

Visual Controls in Healthcare: The Technology & the Potential



While new to healthcare, visual controls have long been used by other industries to drive and sustain process improvements. In addition to being a major element of the Six Sigma and Lean Manufacturing methodologies for eliminating process defects, they are all around us. We just don't notice them because they're so intuitive.

Think about how much more smoothly cars flow at traffic lights than at four-way stops or unmarked intersections. That's the power of visual controls.

Or think of a football scoreboard. Anyone familiar with the game's fundamentals can come in during the third quarter and instantly be on the same page as everyone else in the stadium after a glance at the scoreboard.

Now imagine if each time someone completed a pass or fumbled everyone in the stadium had to be called or paged. Sounds ridiculous — yet that's how most hospitals are run today. Not surprisingly, clinicians are so busy trying to find out patient status and location that they can't focus on the game: patient care.

Common Characteristics of Visual Control Systems

A visual control system is a broadcast communication network that intuitively displays real-time information for all stakeholders to see without interrupting their workflow. The distinguishing feature is that information is received at a glance, with no need for logins, over-head pages or hand-held devices. Location technologies such as radio frequency identification (RFID) systems and other industry-specify applications populate the visual displays with real-time information, and standard layouts, graphics, signal lights or similar methods are used to communicate it intuitively.

Commonly used in industries such as manufacturing, food service,

Just as in everyday life, visual controls have the power to put everyone in healthcare on the same page with vital information.

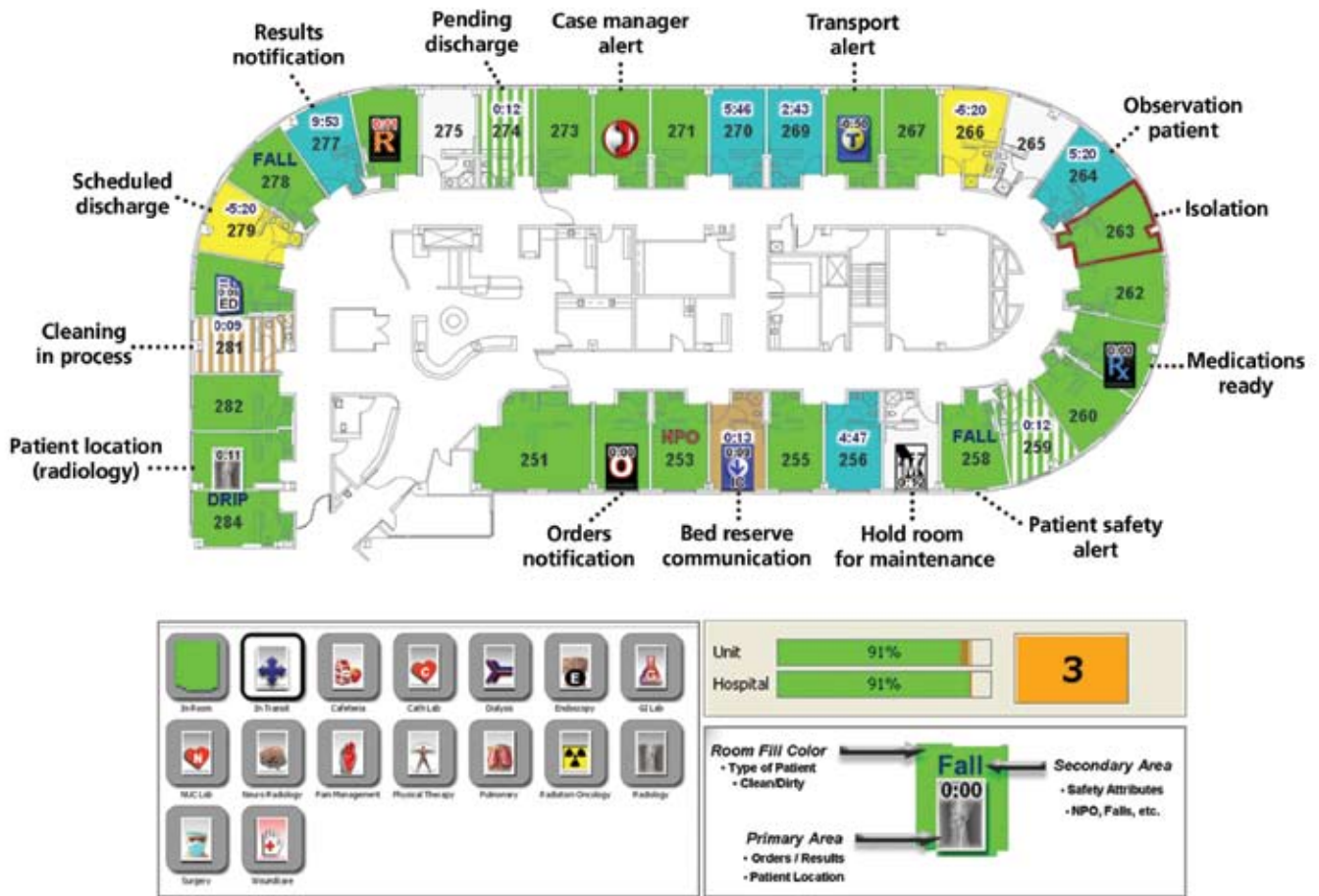
retail and transportation, visual control systems enable anyone familiar with the work to easily monitor statuses and respond accordingly to workload priorities. To maximize the potential of a visual control system, however, leaders must be willing to link the resulting transparency to greater accountability across the organization.

