

Case Study: Frontline Software Solutions in HIMS

INTRODUCTION

History:

The Health Information Management Systems (HIMS) department at this world-class academic medical center is made up of three sections, each with a manager overseeing each section. While the director of the HIMS department is very experienced in managing HIMS operations, the three managers were of varying experience and leadership levels. The hospital had been transitioning to an Electronic Medical Record system from 2006 to 2008. The impact of this clinical transformation was a significant reduction in workload requirements for the HIMS department leading up to 2008. The department shed five FTEs from the cost center over this period.

When Frontline began its Operational Assessment of the HIMS department in February of 2008, the director felt that she had sufficiently downsized so that staff levels were in line with the amount of work required by the new, largely electronic environment.

Challenges:

In February 2008, the department's 48 FTEs were split up into one of three sections. The members of each section were generally part of a 2-3 member team responsible for a series of primary tasks. There was very little cross-training between teams, resulting in little flexibility when volume-driven workloads fluctuated up or down within a team. This resulted in periods of low productivity for some periods and delays in turnaround time (backlog) in others.

The department, as a whole, had a reactive approach to the fluctuations in shift-by-shift workloads. Approximately 80% of the workload is driven by variable activities, which fluctuate with the number of patient discharges, clinic visits, etc. The culture of the department was to address work immediately as it arrived on the unit. This led to small batches of work being done at any given time and allowed no time for resource workloads to be planned. This also made it difficult to capture a snapshot of the incoming work at any given time.

Due to union limitations on succession order, it was difficult to shift or remove a particular set of unproductive employees. The department had no comprehensive measure for productivity that could be used as a baseline for introducing a disciplinary track for unproductive individuals.

The manager of the Document Imaging section was in her first management position, and did not have the tools to hold her staff accountable for daily performance. The previous manager had developed a system for tracking daily productivity. The system provided an acceptable range of daily volumes for each of the primary tasks performed on a daily basis. However, there was no way to assess productivity when the daily workloads were spread across multiple tasks. Furthermore, there was no way to comprehensively assess productivity over a period of time.

Finally, the recent reductions in headcount resulted in the department performing well below its budget from a labor cost standpoint, so in February 2008 there was little incentive for the department to explore improvement opportunities.

THE FRONTLINE SOLUTION

New Metrics:

The Frontline team determined that the department needed a comprehensive measure of productivity that would allow the performance of individuals, teams, sections, and the department as a whole to be assessed by a common metric. The only way to effectively compare the efforts of the various resource types is to establish standards for the individual activities that make up the daily workload of each of the teams. These activities are categorized as either fixed, variable, or offline.

Case Study: Frontline Software Solutions in HIMS

Frontline consultants therefore observed the operations of the department for a period of four weeks. The time was spent shadowing representatives from each team, performing time studies, and analyzing the data in order to establish workload standards for the individual activities of the department. The proposed activity standards were then taken to the HIMS management team for buy-in. This buy-in is essential in getting management and employees in agreement that the foundation of the productivity tracking process is reasonable.

With standards established, the metric of productivity is introduced by measuring the "required hours" vs. the "worked hours" for an individual, team, section, or department, over a shift, day, week, pay period, etc. Productivity, represented by a percentage, allows one to measure the performance of one individual versus another even if they are working on completely different tasks. It also allows one to measure the performance, even if the individuals worked on various tasks over the course of a shift. Both of these capabilities were not available previously to the HIMS department.

The HIMS department is historically a fixed-budget department, which means that it is allocated a volume of FTEs for the year, regardless of fluctuations in the volume over any time period. Fixed budgets hinder the ability to assess the true budget performance of a department. The introduction of Hours per Unit of Service (Hrs/UOS) as a measure of performance allows one to measure performance against a budgeted throughput versus a budgeted number of FTEs. Frontline determined that the number of inpatient Discharges should be the Unit of Service to be tracked automatically in the Frontline Software.

With the new flex-budget concept, the department's budget performance is based on the number of UOS that are required. For upcoming budget years, the department can be assigned a budgeted number of Hrs/UOS, which would be expected to lead to varying budget FTEs, depending on UOS Volumes flowing into the department.

