



Accelerated Healthcare Transformation™

E H R Adoption and Optimization

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Executive Summary

A multitude of studies, both government and private in all types of healthcare settings, have reported the difficulties and challenges with the implementation of an Electronic Health Record (EHR) system.

The ARRA/HITECH compliant EHR requires an unprecedented level of clinical interdependence. Paper and homegrown proprietary electronic systems while convenient for the individual clinic cannot survive as independent systems or fulfill the promise of a transportable medical record.

EHR implementation is a complex orchestration of information technology and business process “system builds.” Successful implementation requires that end users understand each workflow, that all technology components work properly with the corresponding workflow and that each end user knows how to use relevant software components. However, the implementation timeline and focus are invariably technology-driven with go-live as the culminating event in which all EHR components are turned on, used simultaneously and expected to work properly.¹

The necessary interdependence of today’s EHR requires adoption of standardized, integrated workflows across the enterprise. Galloway Consulting has led the adoption of Epic Systems Ambulatory EHR in a large academic medical center successfully addressing a number of issues related to this adoption.

Transformational Adoption® is Galloway’s solution that uncovers a variety of problems across work processes, enabling technology, and human behaviors that must be addressed during and after an EHR implementation.

Problem definition

Shortly after go-live of the client’s inpatient and ambulatory EHR, Galloway was retained to oversee adoption efforts for ambulatory services. Patient visit schedules had been significantly reduced to allow for provider and staff coaching and refresh training in the new system workflows. During the early phase of this process it

¹ Source: www.healthit.gov

became evident that issues with the transition extended beyond simply user education to both systems operability and system incompatibility with legacy workflows. The result was a lack of progress in recovery of visit volume and a loss of profitability – an unsustainable condition. Galloway’s mission was to stabilize operations in 200 ambulatory clinics serving 66 medical specialties. Stability was defined as a return to pre-go-live visit volume.

High-level Solution

Galloway’s immediate solution involved a rapid intervention process in the major clinical specialties and the larger ambulatory sites. Teams of Epic analysts, client system builders, trainers, operational leaders, and consultant facilitators were deployed for 2-day interventions in the clinics. During these interventions, all workflow issues were recorded and prioritized. Those that could be were resolved on the spot. Others requiring urgent attention were assigned to an analyst for rapid review. Over a 6 month period, 1740 issues were recorded, prioritized, and assigned. To date the majority of them have been resolved. Other countermeasures including enterprise-wide work teams and clinic super users were also deployed and these are discussed in more detail below.

These efforts were guided by emerging principles of EHR practice efficiency including the use of relevant and discrete data, teamwork and standard work, staff working to level of license, super users

“Many of us have worked on the IT vendor side, as well as, implementing IT as a provider (hospital and ambulatory practice). We understand how disruptive an EHR implementation can be. Because we have this unique perspective from both sides of IT, we know how to intervene quickly and get measureable results for optimized processes and improved provider adoption.”

with deep system knowledge at clinic level, and customized education and coaching.

Solution Details

Each intervention was scheduled two weeks prior to the event with clinic leadership. One week before-hand a meeting with clinic managers, ambulatory services representative, and the consultant was held to review objectives, format, expected outcomes, and the clinic’s major workflow issues. Knowledge of the specific issues

informed the facilitators as to the skill sets needed by analysts and other members of the intervention team.

Day 1 of the event began with a presentation by the consultant or facilitator that outlined the goals and agenda. This was followed by a brief presentation by a representative of the medical specialty and host clinic that included an orientation to the services provided and current issues. Afterward team members were deployed in pairs to observe workflows and record all barriers to information or patient flow. At a specified time, team members reassembled, recorded observations, and shared recommendations for immediate corrective action.

Day 2 goals were to complete observations of those work flows that were not covered on Day 1 and to prioritize all of the issues. Prioritizing was conducted by at least one each consultant, systems analyst, and operational manager. Initially issues were screened as to level of urgency. A second prioritization yielded a numeric score that would be useful in ranking all issues across the enterprise. Most of the issues screened as urgent received this second level scoring.

CATEGORY	IMPACT	DESCRIPTION	WEIGHT
Patient Safety	4 = Severe Impact	Immediate high risk patient safety issue with no workaround	10
	3 = High Impact	Immediate high risk patient safety issue with available workaround	
	2 = Medium Impact	Potential low risk patient safety issue with no workaround	
	1 = Low Impact	Potential low risk patient safety issue with available workaround	
	0 = No Impact	No patient safety impact	
Physician Productivity	4 = Severe Impact	Costs a physician more than 45 minutes per day	8
	3 = High Impact	Costs a physician 30-45 minutes per day	
	2 = Medium Impact	Costs a physician 15-30 minutes per day	
	1 = Low Impact	Costs a physician 0-15 minutes per day	
	0 = No Impact	No physician productivity impact	
Revenue Impact (Non-productivity Gains)	4 = Severe Impact	More than \$1M	5
	3 = High Impact	Between \$500K and \$1M	
	2 = Medium Impact	Between \$100K and \$500K	
	1 = Low Impact	Less Than \$100K	
	0 = No Impact	No revenue impact	
Compliance	4 = Severe Impact	Clear CMS, Joint Commission, or other mandate-no exceptions	5
	3 = High Impact	Wake Policy Standard	
	2 = Medium Impact	Wake Standard of Care	
	1 = Low Impact	Wake Nice to Have	
	0 = No Impact	No compliance impact	
Organizational Impact (Scope & Standardized Operations)	4 = Severe Impact	System-Wide	6
	3 = High Impact	Multiple Specialties/Subspecialties/Locations/Many Users	
	2 = Medium Impact	Single Specialty/Subspecialty/Location	
	1 = Low Impact	Several Users Within Single Specialty/Subspecialty/Location	
	0 = No Impact	Very few or no users	
Work Effort Required (Investment in additional IT hours)	4 = Little or no effort	Less than 4 hours	6
	3 = Low effort	4 - 12 hours	
	2 = Moderate effort	12 - 24 hours	
	1 = Moderate-to-High effort	24 - 40 hours	
	0 = High effort	More than 40 hours	
Staff Productivity	4 = Severe Impact	Costs staff more than 45 minutes per day	5
	3 = High Impact	Costs staff 30-45 minutes per day	
	2 = Medium Impact	Costs staff 15-30 minutes per day	
	1 = Low Impact	Costs staff 0-15 minutes per day	
	0 = No Impact	No staff productivity impact	
Patient Experience (Customer Service)	3 = High Impact	High impact on access, wait time, convenience	6
	2 = Medium Impact	Medium impact on access, wait time, convenience	
	1 = Low Impact	Low impact on access, wait time, convenience	
	0 = No Impact	No impact on access, wait time, convenience	

