

# **IBS, INC. - CASE STUDY**

## **Care Command Center (CCC)**

### **NORTHEAST GEORGIA HEALTH SYSTEM**

#### **A Patient Flow & Human Resource Technology Solution**

The purpose of this case study is to demonstrate the effectiveness of implementing CCC flow technology across an operative theater. Patient and resource Flow technology is relatively a new concept in the Healthcare arena but one that is gaining momentum based on the technologies ability to hone processes for maximum efficiency while simultaneously containing costs, improving patient and provider satisfaction and ultimately creating an environment for exceptional patient care.

“CCC can bring a wow factor that is truly a game changer. It possesses the ability to impact Press Ganey scores by directly impacting patient satisfaction and changing lives of care givers.” Craig Hause Data Analyst

#### **Overview**



Northeast Georgia is in Gainesville, GA. The Operative Theater is comprised as follows:

- 32 ICU Beds
- 86 Surgical Beds
- 23 OR's
- 35 Perioperative Beds
- 40 Postoperative Beds
- Endovascular Suite

#### **The Challenge**

Northeast Georgia had developed their own patient tracking system solution five years prior to meeting CCC. The system was no longer supported and was becoming volatile. CCC was tasked to flow 80 to 120 patients daily through the entire surgical visit. Integration with iMDsoft's Metavision, McKesson's Paragon and SCI Scheduling were requirements. The solution also had to support 20 existing wall hung monitors of various sizes and configurations. A video wall of (8) 55" matrixed monitors needed to be part of the implementation.

## Execution Strategy

Northeast Georgia's homegrown flow system was partially meeting their needs. It was however showing signs of instability. Overall the staff maintained a high level of efficiency and they could not experience delays after going live with CCC because of workflow issues.

The CCC Flow technology contains many features that their old system did not. Therefore an in-depth review of existing workflow had to take place followed by an intense review of the best possible new flows that could transpire while utilizing the CCC flow technology solution. A train the trainer approach was utilized and two CCC flow design team members worked with four Northeast Georgia personnel during the process.

The flow for each of the key areas were reviewed: Greeters, Patient Advocates, Perioperative, OR, PACU and Endovascular. Each area had unique needs and was able to design the CCC technology around their specific workflow while still working seamlessly with the other areas. The goal was to have one harmonious flow of patients and staff as the patients moved throughout the operative theater.

Overall approximately 300 hours were invested in the planning and implementation process for this project.

## Technical/Project Approach

Northeast Georgia's Operative Theater is a hectic and busy environment. An on-site discovery meeting was necessary to understand the optimal use for the hanging boards, workstations and mobile technology (tablets, spec. phones and smart phones). Since the boards were to be used as visual management tools throughout the theater their number and placement was critical to success. Northeast GA decided to use all non-touch screen monitors in their clinical areas. The final board configuration consisted of the following:

<b>OR</b>	(8) boards matrixed together to reflect an overall view of patient activity in the surgical suites
<b>Perioperative</b>	(2) Sets of (4) boards matrixed together
<b>PACU</b>	(2) Boards
<b>Endovascular</b>	(3) Boards

23 Total boards were placed. All boards were staged first at the CCC main office prior to installation at the customer site.

A video cart was utilized prior to go live to test the OR Matrix. Since the CCC software can run on any smart device, mock run-throughs for all areas took place on existing work stations and smart devices. The actual go live was June 2, 2014. Northeast Georgia did have an existing matrix in the OR that was not going to be used for go-live. Therefore, the CCC team arrived onsite May 30<sup>th</sup>. The old boards were removed after 11:00PM on Friday and the new boards were up and running by 4:00pm the next day.

## The Solution - a Visual Pictorial Tool

CCC was selected as the patient flow tool for the replacement of the existing solution and boards. CCC is cloud based and integrates with McKesson's Paragon, iMDsoft's Metavision and SCI Scheduling. 23 non-touch boards are located throughout waiting rooms, the perioperative area, ORs and step-down units for

operational control. A large video wall is located outside of the OR Suites for information sharing. A HIPAA board is in the surgical waiting room to keep the public informed on specific patient statuses. 10 desktop computers are used by administration for operational control and to run statistics for strategic and operational decision making.

