



Davies Ambulatory Award – Community Health Organization (CHO)

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- Menu Item: Menu Case Study – Workflow Analysis and Improvement

Executive Summary:

Community Health Centers Inc.'s (CHC) mission is to provide quality and compassionate, primary and preventive medical, dental, and pharmaceutical services to Central Florida's economically and culturally diverse communities. CHC is a patient-oriented organization providing special assistance to the medically underserved, uninsured, and at risk populations of Central Florida. Established in 1972, Community Health Centers has built 11 medical and dental centers throughout several counties, serving 53,610 patients annually. As often occurs with rapid geographic growth, coordination and standardization of clinical processes and support across stand alone facilities is challenging. With a focus on enhancing the patient experience and staff satisfaction, the CHC Informatics team embarked on a corporate initiative to standardize and streamline workflow and navigation within the EHR. This was done by leveraging workflow analysis and the reengineering of core workflow processes. Included in the project were focal points on establishing an ongoing support network and internal controls, using methodology to help support, monitor and maintain workflow practices. The long term expected outcome of this exercise is to improve clinical outcomes and measurements based on this new standardization.

1) Background Knowledge

CHC provides comprehensive services including medical and dental care, health education and promotion, health assessments and screening, pharmaceuticals, laboratory, and X-ray services. These services are provided by a combined total of 62 physicians, dentists, ARNP's, and hygienists that include providers who are board certified in Family Practice, Pediatrics, Obstetrics/Gynecology, Internal Medicine and Optometry. CHC has close to 400 employees with most based at the centers providing patient care, as well as administrative support teams. All teams function off of a single integrated EHR. At the start of this project, training was being provided for new hires on how to use the EHR, but unfortunately it was inconsistent and the materials used were unorganized and outdated.

Over time, navigation and documentation within the EHR became more critical to the success of the organization due to outcomes tied to UDS, HEDIS and MU requirements. CHC made a decision to invest in establishing an Informatics team to oversee the management and support of the EHR. This team consists of a Director of Informatics, a Lead EHR Analyst, and two Training Specialists. While planning for a major upgrade within the year, the Informatics team decided to invest in analyzing workflow to determine how effectively users were interacting with the system. CHC examined the need to rebuild, automate, reduce waste, and define standard workflow procedures. The overall goals of the project were to ensure:

- All core process workflows were identified and consensus gained on step by step standardization for how to complete processes from beginning to end.
- All core process workflows were diagrammed, uniquely identified, validated and approved by the leadership team.
- An enterprise-wide catalog of clear and concise documentation on workflows was created to use for new-hire training.
- Each team member received refresher training and is required to become well versed in the utilization of the EHR through competency evaluation based on their role.
- Support network, communication channels and controls were established to provide ongoing workflow management.

The overall goal from a corporate perspective was twofold:

- **Patients:** Enhance patient experience to increase the desire to return to CHC as their medical home.
- **Employees:** Enhance job satisfaction through an improved knowledge-base to aide with staff retention.

2) Local problem being addressed and Intended Improvement

Each of the 11 centers operates independently and functions uniquely based upon services provided and patient volumes. This creates variances in terms of workflow and barriers to using EHR systems to support the entire workflow. Although the tasks and the processes are uniform, challenges arise when users create workarounds or deviate from prescribed training. Adoption and adherence to the recommended pathways is the key to effective and streamlined workflow, reducing inconsistencies and improving user satisfaction.

Problems that were identified during the workflow analysis and through observation at the sites to support the need for this project at CHC included:

- Lack of standardized terminology and workflow.
- Lack of consensus and unified approach on the most efficient pathways in the HER.

- Lack of user involvement in ongoing design and development of the EHR.
- Lack of support network and communication channels.
- Lack of controls for ongoing management of workflow in the EHR.
- Lack of workflow documentation and current training materials.

