

Case Study

Southern Health Dandenong Emergency Department

Background

Southern Health is the largest public health service in Victoria. They provide health care from pre-birth, newborn babies and children, to the aged, their families and carers.

The services which are provided include:

- High acuity teaching and research hospitals.
- Mental health through hospital, community and outreach services.
- Chronic disease management.
- Primary care through community health centres & hospitals.
- Prevention and early intervention.

These services can be found in over 40 locations across South-East Melbourne (VIC) including hospitals such as the Monash Medical Centre (Clayton & Moorabbin), Dandenong Hospital, Casey Hospital, the Kingston Centre and Cranbourne Integrated Community Care Centre.

Also, community health centres located in Berwick, Cockatoo, Cranbourne, Dandenong, Doveton, Pakenham and Springvale.



Requirements

In what is a highly dynamic and sometimes challenging environment, the project team at Southern Health required an all-in-one handset solution to provide staff with a telephone and a way of receiving messages from their existing nurse call, paging and building management systems.

The project team gathered the following requirements in consultation with the business units:

- The ability to deliver tight integration with the NEC PBX, Motorola WiFi, Rauland nurse call, Xacom paging, Johnson Controls building management and Siemens access control
- A PCS (Portable Communications Solution) that can facilitate complete voice, messaging, duress and location
- The PCS needed to be able to withstand infection control procedures
- The ability to perform group dialing and group messaging
- The capability for staff to “log on” to handsets on a shift-by-shift basis and messages be directed automatically to them
- The ability to interface with emergency/arrest call buttons situated throughout the ED
- The option for messages to include an Accept/Reject feature.
- A solution with high availability and a redundant architecture

By leveraging the existing Motorola WiFi infrastructure that was designed to support Real-Time Location System (RTLS), Integrated Wireless (IW) delivered a VoWiFi system that integrates tightly with the ED's nurse call and building management systems as well as the hospital's existing IP-PBX.

Solution

The Ascom i62

The Ascom i62 Handset, referred to by Southern Health as the PCS, is the front-end device that enables mobile staff-based communications. The IP44 rated handset (dust and water resistant) enables high-quality voice calling, two-way messaging, duress notification and the ability to be located by Ekahau's RTLS controller.

Integration

The system uses Integrated Wireless' DURAsuite and ENSUREsuite software to integrate the site's NEC IP-PBX, Motorola WiFi network, Rauland nurse call system, Xacom paging system and Johnson Control's building management system. The system utilises a combination of hardware and software modules that manage all alarms, messages, extensive system logs, voice calls and RTLS.



Duress

If a staff member at DHED is in trouble, they can raise an alarm either by the alarm button on a PCS handheld or by the fixed duress buttons situated around the ED. Once pressed, a message is sent to each PCS handheld in the associated response group with a specific text description of the duress incident including the location. A map will also appear on specified monitors in the ED via the DURAalarm module, with a marker indicating the position of the PCS handset. At the same time, an open-channel call is initiated that enables the response team to silently listen in to the duress incident via the initiating PCS phone en-route to the incident.

Notifying the Nurses

The nurse call system provides a two-button call point beside each patient's bed. Once pressed, only the nurses assigned to the particular section will get a notification via the PCS handset.



Pairing staff and a PCS handset

IW has developed DURApair- a software module that directs messages to the desired recipient regardless of which PCS handset they are using. This is achieved at shift change when staff swipe their RFID cards and scan the PCS's barcode at a dedicated PC to log on to the handset. Their identity is then linked to that particular phone for the duration of the shift. In addition, staff members' names and extensions are displayed in a directory on any PC running DURAsuite. This feature allows management to track any missing handsets, reducing the issue of missing equipment.

Contacting the desired PCS handset

The directory is divided into pre-defined groups which are identified by role. If a group extension is dialed, all PCS phones in that group will be called for 30 seconds. If the call is not answered by a member of that group, it is then forwarded to the designated escalation point.

Accept/Reject

Knowing whether messages have been read by your colleagues is vital to the effective operation of any department. The PCS enables Accept/Reject messages to be sent from each nurse station via the DURApge application. An Accept/Reject message can be sent by name or extension and assures jobs are assigned to staff that are able to complete them in a timely fashion.

Assigning jobs to EDAs

Each PCS has the ability to send nine pre-formatted Accept/Reject messages to Emergency Department Assistants (EDAs) which, once sent, cycle through the four EDA PCS handsets. If the calls cycle through twice without being accepted, a message is sent to the Nurse in Charge which provides detail regarding which handset originated the request. This feature adds great efficiency to workflows in ED.

Logging

Integrated Wireless' ENSURElog feature captures information about all messages, alarms, system diagnostics, calls and handset user information. Management can easily search through these logs to make useful information more attainable.

Customer Feedback

"The solution to deliver voice, text messaging and duress from a single PCS device was initially a notional requirement that, now realised, has allowed us to provide staff and patients with optimal safety whilst streamlining ED workflows"

- Donovan Ferguson, Project Manager at Southern Health and the instigator for the PCS solution.

About Us

Integrated Wireless is a specialist company dedicated to the design, installation and maintenance of Wireless Emergency Communications systems for the Healthcare, Aged-care, Corrective Services and Industrial markets. With offices in Sydney, Melbourne, Brisbane, Perth and Auckland, and over 1,700 wireless systems deployed - IW is a proven leader in the emergency wireless communications industry.

www.integratedwireless.com.au