IHEA Conference

NSW / ACT BRANCH CONFERENCE

FRIDAY 18 AND SATURDAY 19 MAY 2012

Wagga NSW

"Making the Most of What We Have"

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The theme **"Making the most of what we have"** focuses on current challenges faced across the healthcare industry. The conference continues the IHEA principles of providing professional development to our members and exposure to relevant industry groups to partner our members in the ever changing face of hospital engineering and healthcare facilities management.

Hospital Communications Infrastructure

Introduction
The convergence of infrastructure in healthcare facilities is becoming a cumbersome process. Many stakeholders are involved in the decision making process, so often the final outcome is overly complex and disjointed. Advances in healthcare technology are rapid and have increasingly widespread influence on daily operations, so careful and far reaching planning is needed to effectively manage change and to make the most of the benefits technology has to offer. The purpose of this article is to discuss issues that need to be considered when assessing an existing communication system, planning an upgrade, or purchasing a new system, to ensure healthcare facilities make the most of what they have.

Compliance with Australian Standards and Best Practice
Healthcare facilities are regularly audited to ensure that all of their systems, processes and procedures comply with relevant standards. Therefore, when assessing a communications system (whether existing or new), first and foremost one needs to check that it complies with the relevant Hospital Guidelines and Australian Standards.

To ensure the auditing process runs as smoothly as possible, processes need to be in place and appropriate key performance indicators chosen that meaningfully measure the performance of an existing system across time. With such processes in place, the communications system can be evaluated by how well it meets the needs of a particular facility (in terms of that facility's model of care, operations, etc.,) and what features could be modified or upgraded to better meet those needs when opportunity (funding) allows. By doing so, facilities can strive to go beyond the minimum compliance with standards, to achieve *best practice*. An evidence-based approach, where a system is continually evaluated for its performance within a specific facility over time, will ensure that healthcare facilities make the most of what they currently have in place, keeping in mind that the most technologically advanced or expensive systems will not necessarily be the 'best' fit for every facility.

Standardisation and integration
As the core systems in a healthcare facility work toward achieving best practice, the next step would be to standardise this across all systems. In most cases, the different systems within a facility are provided by different vendors, and although these different systems meet the needs of the facility well, they may not necessarily work well *together*, particularly if changes or updates are made to one system that affects the performance of another. This is a common problem when the systems and technologies inherited are no longer supported.

When the infrastructure of a healthcare facility is changed (e.g., a new wing or building is added), new products are typically procured. This often poses problems with maintaining information and performance of the existing systems within the same facility in concert with the new products, e.g., a single building management system must be used across the facility. Likewise, healthcare facilities need to look at standardising key systems and core technologies to ensure interoperability across all systems.

In the ideal scenario there would be standardisation across all systems, to ensure they work seamlessly together and are able to accommodate changes and improvements in technology across time. In order to achieve this, a communications system should be an *open platform* with interoperability a key feature. The system should not be completely closed, or proprietary, and should able to accommodate future expansion. This integration of systems is essential as we progress to a situation where we are able to monitor all systems concurrently, with minimal manual intervention, and where a system will alert us to problems as they arise. This end goal will be best realised by considering input from end users and assisting health departments and vendors to design better products that add value to healthcare facilities.

