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DIGITAL CONCIERGE:

Flat Panel Display Technologies In Hospital Settings Serve As Ubiquitous Point Of Interaction Among Patients, Families, Healthcare Professionals And Hospital Administration

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Introduction:

Not long ago, hospitals purchased televisions for patient rooms and public areas like lobbies and cafeterias with a simple goal in mind: to provide an entertaining diversion for a captive audience of patients and visitors.

This previously resulted in bolting a clunky, heavy analog TV set onto a gravity-defying wall-mounted arm, enabling a recuperating patient and his/her visitors to pass the time by watching their favorite shows. Although many hospitals have since upgraded to thinner, lighter flat panel TVs, many are not reaping the full benefits that can be delivered if robust display technology is integrated strategically.

In today's hospitals, where new health reform guidelines and value-added functionality like digital signage and clinical display applications are transforming the healthcare display space, even a consumer-grade flat-panel TV is not enough. Advances in technology and evolving hospital and healthcare missions have created a paradigm shift for hospital administrators, facilities directors and other decision-makers, who now are investing in hospital-grade display solutions that extend beyond the basic entertainment function.

In this report, we explore the role that intelligent flat panel displays can play in supporting the core mission of hospitals and other healthcare facilities to improve patient experience and care outcomes. For the purpose of this report, intelligent flat panel displays are defined as units that can be quickly and easily configured to perform a number of functions – from supporting television programming, to presenting clinical data and enhancing collaboration applications.

From Point Solution to Integrated Point of Contact

Whether used in clinical or entertainment applications, the old hospital standard for video or data displays used to be the cathode ray tube (CRT) monitor. Since computer monitor and TV purchasing was often an ad hoc affair, hospitals usually ended up with a hodge-podge of different display products from multiple vendors.

Although low-cost CRT technology ruled the roost in hospitals for decades, its substantial disadvantages – including bulk, weight, heavy power consumption and radiation emissions – have driven most hospitals to consider digital flat-panel displays. The benefit of a better picture is obvious. What may be less apparent is the impact these devices can have on the satisfaction of patients and their families with their experience in healthcare facilities. A rapidly growing share of patients and their visitors have flat-panel TVs in their own homes and in an increasingly competitive healthcare

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market, hospitals have become more focused on the “hospitality” side of their mission.

But there’s a bigger picture when considering flat panel technology investments in a hospital setting.

“About 80 percent of hospitals are moving towards flat panel technology...but it is not just for entertainment purposes within a patient room,” says Brian Simmons, of Panasonic.

With the current generation of displays, there is growing evidence that a strategic and integrated approach to deploying professional display solutions in patient rooms, common areas, nurses stations, as well as other clinical and digital signage applications creates a strong value proposition for hospitals. Increasingly, hospital administrators are examining the role that intelligent professional display solutions can play in:

- Orienting patients and family members around facilities;
- Educating patients about their specific conditions;
- Entertaining patients during their stay; and
- Coordinating key hospital constituents (families, doctors, nurses, specialists, etc.) to optimize the patient experience in the hospital.

Industry-Specific Solutions Enable Efficiencies

New hospital-grade high definition displays meet safety standards for patient and waiting rooms and are compatible with existing pillow speaker interfaces, so they can easily integrate with existing in-room entertainment and call-button systems.

More advanced units support the use of data networks and SD cards to transfer information easily and securely between different rooms. This means that the same flat-panel display can perform double duty as an entertainment tool as well as a specific patient management tool.

“It’s much more than just a display,” Simmons says. “It enables nurses to have a more dynamic and accurate whiteboard because they’re using digital technology. You get a flexible, programmable industrial strength solution tailored to the industry-specific needs of the hospital.”

This enables hospitals to take advantage of many of the powerful new software-driven and content-based applications that are revolutionizing the hospital experience. That includes, but is not limited to, streamlining how hospitals perform:

- Pre-discharge diagnostics;
- Clinical reviews with patients; and
- Health information communication.

“More and more hospitals are seeing the benefit of hospital-grade, high

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definition displays because it's cutting down on redundancy and the work of hospital staff is made much more efficient," says Brian Solomon, vice president of independent systems integration firm, CDCE.