The numerous issues created job dissatisfaction for clinical teams. Users of the system were verbalizing their unease and lack of confidence in the system. They were unable to locate documentation on the proper method to complete a process and they were unaware of who to go to at the center for assistance. This was especially frustrating for members of the float team who were experiencing variances using the EHR across all centers. Unfortunately inconsistent documenting in the EHR presented varied and limited clinical outcomes reporting from site-to-site. Although care team members were documenting the needed information in the EHR, it was not being recorded as structured data. When interviewing the EHR users, it was clear enterprise-wide interventions were required to advocate for the users, in order to accurately report the patient outcomes.

3) Design and Implementation

Lack of user involvement in ongoing design and development of the EHR

CHC identified the first step in the workflow redesign, which was getting users more involved. Input and discussion at a leadership level was a key component in getting users engaged. Ultimately, CHC decided to establish a network of Super Users across the organization, representing different roles and practice areas. The goals and objectives for the SuperUser Network (SUN) were established. They included:

- Developing and growing the skill sets of staff.
- Standardizing and improving the quality of the delivery of new content and standards.
- Streamlining and optimizing the process for how to introduce and manage change.
- Improving support to staff in the field by creating go-to point people.
- Providing a network for centralized troubleshooting and problem resolution.
- Fostering team building by establishing a collaborative network of individuals contributing to company growth.
- Providing a network for continuous feedback and performance improvement of initiatives.

The group is led by the Director of Informatics and includes 22 patient care team members. Members were selected by Center Leaders and criteria for selection included:

- Experienced with workflow/tools associated with performing roles and responsibilities.
- Good communication skills and enjoys contributing, teaching and sharing.
- Motivated and passionate about role with a positive caring attitude.
- Proficient problem solving skills
- Above satisfactory performance evaluations.

Representation includes participation from Practice Management, Clinical, Billing, Laboratory, X-ray, Medical Records/Referrals, Scheduling, Float Team and Dental.

Lack of support network and communication channels

While establishing parameters for more user involvement, CHC realized establishing a SUN could address the need to institute expanded support. In addition, it could open bi-directional communication channels including a user feedback loop.

Lack of standardized terminology and workflow, and lack of consensus on most effective pathways in the EHR

Once SUN participants were selected, a kick-off meeting was scheduled. Four meetings were scheduled over 8 weeks to introduce SUNs to their roles and set expectations. Topics included: overviews of informatics, the partnership with the EHR vendor, review of vision and expectations for SUN, skill set building through the definition of workflow, diagramming a process, team building and communication skills.

Once complete, CHC transitioned to the next phase of the program which was primarily focused on standardizing workflow across the organization. First, group participants identified the core processes for each area. Groups accomplished this through the use of flowcharts and defining the navigation which occurs within the EHR on a daily basis. Once complete, the primary processes were aligned into practice categories. After reviewing for any duplication or non EHR related workflow a catalog of processes was established for each designated area. The goal was to ensure all individual processes were unique. If duplicate processes were performed by more than one area, they were added to the General Navigation section.

Once CHC cataloged the core processes, the group designed a universal workflow template. The template was created to provide a method that could be duplicated for all processes across the organization and could also be adopted by all employees. Requirements included having a user-friendly format with clear heading and numbering, that was informative and concise with visual indicators as needed. The template also needed to support a streamlined approach to training and ongoing maintenance for future changes.

