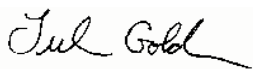


Getting Connected to Save Lives

A patient undergoing surgery requires an x-ray, so the ventilator is stopped to prevent blurring of the image. Typically, this routine practice is uneventful. However, in a case published recently, another problem distracted the anesthesiologist, who then forgot to resume ventilation. The patient did not survive. A network infrastructure that would support innovative medical device safety “interlocks”—such as an “x-ray/ventilator synchronizer”—does not exist today. Many potential clinical hazards could be mitigated by implementing smart alarms, real-time decision support systems, and safety interlocks. Unfortunately, implementation of these solutions is not practical because medical device plug-and-play (PnP) connectivity standards do not exist today.

As you will see in this issue of *BI&T* (see page 188), the Operating Room of the Future (ORF) is a “living laboratory” where many aspects of perioperative health care delivery are being reassessed. During the past year, a multidisciplinary group has been laying the foundation for a framework of standards that would facilitate safe, reliable, medical device interoperability for data communication and device control. Identified as a core element of patient safety in the Massachusetts General Hospital ORF program, the ORF PnP project has attracted like-minded stakeholders from industry, the federal government, and hospital clinicians and clinical engineers, who agree that the absence of medical device PnP standards is an unacceptable barrier to innovation for safety and efficiency.

The ORF PnP project faces the challenge of developing a networking solution pathway to address identifiable clinical problems in current environments, and provide an innovation pathway for over-the-horizon medical device technologies and care patterns in the future. Data security, liability and regulatory issues, network performance monitoring, and interoperability with the broader health care enterprise must be considered. One goal, to paraphrase the Partners HealthCare Biomedical Engineering mission statement, is to bring us closer to the ideal state where “no patient is harmed by the application of a medical device.”



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