Visual Controls in Healthcare

Healthcare organizations are just beginning to tap the potential of visual controls to drive and sustain performance improvement. **Horizon Enterprise Visibility™** from McKesson is the first visual control system designed specifically for hospitals. It addresses a host of enterprisewide challenges by helping healthcare leaders create more time to care, serve more patients and achieve better outcomes.

How does it work? Information aggregated from clinical, ADT, environmental services, transporter

Reading the Electronic Whiteboard



Horizon Enterprise Visibility features 75+ configurable indicators that help keep everyone on the care team on the same page.

and other systems is intuitively displayed against the hospital's floor plan on large, electronic "whiteboards." Color-coded, time-stamped icons enable caregivers to quickly identify patients with orders pending or critical lab results, patient locations and discharge times, and discharge status and room availability. The easy access to information enables all members of the care team to continually work toward optimally treating patients, while moving them efficiently toward discharge.

Proven Benefits

On average, Horizon Enterprise Visibility helps providers:

- Uncover 5-10 beds per facility per day, which typically translates into a full return on investment within two years
- Save one hour per nurse per shift per day by saving up to 7-10 phone calls and 3-4 wasted logins per day
- Reduce diversions due to capacity problems by speeding bed turnarounds by up to 20 minutes

Multiple Perspectives on Enterprise Challenges

McKesson's visual control system addresses multiple enterprise challenges at once by putting

everyone on the same page. To maximize system potential, however, it's important to understand key stakeholders' perspectives and how they intersect.

The CNO's Perspective

Despite endless industry attention to the nursing shortage, the number of Americans working in nursing is actually at an all-time high, and the supply of nurses is increasing every year. The problem is a shortage of nurses who want to work in hospitals.¹ The cause is a combination of older nurses who are beginning to retire and new nurses who either leave their first position or leave hospital nursing altogether within a few years of graduating.

¹ Lutz, S., and Root, D. "Nurses, Consumer Satisfaction and Pay for Performance," hfm, October 2007.



Horizon Enterprise Visibility helps increase nursing satisfaction by reducing computer system logins, phone calls and pages.

Keeping nurses satisfied will soon be even more important. In March 2008 the Centers for Medicare and Medicaid Services will begin posting on its Hospital Compare Web site for consumers the results of a standardized patient satisfaction survey, the Hospital Consumer Assessment of Health Providers and Systems (HCAHPS). Along with existing quality benchmarks on the site, patient perceptions of hospital performance will now be tied to reimbursement. Fourteen of the 22 questions about patient experience involve nursing care. Generally speaking, nurses who work for hospitals that try to make their lives easier can spend more time at the bedside and provide better patient care.

McKesson's solution helps make nurses' lives easier by helping them see exactly what is going on with their patients at all times without logins, phone calls and pages. Color-coded icons help them quickly identify isolation patients, fall risks and other patient safety concerns. Flashing timers can be used to indicate when a patient needs to be turned and to drive real-time compliance with core measures by telling clinicians whether they are carrying out required protocols within required limits.

Streamlined communication further boosts nurse satisfaction. The question patients and families ask nurses most is, "When is my doctor going to be here?" Often the nurse doesn't know who the patient's doctor is, let alone when he or she will round that day. Using a visual control system and Internet portal, physicians can log in remotely to identify their patients' locations and nurse assignments, and indicate on the electronic whiteboard for each unit when they will round. This information is automatically broadcast on the appropriate units — all without any pages or phone calls.