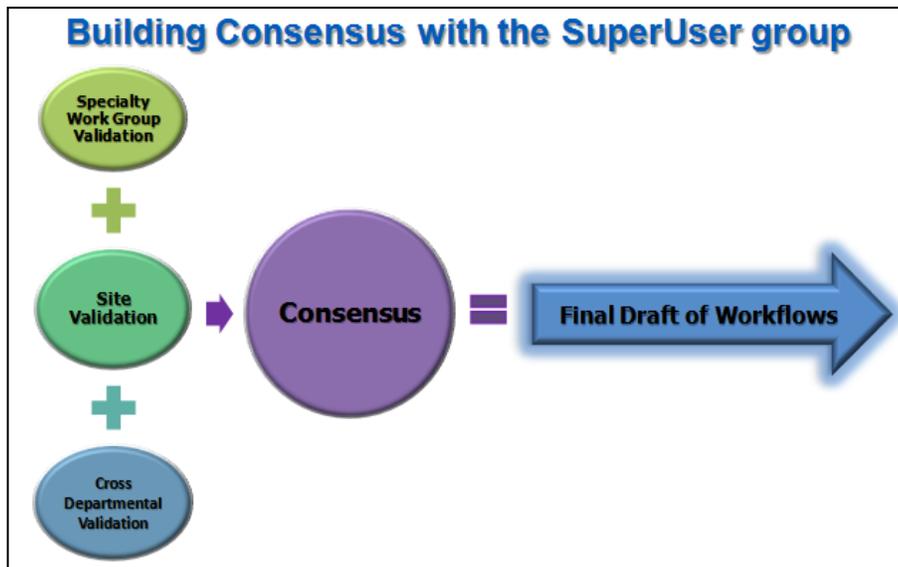
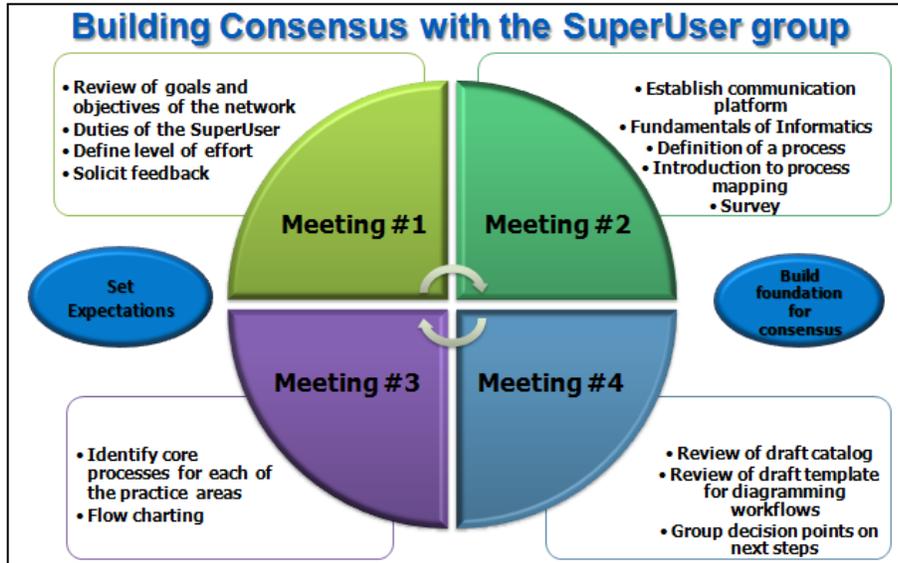
After agreeing on a template design, CHC transitioned away from group meetings focusing on smaller process oriented work groups that included General Navigation, Scheduling, Practice Management, Clinical, X-Ray, Lab and Billing, all lead by an Informatics team lead. The groups began gaining consensus on the steps in each of the core processes. Meeting once a week over 4 months, the groups worked on one workflow at a time. During this process the following questions were asked:

- Does the title and description of the workflow correctly identify the process?
- Are the right steps included in the right sequence - too few, too many or appropriate number of steps? Does the process have a beginning and an end? Does it create value?
- Is the supplemental information (tips and tricks) outlined on the workflow helpful? Will all employees across the organization follow the workflow standards in the approved format?

Lack of workflow documentation and current training materials

After all breakout groups completed diagramming its core processes, a master catalog of workflows was compiled. The Informatics team reviewed the body of work, edited workflows for completeness and assigned a unique nomenclature to the documents. Regulatory requirements were also added to each workflow to allow users to become familiar with how documentation in the EHR was connected to regulatory compliance and influenced outcomes. Next, CHC validated the workflows in the field. SUN participants piloted the workflows with co-workers to incorporate any nuances in order to reach final user consensus. The workflows were submitted to the Leadership team for review and approval before being finalized. The output of the workflow standardization efforts produced comprehensive standardized documentation providing a modular approach for new hires. In addition, it included refresher training materials to be used as needed.

The workflows are located in a central repository which is easily accessed by all team members on-demand.



4) How was Health IT Utilized?