The CCC patient tracking system solution allows each area to configure a solution to work independently of the others and yet stay connected to manage patient flow from area to area. This all resides in one large integrated solution. Smart phones are also used for CCC real time automated messaging to clinicians, staff and family members.

### Functional Areas

SCI Scheduling and Paragon feeds the day's schedule into CCC. SCI is the primary scheduling tool and Paragon manages the same day schedule and scheduling changes. When the day begins it is CCC, not the scheduling systems, that manages patients and resources. Below the use of CCC is defined for each area.

#### **Greeters and Patient Advocates**

The greeters establish the first change in status in CCC. Once a patient checks in the status in the waiting room reflects "Arrived". The Patient Advocate is a power user of CCC. This person monitors the status of all 80 plus patients that pass through the surgical center each day. CCC has eliminated hundreds of phone calls for the Patient Advocate while providing patient and family members with current information.



## Family Waiting Area

The board in the family waiting room displays a HIPAA compliant list view. A traditional calendar view can also be displayed. When the family arrives, the following form is given to the family with the patient's unique number filled out in the upper left corner:

**PUBLIC TRACKING BOARD**

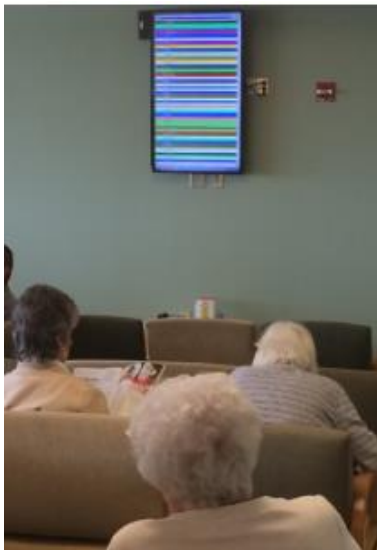
\_\_\_\_\_  
Patient Number

Welcome to NGH's Surgery Dept.  
We know how anxious & nervous you can be having your loved one in surgery. We now have a patient tracking board that will allow you to keep track of your family member while in our surgical departments.

Please follow these instructions:  
1. Find your family members patient number on the left side.  
2. Every area the patient receives care in will be color coded:

White	Pending	Patient is scheduled for surgery
Yellow	Waiting Room	Patient and family can wait to be called for surgery
Hot Pink	X-ray	Family should stay in the waiting room. There may be exceptions.
Olive Green	Preop	Pre-surgery area. Visitation limited to 2 at a time.
Red	Preop Called	Patient will be taken to preop. Visitation limited to 2 at a time.
Blue	OR	Operating Room.
Bright Green	PACU	Post Anesthesia Care Unit. Stage I recovery. Time varies, but can be approximately 1 - 1.5 hours. Family should stay in the waiting room.
Tan	Phase II	Outpatient recovery stage II. Visitation limited to 2 at a time.
Grey	Released to Room	Inpatient recovery stage II. Family may visit.
Grey	Released to Home	Family may accompany.

A Family waiting room board using information from the form above puts information in the hands of the family members which eases tension and staff interaction. This simple communication process increases satisfaction, helps to meet MU2 requirements and eliminates many trips to the greeter station for inquiries. The statuses on the family board are configurable public statuses only and in most cases are completely different than the statuses that are seen in the clinical areas.



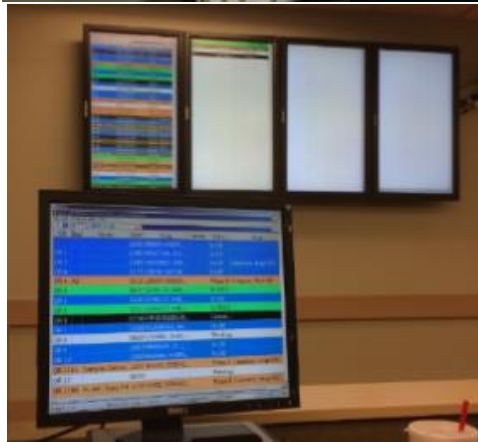
## inTouch

The Electronic Whiteboard™

For those friends and family members not able to present to the hospital, NGH's has a CCC inTouch® web site where the same unique patient number can be entered and the patient status kept up with from anywhere in the world.