Project Scoring (Example)	Date	Issue or Enhancement	Status	Categories & Weights								Total Score	
				Pt. Safety	Physician Productivity	Revenue	Compliance	Org Impact	Work Effort Req	Staff Productivity	Patient Experience		
				10	8	5	5	6	6	5	6		
Unable to acquire PCP as attribute (PCP not indicated in EHR)	3/26/2013	Issue	Open	2	0	0	4	3	4	4	4	4	126

As issues were recorded through the course of several clinic interventions, common themes began to emerge in the data. These themes largely related to the interdependence of workflows between clinics of different specialties within the enterprise and the necessity for standardized ways of managing information. For example, generating letters from providers of specialty clinics back to the referring provider became a centralized function. Rather than the specialty clinic sending the letter from their own office, a workflow was created to instruct the HIM department to print and send or fax the letter. Because initially there was no way for the specialist to see the letter or confirm it had been sent, providers had trouble trusting the

workflow. They were now dependent upon another office to send the letter and HIM department was dependent on the provider to use the correct workflow to generate the request. Complicating matters further, providers had been taught three alternative workflows to generate the letter and they all worked somewhat differently. The interdependence was uncomfortable at best.

Other related and global themes included clinic to clinic referrals process, routing of triage messages, lab orders, prescription refills, and all electronic message management. For each of these, interdisciplinary working teams were chartered. Galloway consultants assisted in the facilitation of these team activities. Additional work groups were formed to develop and implement smart sets to facilitate more efficient CPOE and visit documentation including charge capture.

Supporting these strategies was an ambulatory stabilization governance structure. This committee was chaired by the Vice President of Ambulatory Services and facilitated by Galloway. Members included the CIO, CMIO, Ambulatory CMO, and Directors of Surgical Services and Patient Access. The role of this group included oversight of all clinic stabilization activities including revenue cycle stabilization, establishing a strategy for setting stabilization priorities, and addressing enterprise-wide stabilization issues.

Business Benefit

To date ambulatory clinics have largely attained pre-go-live levels in patient visits, encounters closed within target times, orders from preference lists, physician after hours in the patient chart, clinic no-shows, access to appointments, and patient satisfaction. These metrics were determined by an Ambulatory Governance Committee, given the range of relevant measures available, as being useful for indicating successful adoption of the technology.

Several specialties including Ophthalmology, Surgical Oncology, and Obstetrics and Gynecology have increased visits per provider per business day as compared to the corresponding pre-go-live period. Others including Dermatology and Urology have positive 12-month visit volume trends with current month volumes exceeding the pre-go-live baseline. Hematology and Oncology and General Surgery visits have stabilized at a level slightly below the baseline.

Encounters closed the same day and within 3 days, orders placed from preference lists, and time spent by physicians in patient charts during non-business hours have improved marginally since go live and have stabilized. Access to care as indicated

by appointment no-shows has improved. However the percentage of new patients seen within 3 days (primary care) and 14 days (specialty care) remains an opportunity for improved patient satisfaction and efficiency.

Summary of Optimization and Adoption

Following successful stabilization, Galloway was also retained to assist the client in progressing to a new level of efficiency and patient satisfaction. Six large specialties have been identified based upon their strategic role and patient experience scores as candidates for Galloway's optimization process. While stabilization efforts focused on resolving EHR issues related to adoption of interdependent workflows, optimization strategies begin with an in-depth understanding of the patient experience including access to care and information, staff and provider interactions, and the adoption of available technologies. Lean (Toyota Production System) and Idealized Design principles are deployed in team based initiatives. The client expects that significant improvement will be realized through this optimization process in patient satisfaction, clinic efficiency, and provider productivity.

Call to action

Adoption of EHR technology in the ambulatory environment is critical to achieving system vitality and profitability. Galloway has the expertise to understand the interdependencies introduced by these technologies and the processes necessary for **Transformational Adoption®** success.

About our Experts



Bill Booth is a practitioner of the Toyota Production System and certified by the American Society for Quality, Association for Manufacturing Excellence, and Society of Manufacturing Engineers as a Lean Sensei. He works with clients to improve client operations by applying Lean principles and Galloway's Transformational Adoption® methods and tools.

With more than 30-years healthcare industry experience, Jay Zerwekh has broad range of Sr. Management and consulting roles in Health System Executive Management, Medical Groups, Payers, and Management consulting. His work with physicians, medical groups and physician organizations provides the foundation for developing implementable, innovative and aligned tactics and strategies.



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transformation.**

Don Bialek, MD, is an industry expert and established consultant with over 25 years in the healthcare industry. He has extensive experience in clinical medicine, senior operating and management roles, as well as consulting. Serving as Chief Medical Officer to Galloway Consulting, Don brings the physician perspective to our work in quality and physician engagement that is key to successful