

TETRA pagers keep better track of hospital staff

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Two-way pagers at a Finnish hospital alert staff and show who's available. A recent trial showed just how much of an impact they could make to the level of care being provided.

Kuopio University Hospital has a problem. When emergencies crop up, it needs to get the call out to doctors, anaesthetists and surgery teams to enable them to swing into action. A paging system is ideal for this but Kuopio retired its previous system five years ago as it had reached the end of its life. Even when it was in use, it was not adequate - the hospital could not tell if the alert had gone through, while the person receiving the alert had to phone back, a method that was very inconvenient.

To try and improve this situation, Sami Haapamäki, communication manager, at the University Hospital analysed his own hospital district, looking at how many people were left unreached in a critical situation, or how many times the alerts did not work. There were a lot, enough to make the management board decide that paging could be based on VIRVE, Finland's TETRA network. Those who do not need the complete functions

of a VIRVE radio in their work could very well use a TETRA pager.

To use TETRA in a hospital, indoor coverage must be guaranteed. Kuopio University Hospital built its own multi-operator network, which has worked very well and is now being further developed.

Real life test

The hospital needed to know if a two-way pager could give them what it needed. As well as alerting staff, this would provide a way to see whether a person was

reached and was available for duty. They needed not simply to alert staff and hope for the best, but to get real information on who was available.

Using a single Airbus Defence and Space P8GR pager running an alerting application, ten staff took it in turns to use it as part of their everyday work. Says Haapamäki: "The hospital also wanted to see what solutions could be built on top of TETRA. Another objective was to determine which users need to be alerted but who are not critical. At the moment, these





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people are called to duty over their GSM phones.”

A back-up for VIRVE radios

The new pager gathered some favourable responses, with a typical comment being: “This new pager is very promising. It would give us a way to manage tasks and resources because we would know who can be reached and who are going to arrive on duty.”

The size was found to be good, as was the weight and feel of the device.

“It was also assessed as a good complement to conventional radios,” says Haapamäki. “There are always fewer radios than we would really like, so when there’s a short-term, temporary need, such as when their regular radio is being serviced and there is no spare available, a person could manage with this two-way pager.”

The P8GR pagers would also be useful for a student or someone who doesn’t know the discipline of using

VIRVE – giving them a pager would allow them to communicate readily because it is even easier to use than the radio.

“A VIRVE radio and this device are very different,” says Haapamäki. “They complement each other.”

Taking the next step

Before bringing the pagers into full operation, a thorough survey needs to be done on the radio coverage. “Although VIRVE coverage is excellent, there may be a few spots like tunnels and basements, where reception is not so strong. The radios from Airbus Defence and Space give an alert tone if they lose connection with the network. This is an important feature!” adds Haapamäki.

Another important factor is to develop the system so that the complete chain of care is considered. This includes the situation and location the patient is in, allowing the hospital to allocate the task to where the resources are. “For example, if Joen-

suu has five operating rooms available, the patient is not moved from Jyväskylä to Kuopio but to Joensuu,” says Haapamäki.

This makes care more efficient and makes the most of available resources. “This requires a new kind of thinking, and the new technology’s possibilities need to be taken full advantage of. The importance of the flow of information will grow significantly when we can do more with less and at the right time,” says Haapamäki.

One idea for improvement is for a full call-out to have a different severity level. This would be indicated by the device making a different sound and blinking in a different way to other, non-critical alarms. Severity levels could be graded from 1 to 15, where 1 would be an all-out national disaster, and 15 would be “please would the janitor go and spread gravel on the ice in front of the entrance.”

“The more we use VIRVE, the more useful it becomes, and the use increases,” concludes Haapamäki.