

A Process Improvement Solution: *Utilizing the Power of Responder to Improve Communications Flow and Patient Satisfaction*

FACILITY: Columbus Regional Hospital, Columbus, IN

FACILITY

Columbus Regional Hospital (CRH) is a leading provider of quality health care services, reaching a 10-county area in southeastern Indiana. Their commitment to serving the community and being at the forefront of quality patient care is recognized by several national accreditation organizations. CRH was the first hospital in Indiana to be accredited with the prestigious *Magnet Recognition Program* from the American Nursing Credentialing Center (ANCC) for nursing excellence. CRH has become a “magnet hospital” for providing the very best in nursing care for its patients as well providing a resourceful and supportive working environment for its staff.

The American Hospital Association’s (AHA) official magazine, *Hospitals & Health Networks* named CRH as one of its *100 Most Wired* hospitals in America, recognizing CRH’s advancement of information technology to improve the delivery of medical care.

RESULTS

- 50% reduction in medication delivery time
- Improved communications of critical lab tests results
- Patient satisfaction scores improved to 99% (Tower 3)
- Streamlined information between departments
- Strong staff acceptance and support of Responder system



“We were looking for a system that was broad enough to offer a true network of shared information. We chose Responder for this capability as well as its flexibility to integrate with other systems.”

David Lenart, Director of Facilities Management

MISSION

A Network of Shared Information for Better Patient Care

When it came time for CRH to replace its outdated nurse call system, CRH wanted to put in place a solution that would not only help patients communicate with their caregivers, but also had the flexibility to integrate with other systems and improve communication flow within the hospital. David Lenart, Director of Facilities Management, explained, “We were looking for a system that was broad enough to offer a true network of shared information.” With improved communications and workflow, CRH aimed to remain at the forefront of exceptional patient care in Indiana.

“This integrated solution has helped us respond faster to our patients, and as a result, has had a positive impact on our patient satisfaction scores. We’ve been able to streamline communications with several departments for enhanced patient care.”

Debbie McCarter,
Nurse Manager, Tower 3

THE ANSWER

Responder’s Integrated Communications Network

CRH chose Rauland-Borg’s Responder system for its flexibility in integrating with other systems including wireless technology.

CRH also identified Responder NET’s ability to share information over its own hospital network. The facility integrated the Responder NET system to its HL-7 patient information system, offering a privacy-protected *Patient Whiteboard* that provided continuity of care from shift to shift. This capability, combined with Responder NET’s *Staff Directory* and simple *wireless messaging* feature allowed any staff member in the facility to communicate with caregivers regarding any patient.

With this rich, networked information in hand, CRH began to see where the Responder solution could have an impact in the facility. David Lenart explained, “We saw how much we could do with the Responder system that we thought, let’s utilize what Responder already has to offer and improve our processes.”

PROCESS IMPROVEMENT

IDENTIFYING COMMUNICATION GAPS

With Responder’s flexibility and process improvement features, CRH began to look at communications gaps that existed between the various departments. With the help and strong support of the local Rauland distributor, Southwestern Communications, CRH was able to successfully implement new processes with the Responder system.

TIMELINESS OF CRITICAL LAB TEST RESULTS

In an effort to continue its commitment to patient safety and quality of care, CRH wanted to eliminate delays in notification of critical lab test results for its patients.

Included in JCAHO’s Patient Safety Goals is the requirement to “measure, assess and if appropriate, take action to improve the timeliness of reporting, and the timeliness of *receipt by the responsible licensed caregiver, of critical test results and values.*”

Previous to the Responder solution, lab test results would be faxed up to the nurses’ station with no direct notification to the patient’s caregiver that critical test results had been delivered. With the Responder system, Laboratory has instant access to patient information as well as the caregiver that is covering that patient. Laboratory can simply send a notification to the caregiver’s wireless device, eliminating the long delay and addressing patient issues immediately.

A SIX SIGMA INITIATIVE

PROMPT MEDICATION DELIVERY TO PATIENTS

When the staff at CRH saw the impact Responder could have on its processes, the Columbus Regional Lean Six Sigma analyzed its current patient medication delivery process. The goal of Lean Six Sigma is to improve speed and efficiency, as well as achieve precision and prompt accuracy of its processes.*

CRH aimed to improve its medication delivery time to patients in an effort to raise their standard of care. Medication delivery sometimes took up to two and a half hours due to no direct link between Pharmacy and each patient's caregiver. The process was cumbersome and the Lean Six Sigma team aimed to improve this process with an integrated system solution.

The CRH Lean Six Sigma Team divided its medication delivery process into 3 time segments, from when the order was written to when the nurse was aware that the medication was available to use. The process analysis was implemented on CRH's Tower 3 medical/surgical patient unit, the first unit to install the Responder system.