Lack of controls for ongoing management of workflow and EHR

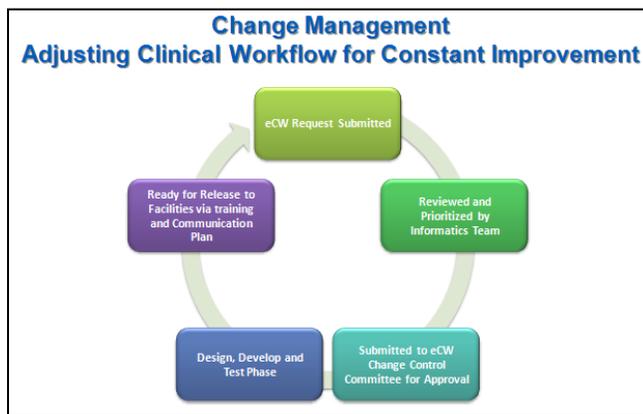
Once a baseline was set, it allowed CHC to move forward with integrating workflow standards in to its overall systems approach. To implement the proper controls and ensure the workflows remained current, a change control process was established. A committee was formed to govern all changes made to the EHR software supporting clinical practice and reporting that included the following members: Chief Medical Officer, Director of Clinical Informatics, EHR Lead Coordinator, Chief Operations Officer, Director of Regulatory and Compliance, Director of Nursing and other ad hoc leaders as needed.

Bi-monthly meetings are held with the multi-disciplinary team which allows for diverse discussion. The approach encourages a shared perspective for informed decision making of how IT is utilized across the organization. Currently the change control cycle begins with users making requests directly to the Informatics team. Requests to the committee are made via a change control form that provides details on the type of request.

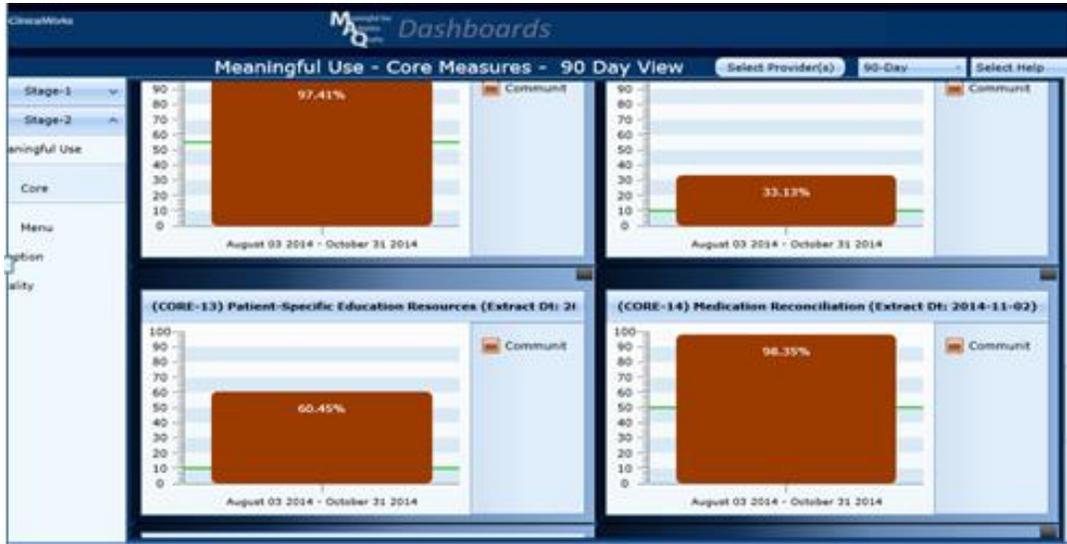
eCW Change Control Form	
CHANGE REQUEST INITIATION:	Originator: _____ Date Submitted: ___/___/___
SOFTWARE:	eCW: ___ Bridge It: ___ Other: _____
CHANGE TYPE:	<ul style="list-style-type: none">• Enhancement requests<ul style="list-style-type: none">○ Modifications to current screens including add, delete or edit content _____○ Modifications to current data selections including add, delete or edit content _____○ Modification to current workflow standards _____• Development requests<ul style="list-style-type: none">○ New screens to support regulatory programs/requirements _____○ New screens to support workflow _____○ E-Cliniform _____• Reporting requests<ul style="list-style-type: none">○ Modify an existing report _____○ Change the frequency of currently distributed reports _____○ New report _____• Other: _____
REASON:	Legal/Regulatory: ___ Cost: ___ Performance: ___ Customer Request: ___ Defect: ___ Other: _____
PRIORITY:	Emergency: ___ Urgent: ___ Routine: ___ Date Required: ___/___/___
CHANGE DESCRIPTION:	(Detail request using screen shots from eCW if appropriate)