"It's reducing liability [by digitally documenting reviews, for instance] and it's also educating and keeping the patient engaged in their own care."

Tips On Choosing A Hospital Grade Flat Panel Display Vendor

If your hospital is looking to upgrade display technologies in patient rooms or clinical settings to hospital-grade displays – or to add displays for digital signage and other applications in common areas – here are some of the specific attributes you should consider:

- **Low Failure Rates:** For critical devices like these (and to a bored patient who's not feeling well, having something entertaining to watch is a critical issue) reliability is a big deal. Although some hospital-grade display manufacturers have failure rates as high as 10 percent, Panasonic's professional display failure rates hover in the 2 percent range.
- **Long Lifecycle:** If you're going to buy a device, you don't want to worry about replacing that device in two or three years. That's what makes the total cost of ownership such an important metric for hospital-grade displays. Panasonic's commercial LCD displays have a 60,000-hour lifecycle and all of their commercial plasma displays have a 100,000-hour lifecycle. When you do the math of 100,000 hours, 24 hours a day, seven days a week, you have a product life of nearly 12 years. And considering that there is only a 2 percent failure rate over that 100,000 hours, that delivers an extraordinary value proposition.
- **On-Site Warranty:** Whether you're talking about patient-room displays, lobby way-finder kiosks or other digital signage displays, it is important to have a reliable supplier who offers on-site warranty support.

In settings where privacy can be ensured, the most robust hospital-grade displays can enable a physician to download medical records or X-rays, CT scans, radiology images as well as information from a surgery or tests directly to the flat panel display. Doctors or nurses can then go over that information step by step with the patient in his/her own room.

"Instead of transporting a patient with multiple fractures to a consult room in X-ray, they can bring the X-rays to that room and do the consult with the family and the patient," explains Solomon. "That's much more efficient for the hospital and much less intrusive for the patient."

Beyond the patient room, commercial plasma displays – as large as 152-inches – are being deployed in locations such as nurses' stations, lobbies, and waiting rooms.

In addition to providing the full menu of digital signage capabilities, these

There is growing recognition that significant efficiencies can be gained by developing a more integrated approach to display platforms.

commercial flat panel displays support a full, plugged-in PC. Features like this allow the hospital to network their displays and download content from remote locations so that they can deliver a fully integrated digital signage and edutainment solution for common areas.

- The new technology enables hospitals to network their displays and manage content remotely from a centralized location change or schedule content they want on specific displays from a centralized location.
- It makes it possible to send out real-time emergency alerts to all of the displays on their network if the situation calls for it.
- Hospitals can use the displays for digital signage applications such as providing information to patients, friends and families for educational purposes.
- The displays can replace traditional whiteboards or chalkboards for nurse scheduling. “Forty-two-inch LCDs are being used for this function. Nurses can control everything from a computer at the nurse’s station. It makes it easier to see and track what their responsibilities are, what their rounds are going to be, etc.,” explains Simmons.

Integrated Solutions for Centralized Accountability

Traditional hospital video/data display strategies have typically focused on point solutions – technology that is dedicated to a single or narrow function (like just watching TV). As a result, most hospitals ended up having multiple brands and models of monitors in place that were difficult to integrate and support.

Today, there is growing recognition that significant efficiencies can be gained by developing a more integrated approach to this platform.

“The ability to go with one manufacturer across the hospital is either on the wish list or a firm requirement for many hospitals,” Simmons says. “Not only do they want one approach just in case there is a problem that requires support, but they’re also looking for ways to leverage software and content services across all of the different displays within the hospital. They want to know that they’ve got one display manufacturer that’s going to be compatible and accountable for the different types of software or content that they’re using.”

A Case in Point: Berkley Convalescent Hospitals

When evaluating an investment in – or replacement of – display devices, it’s important to remember a few things.

First, there are hard savings on the electric bill. “Old CRTs take significantly

Healthcare grade displays can be used to engage patients and families in very specific, tailored ways.

more energy to run than our flat-panel LCDs do,” Simmons explains. “It is important to have a very good understanding of the lifecycle time frames and failure rates that will come with the new technology.”

