Technology as a Means of Supporting the Clinical Environment

For this edition of ICU Management, we asked four influential leaders in critical care medicine, "What was the most important or interesting development in intensive care in 2011?" with the aim of pinpointing the hot topics in critical care and emergency medicine during the year just past, and identifying trends for the future. Each contributor provided a different and important viewpoint that identifies key strengths and weaknesses in the provision of care today, from the availability of ICU beds to driving greater awareness with regards to the need for greater attention to quality control.

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I predict that when we look back on 2011 from the perspective of 2014 and beyond, we will see that one of the most influential published articles in the field of critical care medicine will be that authored by Lilly CM et al and entitled, "Hospital mortality, length of stay, and preventable complications among critically ill patients before and after Tele-ICU reengineering of critical care processes" which was published in JAMA 2011; 305(21):2175-2183.

This manuscript eloquently demonstrates how technology, when appropriately designed and coupled with cultural change can not only support a clinical environment but can be associated with an improvement in both process and outcome measures. In this particular case, the technological solution is not simply a monitor or device or a system that presents relevant data in a spreadsheet or graphic context at the bedside. It is an integrated system that combines those sorts of technological advancements with a human clinician. This integrated system is thus more than just a technological solution.

I believe that such an integrated system will ultimately help change perceptions on what models of care are most effective in both environments with intensivists and those in need of intensivists. Such an approach might support regionalisation of care and will open the door for a more global care solution. This manuscript will likely push those that control payment systems to reevaluate and ultimately cover care provided by such an integrated system. This manuscript also reminds us that significant change is not easy and requires a change in the culture of an environment. Facilitation tools like telemedicine and checklists should thus not be judged as isolated variables, but as just what they were designed to be, tools that facilitate change, though not the agent of change themselves.

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