Next, requests are reviewed and prioritized, and if appropriate, submitted to the change control committee for decision making. If approved, a request is sent through a design phase and a timeline is set for development. Once testing is completed, the change is implemented with release notes circulated prior to activation of the change. Release notes are published the first of every month via the Corporate WIKI and a training webinar is held with the SUN ten days prior to the release. The live webinar demonstrates real time navigation with open discussion for any questions which potentially arise. Afterwards, the SUN members are responsible for reviewing the upcoming changes with their teams to prepare for the changes related to the release. The webinar is also taped to help facilitate the transfer of information, and for a refresher tool for all staff.

The change control process allows users of the system to have a voice in how the EHR is used and to be notified in advance of any modifications to their EHR workflow assisting them with handling change.



Effectiveness of changes are then monitored each month by generating reports from the eClinicalWorks' Meaningful Use Adoption Quality (MAQ) dashboard. The MAQ dashboard generates reports on a monthly basis and the performance outcome data is displayed by the aggregate denominator and numerator for each performance measure, based on the documentation of information in a reportable format in the EHR. The MAQ dashboard reports are reviewed and monitored by the Director of Quality and Performance Improvement on a monthly basis for the identification of trends and opportunities to improve. The identified trends and opportunities to improve are then shared with the Quality Improvement Committee and focused efforts for continuous quality improvement are implemented based on the information obtained from the MAQ dashboard reports. The MAQ dashboard data is also provided to each provider to report individualized performance data to the provider in comparison to the overall performance of the organization.



5) Value Derived/Outcomes

The value add outcomes of the workflow standardization project have been many. All team members at CHC are currently on the same page for on-line data entry in the EHR and have reached consensus on the most optimal and streamlined methods to use the medical and dental systems. The benefits of the combined efforts include its ability to:

- Expand the knowledge base of all team members.
- Gain workflow efficiencies in how team members are using the EHR.
- Avoid duplication of effort.
- Reduce risk and eliminate errors.

An example of how this process has resulted in improved clinical outcomes is consistently providing patients with health education during a visit. A workflow was created outlining the standardized way to document patient education in the treatment section of the EHR during a visit. Education materials are populated based on the day's assessments. This ensures that patient has clear instructions about their care based on their diagnosis. Materials are available in either printed and/or on the patient portal if a patient is web enabled.

The change management intervention for this process took place in February of 2014 with trended date showing steady improvement in consecutive months as outlined below:

	Aug	July	June	MAY	APRIL	MARCH	FEB	JAN	13- Dec	13- Nov	13- Oct	13- Sep	13- Aug	13- Jul	13- Jun	13- May	13- Apr	Oct-Dec 2012
Documentation of patient education via Health wise (MU)	61%	60%	58%	66%	54%	50%	47%	36%	36%	35%	36%	37%	35%	23%	11%	5%	0%	6%
Goal	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
Numerator	6,473	7,105	6,093	18,197	2,833	5,059	4,977	3,779	4,148	4,033	3,815	3,409	4,033	2,272	985	522	0	1,510
Denominator	10,553	11,818	10,546	27,781	5,210	10,186	10,497	10,497	11,521	11,523	10,558	9,256	11,523	9,859	8,700	10,957	9,743	25,705

6) Lessons Learned

Engaging leadership: Performing due diligence was needed to provide a proof of concept to leadership on the initiative, in order to ensure they acknowledged and approved the value and benefits of implementing a SUN to the organization. To accomplish this we began by establishing a clear project methodology. Then we instituted thought leadership in how to best manage the SUN to gain credibility and trust. With Leadership, CHC was able to establish strong governance and integrity over the program, ensuring sensitivity to resource assets and the need to consider flexibility of schedules and processes to accommodate a busy workforce.