Procurement is a very important part of the technology deployment process. Hospitals generally have a budget in advance, so they know how many displays they can purchase.

Consider Steve Galper, who is the owner of Berkley Convalescent Hospitals, a three-hospital group that provides post-surgical rehabilitation and skilled nursing care in the Los Angeles area for a high-end, private-pay clientele. In one of his hospitals, he has had 150 CRT televisions for the past 12 years. But since he has decided to undergo a major remodel at his facility, he determined it was time to update the TVs in his patients’ rooms to state-of-the-art displays suitable to a healthcare environment. At the same time, he wanted to ensure that the new displays were compatible with his existing nurse call system and pillow speaker configuration.

“We’re going to bring it to the next level – to become more like a hotel-type accommodation,” he explains.

Galper did his homework – he evaluated all of the leading healthcare display solutions on the market right in his facility in occupied room conditions. The average price tag of the hospital-grade displays he encountered seemed steep to him. (He even checked out consumer models at a retail store, but rejected them because they didn’t have the necessary pillow speaker compatibility).

By chance, he noticed an Internet item about the Panasonic healthcare-grade display. “I’ve had a Panasonic plasma TV at home, and I love the brand,” he says. “But my real decision for going with Panasonic was driven by the fact that their price was roughly \$200 less expensive than the competitive alternatives. When I evaluated the products, I also found that there were several features on the Panasonic TV that were better than those found on the others. Price, however, is a big deal when you are going to purchase over a hundred units.”

Engagement Strategies

In addition to the education and entertainment applications that new displays can bring into the patient room, the healthcare grade display can be used to engage patients and families in very specific, tailored ways.

- Patient room displays can be configured to enable food service ordering, with menu screens tailored to the specific patient’s dietary restrictions.
- Private patient room displays can be used to walk patients through an electronic discharge checklist, enabling them to acknowledge receipt of all appropriate care instructions – a valuable tool in limiting hospital liability.

Today's professional flat panel displays are not simply tools for infotainment or digital signage. They represent an opportunity to engage with patients and their families to advance the core mission of hospital facilities...

- Outside the patient room, flat panel displays have a valuable role to play in enhancing the “customer experience” in common areas such as lobbies and cafeterias. They can be used for so-called “way-finding” applications, as well as a communication point for urgent facility information.

“Integrated flat panel displays can become a very interactive tool and provide a lot of efficiencies for the entire community of interest,” Galper says. “It can help avoid having people aimlessly walking around the hospital looking for the right place to be. And this definitely reduces that negative hospital experience.”

Other applications of this technology are advancing rapidly as well. Some hospitals are integrating touch overlay options for some of their displays in common areas, Simmons says.

“If you walk into a lobby and are looking for a specific doctor’s office...you can plug in the doctor’s name and then it will actually plot out where that physician’s office is. Digital signage with touch is becoming more and more prevalent in hospitals,” he says.

Conclusion

Hospitals have an opportunity to leverage the power of next-generation medical-grade flat panel displays to move beyond simply providing one dimensional TV broadcasting service. When applied strategically, healthcare-grade flat panel displays can become a digital concierge, enabling edutainment, clinical support, and a host of other value-added applications. The overall benefits of healthcare-grade flat panel displays are substantial and include:

- Boosting overall customer satisfaction with hospital facilities;
- Supporting a higher level of patient care;
- Streamlining various administrative and clinical processes;
- Driving improved financial metrics like total cost of ownership (TCO) and return on investment (ROI);
- Elevating collaboration and coordination among the community of interest (patients, their families, doctors, nurses, etc.); and
- Supporting overall improvement of care.

Panasonic recognizes the power and potential of healthcare-grade displays. In today’s high-tech hospital environments, professional displays can be leveraged far beyond traditional entertainment applications. They are clinical-interface devices that deliver important patient information and patient relationship management tools.

The value proposition lies in the technology’s ability to interact with patients – whether that means entertaining the patient, informing the patient or interacting with the patient from a HIPAA-compliant, administrative

standpoint.

Today's professional flat panel displays are not simply tools for infotainment or digital signage. They represent an opportunity to engage with patients and their families to advance the core mission of hospital facilities -- which is to take care of patients and help them achieve successful outcomes.

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