systemizing, and measuring processes. Sustainability comes from an iterative cycle of analysis, design and refinement, rather than a system implementation with a fixed beginning and end.

Ensure Critical Project Management. Optimization projects are complex, involving large numbers of people and moving parts. They bring together a variety of knowledgeable resources from different parts of the organization (e.g. clinical, operational, technical). A strong healthcare informatics project manager who can establish solid relationships and clear communication is critical to keeping the team focused and on task. Ideally, this resource would be independent of the care team and can provide an objective perspective, tapping into their deep understanding of process and workflow to drive change.