

Background Information Alarms to Save Lives “I See You - I Hear U”

MORE INFORMATION REGARDING THE ICU:

The **Intensive Care Unit** uses various life support measures including mechanical breathing, artificial kidneys, support for the heart and circulation and nutritional support to care for patients until treatment can have its desired effect. **Intensive care** is delivered via a multidisciplinary team comprising physicians (intensivists), critical care nurses, respiratory therapists and a number of other key providers. **Intensive Care** is one of the newest disciplines in health care, having emerged over the last 30 years.

OUR NEED – FURTHER EXPLANATION:

One of the core functions of an **Intensive Care Unit** is monitoring the critically ill patient for changes in clinical status. Such monitoring is accomplished by a combination of expert bedside providers (eg nurses, physicians and respiratory therapists) and advanced technologies not available elsewhere in the hospital. The nature of critical illness is such that the status of patients changes frequently. Detecting when such changes occur in a timely manner is vital. Our current technologies at the bedside help us detect important changes in physiology (eg the blood pressure dropping) so that we can react quickly and appropriately manage the situation. Alarms (eg auditory and visual clues like beeps and buzzers) are one way our monitoring technology helps us detect important changes in the patient. Currently these alarms are presented at or close to the bedside. While care providers in the ICU are near the bedside the majority of the time, periodically they must be away from the bedside to help care for other patients or to obtain supplies or medications. In addition, certain ICU care providers take care of multiple patients. When providers must be away from the bedside it is more challenging to detect alarms and become aware of important trends in vital signs.

Our new state of the art ICU's are significantly larger in terms of both space and number of patient rooms than previous units. While the new ICUs provide tremendous advantage via contemporary design, the larger unit size has magnified problems with the detection of bedside alarms. While several additional safeguards have been put in place to try to address this, the optimal solution is an emergency response communication which can aggregate alarm signals from multiple critical bedside devices and deliver the appropriate alarm signals to the correct bedside provider using devices attached to those providers, independent of whether they are at the bedside or not.

We are seeking a more advanced module to add to our clinical information system which will allow bedside alarms and patient status to be broadcast to the appropriate health care provider independent of where they may be on the unit. Advanced alarm and event monitoring, with remote transmission of alarm signals, is cutting edge technology and has only recently become available as an add-on to our new information system. Such a system will allow for us to be even more responsive than we are now to changes in our patients and allow us to deliver even better care to our critically ill patients.