# Banner Health, Phoenix

## Technology, People and Process: Improving ICU Care

### Background

In 2006, a shortage of critical care physicians and nurses compounded by ICU capacity and geographic constraints led Banner Health to initiate a remote monitoring program called iCare.

### Goals

- Standardize ICU practice.
- Reduce ICU mortality and overall length of stay.
- Leverage limited cognitive skills by improving access to information.

### Target population

Banner’s iCare system operates from Banner Desert Medical Center in Mesa, which links doctors and nurses to 18 hospitals and about XXX ICU beds in Arizona, Colorado and Nebraska.

### Intervention

Under the iCare program, critical care physicians and nurses back up the local bedside ICU team and remotely monitor ICU patient information around the clock. Highly trained personnel, technology and processes are key elements of the program. iCare roles include:

- Responding to requests for help from the bedside team
- Monitoring for adverse trends and preventing adverse outcomes
- Monitoring and supporting best practices
- Measuring performance

### Results

In 2011, 1,590 lives were saved as a result of the iCare system. In addition, ICU days decreased by more than 20,500, and hospital days decreased by more than 49,000. Banner estimates these efforts have resulted in a savings of nearly $70 million.

### Recommendations/Observations

The iCare model allows health care to leverage currently available technology to do better by patients and society.

- Highly skilled professionals can use telemonitoring to improve ICU patient survival, reduce ICU and hospital stays, and save health care dollars.
- Less than 50 patients a day is not cost effective to implement an eICU, and also can lead to “bored” monitoring intensivists.