Workflow

When assessing any system, consideration of its contribution to *workflow* is a key aspect. The system should not only 'fit in' with the current day-to-day procedures of the facility, it should also help to enhance efficient workflow. This is illustrated in Figure 1 below using the example of turning a room around. The steps involved in this workflow are: a nurse is called to discharge the patient; a porter is called to move the patient out; a cleaner is called to clean the room; the room is audited to ensure that it is clean and ready to be reoccupied; and the admissions desk is advised so that a new patient can be admitted.
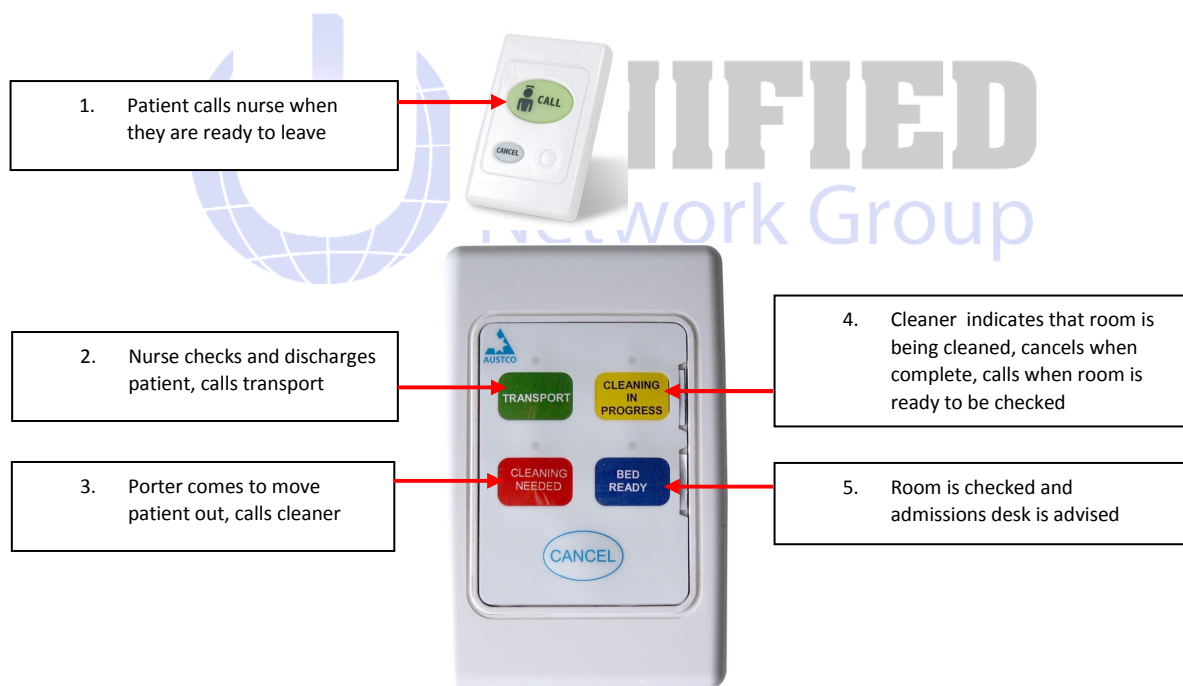
Figure 1. Workflow for turning a room around

In the above example, the patient room is linked with internal hospital processes such as transport and cleaning in *real time*, so that the next service required can be notified instantly and efficiency and productivity maximised.

Furthermore, it is possible to have information on this workflow recorded for reporting purposes. This would allow managers to assess the workflow of such day-to-day procedures compared to their key performance indicators over time, e.g., how long it takes to turn a room around. Managers could then accurately pinpoint areas in need of improvement: e.g., if the time to turn a room around is too long, is it because the porter is not getting to the room fast enough? Is it because the cleaner is taking too long?

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Maintenance and Service

When evaluating the cost of an upgrade or new communications system, always keep in mind the 'total cost of ownership' (TCO). A new hospital may be designed for 25 years; however the communications systems may only be designed with a life of only 5 years. At the outset, it may be worth investing in a communications system with greater longevity (in terms of robustness of hardware and software, and future adaptability) than choosing a more economical product that will need to be replaced sooner. Furthermore, investing in regular maintenance and servicing will ultimately keep costs down, as potential problems can be avoided or dealt with before they become major.

Conclusion

A reliable and efficient communications system is vital to running a successful healthcare facility, and has the potential to have a positive influence on numerous aspects of daily operations and workflow. For this reason, care must be taken to not only have a communications system that complies with standards, but a tried and tested product that achieves best practice for that particular facility. Furthermore, an open platform system will allow for integration with other systems across the facility as well as adaptability to future changes and advances in technology. By taking the time to consider these issues, healthcare facilities will not only able to make the most of what they currently have, they will also be able to make the most of what will available in the future.