

## Roundtable discussion "Advances in medical technology"

By David Roye

In today's environment of value-based planning how are we going to continue fostering innovation and more specifically new technology? There is an implication that new technology equals increased costs necessitating a demonstration that the "advance" is improving quality and outcomes. Will systems be able to bear the upfront costs of new technology?

In today's environment can we afford very expensive technological innovations like Proton Therapy requiring tens of millions of dollars to acquire? An example from Fresenius was the decision to build new factories to make an improved dialyzer that required a huge investment. The strategic plan was to make the dialyzer so cheaply that there would be no need to reuse them thus enhancing work flow, safety and eliminating the need to sterilize the used device. This strategy worked because the company is vertically integrated and controls a large portion of the market.

Data is needed to make judgements around new technology and of course new data technology will continue as an existential part of healthcare. IT is the single most disruptive technology in the healthcare arena and will continue to require investment even as evidence for improved efficiency is lacking. Creating the increasingly wired healthcare system will continue and will have hard to predict consequences. There are over 160,000 healthcare applications on iTunes most of them for the consumer that will have increasing impact on the way that healthcare is consumed.

However, to create better outcomes and quality, thereby increasing volume the procurement process should be guided by strategic planning. We can no longer be forced to accept new technology due to the "push" from the medical technology industry. Many universities and large healthcare systems have set up innovation centers that are designed to measure demand, encourage translation and to rationalize the application of new technologies in the sector. One cross-industry example of how this has been successful is the auto industry, where automotive companies have developed designs and then asked parts suppliers to come up with specifications for manufacturing the designs as needed, rather than the opposite direction of manufacturers developing parts, forcing the production of new designs. With the demand for innovation in medicine though, it is likely that even a "pull" based market will not diminish any of the benefits of technology transfer.

Technology will also need to promote greater patient safety, with the ability to reduce human error through greater focus on human factors engineering, user-centered design, and greater automation, especially in procedure-based medicine. This could come in the form of greater and more user-friendly robotics, minimally invasive surgery, and pharmaceutical/medication management.

Finally, it is critical to involve the patient's voice in any concepts of whether technology will deliver value and to keep their needs in mind regarding any development of new technologies.