The third time segment is where the Responder system aids in the process initiative for medication delivery improvement.

Once the medication is verified and ready to be delivered, Pharmacy can access the networked Responder NET information (Patient Whiteboard, Staff Directory, messaging board) and send a wireless message to the appropriate caregiver, alerting them that the medication for a particular patient is being delivered. (See Fig.1)

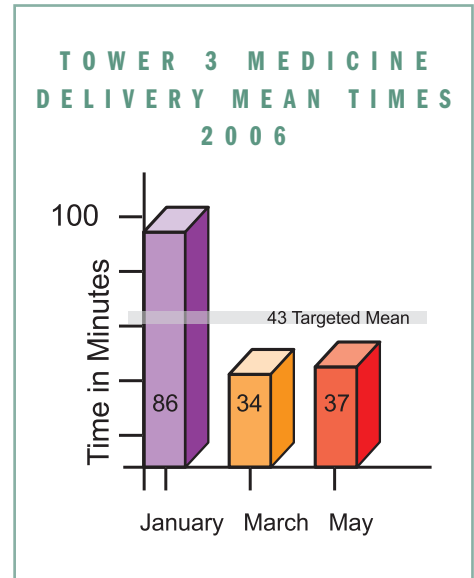


Fig.2

Lean Six Sigma team member, Carolyn O'Neal, explained the medication delivery initiative, "The overall goal of this project was to cut our total time from order written to medication delivered by 50%. We measured the mean, or average, delivery times over time on our Tower 3 unit and have seen a clear improvement in medication administration times." (See Fig. 2)

Commenting on the results, Carolyn O'Neal said, "Currently we are averaging between 37 and 48 minutes. On Tower 3 the medication delivery process is in control and we continue to implement this process on other units."

* www.sixsigmasystems.com

Pharmacy Whiteboard

Room	Unit	Last Name	First Name	Primary RN On Duty	Backup On Duty	Primary LPN On Duty	Attending Doctor	Patient ID
T205.2	2...			*****	*****	*...		
T205.1	2...			*****	*****	*...		
T204.2	2...			*****	*****	*...		
T204.1	2...			*****	*****	*...		
T203.2	2...			S.Goldberg	S.Schoett...	*...	HATFIELD MA...	0000056...
T203.1	2...			*****	*****	*...		
T202.2	2...			S.Goldberg	S.Schoett...	*...	HILL N	0000059...
T202.1	2...			S.Goldberg	S.Schoett...	*...	HATFIELD MA...	0000096...
T202.0	2...			*****	*****	*...		
T201.2	2...			M.Friedrick	M.Alexan...	*...	HAMILTON D...	0000049...
T201.1	2...			*****	*****	*...		
T200.2	2...			M.Alexander	P.Perry...	*...	GOODE ROY	0000141...
T200.1	2...			*****	*****	*...		
T200.0	2...			*****	*****	*...		
T199.2	2...			M.Alexander	P.Perry...	*...	YOUNG MICHA...	0000285...
T199.1	2...			D.Scott	L.Hadley	*...	PREUSS KEVIN	0000086...
T199.0	2...			D.Scott	L.Hadley	*...	PREUSS KEVIN	0000066...
T198.2	2...			*****	*****	*...		
T198.1	2...			B.Baker	S.Schoett...	*...	YOUNG MICHA...	0000034...
T198.0	2...			*****	*****	*...		
T2006.2	2...			M.Alexander	P.Perry...	*...	KINSEY STEVEN	0000291...
T220.2	2...			*****	*****	*...		
T221.2	2...			B.Baker	*****	*****	SCHWARTZMA...	0000051...
T222.2	2...			*****	*****	*...		
T222.1	2...			B.Baker	*****	*****	AN R...	0000058...
T223.2	2...			*****	*****	*...		
T223.1	2...			N.Pur...	*****	*****	LD MA...	0000042...
T224.2	2...			*****	*****	*...		
T224.1	2...			M.Fie...	*****	*****	ER.JON...	0000063...
T225.2	2...			M.Fie...	*****	*****	URAY ...	0000003...
T225.1	2...			*****	*****	*...		
T318.2	3...			L.Com...	*****	*****	GLAS	0000056...
T318.1	3...			K.Mey...	*****	*****		0000031...
T317.2	3...			H.Mo...	*****	*****		0000099...
T317.1	3...			L.Com...	*****	*****		0000145...
T316.2	3...			K.Meyer	*****	*****	ANABE	

