AngusConnect

Emerging Technologies in Healthcare

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You might have heard about some new technologies in healthcare and other industries lately, or had colleagues ask about technologies they've heard of or seen in other hospitals. The Angus Connect group helps our clients understand and evaluate these technologies to identify those which provide the best value and strategically align with the goals of the hospital, then assist with planning and specifying the implementation of the selected systems. Here are some of the emerging technologies we're seeing, and how they can help our clients improve their efficiency, quality and safety.

Real-Time Locating Systems

A comprehensive real-time locating system (RTLS) provides the key components to identify the location by tracking of staff, patients, visitors and assets as they move around the facility, through the use of a tag which is assigned to each item or person. This technology helps hospitals automate and streamline workflows, reduce loss of costly assets, promote a safe environment for staff and patients, and optimize patient flow to improve the patient experience and decrease wait times. For example, the RTLS system can identify that a nurse has entered the room of a patient who has used the nurse call system. The granularity of the system can range from department-level (Wi-Fi based) to 3m x 3m or room-level identification (standalone or hybrid), depending on the needs of the client and the RTLS technology deployed.

Integrated Nurse Call

Integrated nurse call enables a more mobile workforce by connecting hospital systems with bedside and mobile devices, routing nurse call alerts through staff handheld devices and connecting patients directly to their assigned care providers. Mobile staff are able to speak directly and clearly with patients from the convenience of their handheld device rather than using fixed devices at the nursing station, and patients are able to more easily contact their care team. Additionally, more advanced nurse call systems can identify the type of request coming from a patient, whether it is urgent requiring a clinician or simply a request for a glass of water.

This approach contributes to a quieter hospital environment by reducing the need for overhead paging, increases patient safety and satisfaction through more effective and efficient communication, and improves clinical workflows since nurses are able to answer calls more easily thereby responding in less time and reducing total number of footsteps.

Unified Communications

Unified communications (UC) has a variety of definitions in the industry, but the core concept is to make communication available using any medium, on any device, anywhere. More specifically, the Angus ICAT group uses the term to describe an integration of communication services which brings together voice, video, text, and data messaging into a common environment and makes them available across multiple devices. This enables a more mobile and personalized workforce which can access and respond to communications from any device using their preferred method.

Some popular features of unified communications include the ability to send a message in one media (i.e. voicemail) and access it in another (i.e. text message), presence detection and the automatic forwarding or redirecting of messages when the primary recipient is unavailable, and the use of a common phone number to reach multiple devices – both fixed and mobile. The range of functionalities available through unified communications allows staff members to communicate and collaborate more efficiently, provides a consistent user interface and experience through a variety of devices, and improves care coordination by helping care teams find available providers with the desired skills when they are needed.

Integration Engines

The integration engine manages and directs information between separate technologies and systems, essentially forming the backbone of a smart hospital. Typically part of our consultation process involves identifying which systems must integrate or communicate with each other – for example, nurse call with handheld communications devices – and outlining this in an integration matrix.

Implementing the integration can be approached in two ways: point-to-point integration or via an integration engine. In the first case, nurse call would communicate directly with the handheld communication system (as well as any other systems with which it must be integrated), and each integration would require a distinct connection. On the other hand, an integration engine takes inputs from all the systems which must be integrated and directs the messages appropriately via programming, meaning it does not require a direct interface between individual systems; this results in a much more flexible integration infrastructure which can be modified and updated as the building and technologies evolve.