## Perioperative

The perioperative area at Northeast Georgia consists of two 4 monitor matrixes which displays current location of all patients as they pass through the operative theater. Patient's bay location and status assigned nurses and physicians are key data elements used by caregivers. A patient does not fall off the perioperative screen until they are released to go home or returned to a hospital room.



The perioperative charge nurse utilizes the CCC flow technology to seamlessly monitor patient arrivals from the waiting area and PACU and assign bays and nurses accordingly. Patient statuses are updated to the staff and OR in real-time allowing the OR staff to know when a patient is prepped and ready without direct communication with PreOp. CCC is also used to manage and communicate Spec. phones, resource assignments, allocation and rollover.

### Surgeon and Anesthesiologist Matrix

The OR Board is comprised of eight matrixed 55" monitors reflecting the activity in all 23 of the main OR suites. As activities are occurring to patients in the preoperative setting statuses and colors are changing on this OR matrix as well keeping care givers informed of patient's progress. Once a patient has entered an OR suite status and colors are automatically triggered by the anesthesia software Metavision.

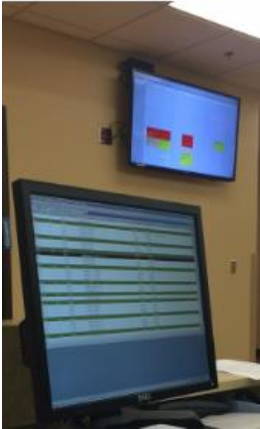


Inside the operative control center two flow coordinators use CCC flow technology to manage the activity in all 23 ORs. This includes room assignments, lunch schedules and roll overs for over 150 personnel, managing spec. phones, and the flow of 120 potential patients daily through the operative theater. All activity is seamlessly communicated back to PeriOp and the waiting area and forward into PACU. All areas and all caregivers stay connected without traditional communication tools.



## PACU

The PACU charge nurse utilizes the CCC flow technology to seamlessly monitor patient arrivals from the ORs and assign beds and nurses accordingly. CCC is also used to manage and communicate Spec. phones, resource assignments, allocation and rollover. Beds are pre-assigned from a queue that CCC manages when a patient reaches a certain status in the OR. Once the bed is assigned the OR knows where to bring the patient without verbal communication. Once a patient has left the OR, Metavision will set the status in PACU that a patient is in transit. At this time the patient will drop off the OR Board. If the patient needs to present back to the PreOp area for Phase II this is again done through CCC.



## CCC Resource Management



Northeast Georgia uses the CCC Resource Management Tool to assign and manage over 500 employees that serve the Operative Theater. Each Day assignments are made by room for: Surgeons, Anesthesiologists, Anesthetist, OR Nurses, Surgical Technologists, Periop Nurses, PACU Nurses, Endo Nurses and Endo Technologists. Lunch schedules are maintained as is the rollover of personnel as the day winds down. CCC is used to manage all spec. phones which is a challenge manually as these phones are reassigned throughout the day.

## Results

At any given time, there are approximately 110 users across the Operative Theater interacting with CCC generating on average 1500 status changes per day across 23 OR's, 32 ICU beds, 86 Surgical Beds, 35 Periop bays, 40 PACU Bays and the Endovascular Suite. When added up, the total CCC interaction time is less than 45 minutes / day. Northeast Georgia Health System can boast of a 12-minute gap between surgeries. The Northeast GA staff is highly driven to eliminate waste and still provide a premium healthcare experience for their patients.

Each time someone interacts with CCC that metric is being captured behind the scenes and building a robust analytics database for Dashboards using artificial Intelligence, Reporting, Command & Control and predictive analysis. These tools are utilized to manage staffing, to review room utilization, to study wait times and delays, to better understand their business dynamics and to make informed decisions for improvement.

### Why CCC flow technology is a good fit for NGHS?

- NGHS was unable to locate a vendor either domestically or internationally that could mimic their own system capabilities much less exceed their expectations until they found the CCC flow tool.
- CCC's ability to interface with Metavision, SCI and Paragon is key
- The CCC Resource Management tool is also a must have requirement as staffing and resource allocation is a burdensome task especially when managed with pen and paper.
- The ability to customize functionality specific to the needs of each area but still orchestrate a fully integrated flow is a feature that is unique to the CCC flow technology.