Staff

Pager Extension	Staff Last Name	Staff First Name	Level	On Duty
7230	*ClinRph1	2T3Tcu...	None	ON
7231	*ClinRph2	4TPedT6...	None	ON
8640	*NAC	*NAC	None	ON
7232	*PharmTe...	Dispatcher	None	ON
7233	*PharmTe...	OR	None	ON
7234	*****	Dena	CP/...	OFF
7215	*****	Kathryn	LPN	ON
8202	*****	Marilyn	RN	ON
*****	*****	Lisa	CP/...	ON
*****	*****	Brenda	RN	OFF
*****	*****	Angela	CP/...	OFF
8215	*****	*****	*****	*****
8708	Berry	maryjo	RN	ON
8313	Black	Cindy	CP/...	ON
*****	Blackburn	Misty	RN	OFF
8602	Bleitsoe	Tina	CP/...	OFF
7213	Boes	Sharon	LPN	ON
8211	Bones	Jacqueline	RN	OFF
*****	Bortis	Marla	RN	OFF
*****	Boss	Audrey	LPN	OFF
8200	Bowley	Stephanie	RN	OFF
*****	Bowles	Patricia	CP/...	OFF

Service Requests

Buttons: RN (Green), LPN (Orange), CP/CNA (Yellow), STAT (Red), Send Message to Staff (Purple)

Callouts:

- Pharmacy notifies nursing that medications are in the tube system. Their column sort starts with the room/bed number.
- Pharmacy uses the Service Request option to text the Medication nurse (generally the backup LPN)
- Pharmacy sorts staff list with Ascend extension first. Also lists the Unit Based Pharmacists and Nursing Administrative Coordinator's permanent extension numbers

Fig.1

TECHNOLOGY ADOPTION

A LOOK AT STAFF SUPPORT AND PERCEPTION

Technology adoption can be challenging as the demands of caregivers are ever increasing. However, the Responder NET system offers a simple barcode sign-on process that makes logging onto the system easy for staff. David Lenart explained, “We picked up a lot of simplification with the Responder NET system.” Debbie McCarter, nurse manager for Tower 3 added, “The Responder system is strongly supported by staff because they see the impact it has had on caring for their patients.”

CRH’s Lean Six Sigma team administered a survey to its nurses on their perception of the new Responder and wireless phone systems. The survey was done pre-installation, 60 days and 90 days post-installation. (See Fig. 3 example)

RESPONDER

DELIVERING PATIENT SATISFACTION RESULTS

Because of its commitment to patient satisfaction, Columbus Regional Hospital monitors its patient satisfaction scores on a monthly basis and consistently re-evaluates its processes for patient care. The average patient satisfaction score for the entire hospital is an astounding 94%.

When Tower 3 added its new integrated communications solution, including the Responder network, *patient satisfaction scores for staff response reached 99% for the unit in May, 2006, one of the highest scores in the nation.*

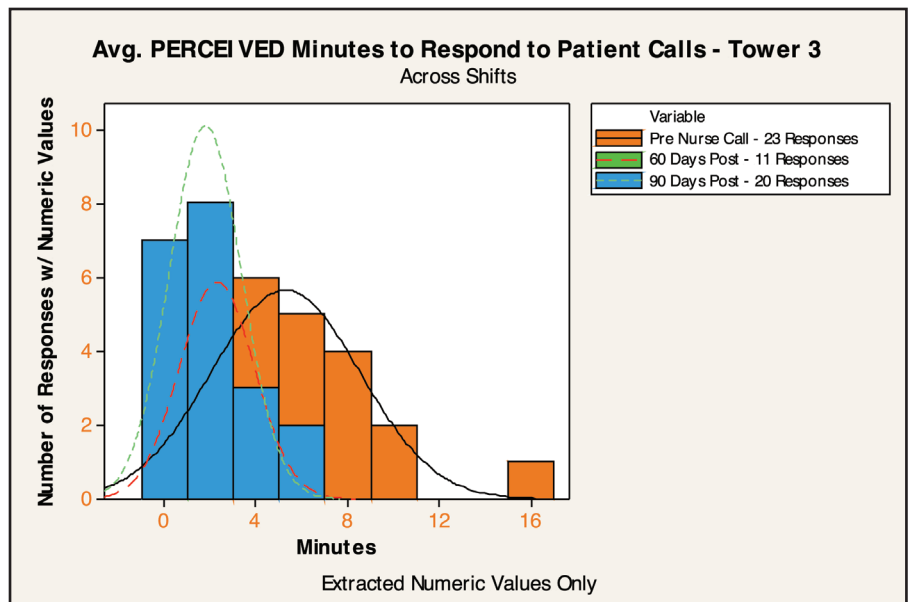


Fig.3

Debbie McCarter commented on the success of the Responder system and its integrated technologies, “This integrated solution has helped us respond faster to our patients, and as a result, has had a positive impact on our patient satisfaction scores. We’ve been able to streamline communications with several departments for enhanced patient care.”

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