Operational Improvements:

In observing the operations of the individual sections, it became clear that there were opportunities to improve the way work is collected, prepped, and assigned throughout the day. The most drastic workflow improvement was within the Document Imaging (DI) section, where it was observed that the 2nd shift employees were not as productive as the 1st shift. The reason was that the 2nd shift was generally responsible for finishing the daily workloads that the 1st shift was unable to complete. And since there was a less experienced supervisor with no manager present on the 2nd shift, there were many unproductive shifts observed due to a lack of consistent work.

A large component of the DI workload (approx 60%) is made up of clinic documentation, which requires that all paper-based documents from the hospital's clinics be collected and scanned in as part of the Electronic Medical Record. Frontline observed that the documents for the previous day were collected in the morning by day shift employees. This was because it was felt that the following morning was the time that DI could be sure that the records would be available for collection. Upon further investigation, it was clear that the majority of the documents were actually available for collection on the day of, prior to the clinic closing.

One of several similar changes introduced, was to make arrangements to collect all clinics documents in the evening, and shift the primary responsibility for scanning the clinics documents onto the 2nd shift employees. This move created a more reliable volume of work for the loosely managed 2nd shift employees, so that the 1st shift could become more flexible in staffing requirements. The rebalanced workload created an opportunity for management to enforce the flexing of resources on the 1st shift, while also reducing turnaround time since documents were not sitting idle overnight.

In the Coding section the Manager had a combination of in-house coders and contract coders that worked remotely. The contract coders easily completed their work to the degree that Frontline determined that the preexisting workload standards were not reflecting the true state of affairs. Following observations of the work, new standards were agreed upon and applied, and resources began to run out of work to do very

Case Study: Frontline Software Solutions in HIMS

quickly. Within two months all the work was being done in house and the very expensive contract workers were no longer needed.

Planning Using Frontline Software:

Frontline implemented a process for creating a plan for the upcoming shift based on a snapshot of the current workload requirements. This process is supported by the Frontline Software, such that the supervisor for each section logs into Frontline Software and generates a plan once per shift, a process that averages 10 minutes per shift. Staffing levels are then adjusted accordingly for the upcoming shift. Resources may be called off or instructed to work on "offline" activities on any shift in which the workload requirements do not warrant the presence of all scheduled resources.

Frontline created a spreadsheet saved on a shared drive that is accessible by all employees and managers. Once per day, the individual employees input the volume of work that they completed within each category. The data for each individual then automatically rolls up to the section-level so that the manager can take the section totals from the collaborative file and enter them into Frontline once per day. As a result, Frontline tracks productivity by section, and for the department as a whole. The HIMS department is then able to be compared to other Ancillary Services Departments such as the Pharmacy. Frontline users include C-level executives down to the frontline managers, all of which access the same real time data that is summarized to the appropriate level based on the users' role.

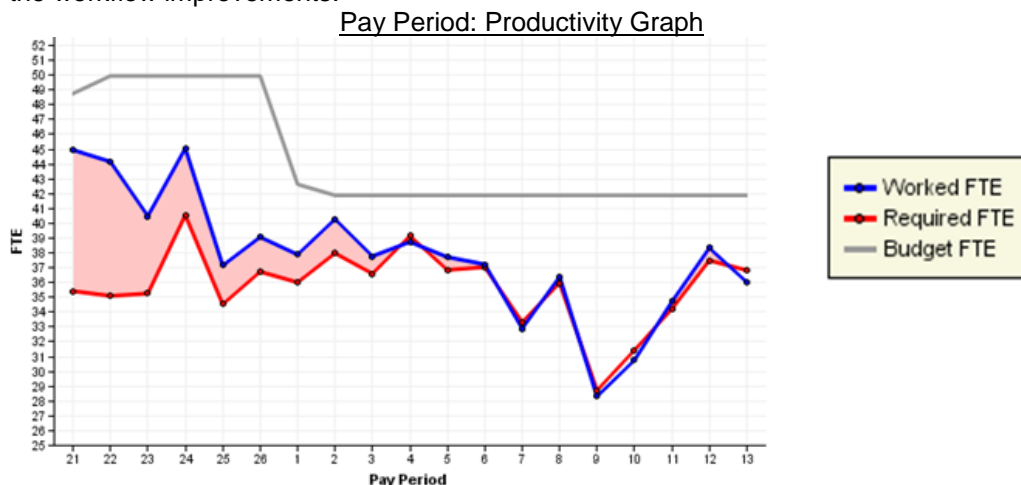
RESULTS

The implementation of Frontline Software and the flexing of staff levels has resulted in significant labor savings and measurable workflow improvements for the HIMS Department.

