King Fahd Military Medical Complex
Pre-Requisite of Implementing and providing Tele-ICU (Extending Health and Care beyond Hospital Walls)

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Keywords: Tele-ICU

1. Background:

   Tele-ICU Studies shown that there is a shortage of intensivists in all over the world and Tele-ICU could be used to overcome this shortage in ICU intensivist. This study is in line with the Kingdom of Saudi Arabia vision 2030, KFMMC wants to implement this kind of new technology to improve healthcare and reduce cost.

   Aim: To explore the feasibility of implementing Tele-ICU in the three (3) military hospitals in the eastern region of the kingdom of Saudi Arabia.

2. Objectives:

   To provide patient monitoring, diagnostic and prescribing treatments remotely, we wish to attain the following outcomes:
   - Reduction in intra hospital patient transfer
   - Reduce ICU mortality rate
   - Reduction in length of stay (LoS), ventilation days, and hospital acquired infections.
   - Improved levels of care closer to patients and their families
   - Increase in patient and care provider satisfaction.

3. Methodology

   Three major vendors in Saudi Arabia that provides Tele-ICU were consulted for the purpose of this project. They have conducted a survey of the current available resources like the number of intensivist and nurses in each hospital ICU section and the available technology infrastructure such the internet, HIS and the integration of ICU monitors with existing ICU systems. After the survey we found out that there are 3 ICU Physicians in KFMMC with 6 Nurses. 1 ICU physicians in Airbase with 2 nurses. No specialized ICU Physician in Naval base Hospital but there is one internal medicine Physician assigned to cover ICU as he has some specialization in ICU with 2 nurses and 2 beds allocated to ICU.
4. **Results**

Using Tele-ICU requires a substantial amount of capital investment that cost around 15,000,000 SR (Fifteen Million Saudi Riyals). This amount could varies depending on the setting, hardware, software, training and compatibility issues with existing system the Hospital Information System (HIS). Also, requires excellent internet connection, therefore we will pursue this kind of technology if it will become more affordable.

5. **Discussion and Conclusion:**

This project requires a good technology set up which can be measure the outcome and requires huge investment.

**Acknowledgement**

Tele-ICU as a concept is evolving over time; the approach used in the 1970s and later involved a video connection between the bedside care providers and outside consultants without any access to patient monitoring data. The most frequent adopted approach today is the continuous access and monitoring care that focuses on providing supplemental critical care expertise. In 2000, Sentara hospital was the first hospital to implement the new Tele-ICU approach. As of 2011, 41 ICU command centers have been installed with a total of 5789 ICU beds being covered throughout 249 hospitals.

**References:**