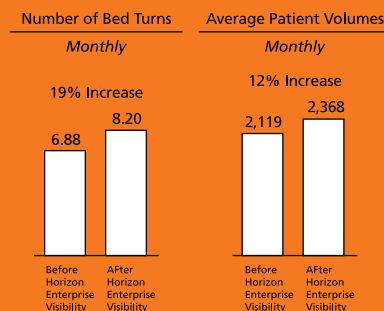
Because room status (occupied, empty, being cleaned, etc.) is also broadcast intuitively, nurses don't have to repeatedly call environmental services (EVS) to request that a room be cleaned. Instead, EVS directors can quickly determine where staff are needed most, and workers can better manage their own day. Everyone can see how long a cleaning has been in progress and anticipate when a room should be ready.

The C-Suite's Perspective (CEO, COO, CFO)

When deciding whether to approve a new technology investment, CEOs, COOs and CFOs want solutions to the issues that keep them up at night. They want



St. Vincent's Maximizes Patient Flow



Revenue increase of \$5.5M

In 2004, St. Vincent's Hospital in Birmingham, Ala., was on divert status for more than 3,800 hours. Excessive wait times in the emergency department (ED) prompted many patients to leave without being seen. And less than 40% of patients who were ready to be discharged left by noon. Not only did these issues affect care quality and patient and staff satisfaction, they also took a financial toll in terms of unnecessary costs and lost revenue.

Within six months of implementing Horizon Enterprise Visibility, St. Vincent's had increased its monthly bed turns by 19% and average monthly patient volumes by 12%, resulting in \$5.5 million in additional annual revenue.

solutions that can drive and sustain multiple enterprisewide process improvements at once — and that provide a quantifiable return on investment.

Horizon Enterprise Visibility can dramatically affect a problem that nearly every hospital in the country faces: capacity and throughput. The plight of hospitals experiencing emergency department (ED) overcrowding — and patients who end up leaving without being seen — has been making headlines in recent years, with no signs of abatement. According to the Institute of Medicine, 91% of hospitals reported overcrowding, and nearly 75% reported diverting at least 2 patients per day.²

As evidenced by ubiquitous cranes on nearly every medical campus, hospitals often try to tackle capacity issues with new construction. In 2006 hospitals spent an estimated \$30 billion on construction — a 30% increase in one year — and 83% of hospitals plan to add capacity in the next two years.³ With industry guidelines and consumer demands contributing to upwardly spiraling costs for new construction, doing everything possible to improve patient flow within the existing footprint makes sense.

Hospitals also try to tackle patient flow issues with bed management systems or departmental tracking boards. Unfortunately, these solutions don't work because they don't involve key constituents — clinicians — in the process. When is the last time a physician, nurse or other clinician logged into a bed management system? Nor can



From a CFO's perspective, Horizon Enterprise Visibility can help drive myriad process improvements, providing quantifiable ROI.

these solutions address systemwide bottlenecks. ED challenges in particular are often symptomatic of enterprisewide challenges. Most often the real cause is "downstream" capacity issues in care areas such as the ICU, surgery, and observation beds.

McKesson's visual control system helps prevent diversions due to capacity problems by speeding bed turnarounds by up to 20 minutes so patients can be placed in the right bed more quickly. It also enables case managers to identify at a glance time remaining on observation beds and resolve any clinical, social or payor issues, which reduces denied days. Similarly, a visual control system counts down time remaining for patients with written discharge orders, so everyone can work toward a common goal and reduce unnecessary delays.

The CIO's Perspective

CIOs are under constant pressure to maximize adoption of existing technology and ensure that incremental investments are affordable, provide a quantifiable ROI and leverage what is already in place. McKesson's solution

basically broadcasts the information from underlying source systems for everyone to see and use. This exposure enhances the value of those systems by increasing their adoption and the accuracy of the information they contain. There are few infrastructure requirements and no complex integration to be done. As a result, installations take less than 100 days, with minimal on-going maintenance. Most "users" are simply viewers, so training amounts to reinforcing what the various visual controls mean and reinforcing the importance of relying on them to prioritize activities throughout the day.

The Performance Gold Standard

Decades after bar-code technology was widely adopted in manufacturing and retail, it has become synonymous with medication safety and positive patient identification. The same potential holds true for visual controls to be recognized as the gold standard for driving and sustaining process improvement in healthcare. At McKesson, we're committed to helping everyone understand and embrace the value of visual controls to promote better, safer care.

² "Hospital Based Emergency Care at the Breaking Point," Institute of Medicine (2007).

³ Medicare Payment Advisory Commission, Report to the Congress: Medicare Payment Policy, March 2007.