The director implemented a performance improvement plan (PIP) in which she set a threshold of 95% for individual productivity. She is now able to convey to the unions that productivity of 100% is considered the average expectation to complete the work based on the standards that were observed and agreed upon by the management. The director is using the Frontline standards as a basis for discussions with hospital Human Resources and union representation.

Labor Cost Savings:

One result of the operational streamlining efforts mentioned above is that permanent staff were able to be floated to temporary projects that were previously being worked on by temporary staff. Management has much more control over the temporary staff hours, and was able to call off the temporary staff in order to recognize a significant labor savings. The remaining savings was recognized by attrition over the months following the workflow improvements.



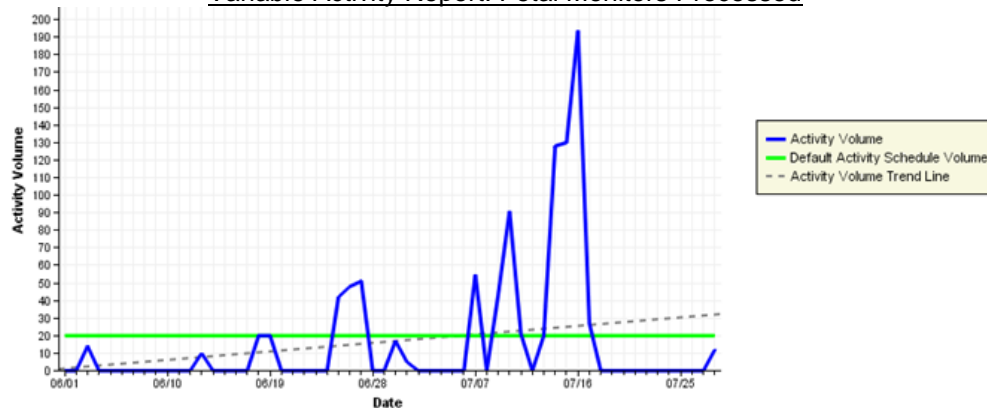
Case Study: Frontline Software Solutions in HIMS

In the first six months since Frontline began its operational improvement effort, the HIMS department decreased staffing levels resulting in ongoing savings of 8.7 FTEs, or 18%. One year after the effort began, the department currently is functioning with approximately 12 fewer FTEs than a year ago, which reflects a 25%, or **\$1.2M** savings in labor costs.

Workflow Improvements:

An increase in productivity has also resulted in an increase in the rate at which "backlog" work gets accomplished. You can see below, an increase in the number of backlogged Fetal Monitor Strips that are processed. As backlogs or special projects are completed, there is more opportunity for labor savings.

Variable Activity Report: Fetal Monitors Processed



There are several quality measures used by the director to assess the performance of the HIMS department as a whole. The first is Uncoded HIMS Revenue Backlog, which is measured by the outstanding revenue that is unable to be coded because of missing record components by the HIMS group. In the first six months of tracking the Uncoded HIMS Revenue Backlog, the average uncoded revenue opportunity was reduced by 32%. This reduction in the revenue cycle frees up an average of **\$1M** at any given time.

From a budget perspective, Frontline Software now tracks the Hrs/UOS on a real-time basis. Hospital management is able to monitor the budget performance of the department based on fluctuations in UOS.

Finally, as part of emphasizing greater flexibility between teams and sections, the HIMS department has cross-trained many employees so that the teams are less clear cut. Not only does this provide greater staffing flexibility on a shift by shift basis, but it also increases the competency levels of employees making them more versatile and valuable in the long term.

CONCLUSION

While faced with many challenges related to the transition to an Electronic Medical Records system, the HIMS department at this hospital kept an open mind, and welcomed an objective operational assessment by the Frontline team. By examining the operation from the ground up, Frontline was able to establish realistic workload standards that were reasonable to all stakeholders. Next, by introducing process improvements that streamline the flow of work through the various department sections, the HIMS department was able to better utilize its valuable resources. Finally, by implementing the Frontline Software Solution the department is able to plan and assess performance on a shift-by-shift basis, ensuring that resource utilization is optimized from both a budget and productivity standpoint.

The Frontline implementation in the HIMS department at this world-class medical center demonstrates the power of a system in which people, process, and technology rely upon each other to achieve tangible results that are otherwise unachievable.