Clearly define level of effort: From the beginning of the project the Informatics team knew they wanted to establish a SUN, so outlining the commitment for a participating member became a requirement. Guidelines required a participant to commit a maximum of 4 hours a week to fulfill the role and their time would be allocated between the following activities: support co-workers through training efforts out at their sites, attend SUN meetings via webinar or in person, review content and provide feedback, and communicate issues or resolve problems at the local sites. From this baseline CHC was able to clearly define duties focusing on not only contribution but skillset building, allowing for the development of communication, leadership and change management skills:

- SUN will attend staff development meetings and scheduled trainings.
- SUN will contribute during design sessions to assist with validation of new content or initiatives prior to build or development of new standards.
- SUN will act as designated go-to person at site for new EHR programs.
- SUN will gather feedback at the sites related to daily workflow in the EHR.

Multiple steps in process validation phase: The initial approach was to have breakout process groups serve as the platform for validation of the workflows. The group realized more than one level of validation was required, quickly transitioning to a three step process. The first step involved the process groups producing the workflows in a draft format. The second was to then take the workflow process on a test-drive out at the sites. After this step was completed the workflows were considered to be in final draft form. The third and final step was reviewing the final drafts with management for approval and sign-off.

Additional workflows required: The initial plan involved diagramming seven groups of workflows to provide a comprehensive overview of daily navigation in the EHR. Since the project began, CHC determined there is an opportunity to further detail workflow in some key areas such as provider, pharmacy and dental specific workflow, as well as administrative/management functions and referrals.

Different styles of delivering the EHR content was needed to reinforce the learning. The organization originally planned to have workflow documents developed in Microsoft Publisher available for only learning events, however it was quickly identified that some of the workflow context would be lost if visual navigation was not provided. The Informatics team worked with the MIS team to utilize in-house tools, provided by the Shortel vendor, to record live webinars. The training videos were then posted on the intranet for on demand viewing across the enterprise. In addition, the group worked with their Learning and Development team to create on-line learning modules in Brainshark, incorporating knowledge content, skills based learning and a competency assessment. Each tool is used with new-hire on-boarding to assist with the transfer of knowledge and encourage the team members to be actively involved in the process of incorporating the EHR into their daily workflow.

7) Financial Considerations

No capital funds were required for this initiative but support and involvement of the SUN involved an outlay of soft costs. The SUN engaged a total of 22 team members across the organization who dedicated an average of four hours per week towards this EHR and workflow initiative. The project timeline was a total of 26 weeks from kick-off of the project to finalization of core workflow processes for the seven groups.

Return on Investment Investment-Soft Dollars

Team members	Average wage/hour	Number of hours per week
22	\$22	4

22 team members x \$22 = \$484
 \$484 x 4 hours per week = \$1,936
 \$1,936 per week x 26 weeks = **\$50,336**

The emphasis on structured data in CHC's standardized workflows has directly contributed to consistent achievement in meeting regulatory requirements. The group focused on certain parameters in the core, menu and quality measures to ensure all requirements of Meaningful Use (MU) attestation are met. Staff is trained on the most optimal and efficient method to enter the structured data and workflows are available on-demand as refreshers to support compliance with MU requirements. This successful initiative has assisted CHC in laying the groundwork for Stage II MU and capturing quality incentive dollars associated with measures.

Return-Quality Incentive Dollars associated with Measures

Quality Incentive Programs	
Managed Care	
a. Clinical Measures 2012	\$26,716
b. Clinical Measures 2013	\$79,306
c. Clinical Measures 2014 (Jan-Aug)	\$33,811
CMS Incentives	
a. Quality Measures 2012-2013	\$38,808
b. Quality Measures 2013-2014	\$79,782
c. Quality Measures 2014-2015 (Feb-Aug)	\$36,342
Total Returns	\$294,766