

The Rise of Electronic Distraction in Health Care is Addiction to Devices Contributing

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As an active clinical critical care physician, physician educator and respiratory care undergraduate educator, I have noted a growing, troubling problem in human technology interaction in health care providers' electronic distraction; and an ever-growing number of hospital staff who are constantly focused on their Personal Electronic Devices (PEDS) such as smart phones, tablets, etc. The personnel are compelled to constantly check social media, text, check e-mail and surf the web. This behavior will of course impact on patient care and increase medical errors. The ECRI has listed electronic distraction as one of the top ten medical technology errors for 2013 [1].

Health care professionals make up a high percentage of PED users with over 80 percent using such smart devices in daily work environments, and the number will only grow as we have universal Electronic Medical Records (EMRs) in our health care facilities. With the ever-present availability of these devices comes the realization that there is a compelling behavior to use them for social interaction and to provide pathways of escape during the work day. A front page article by Matt Richtel in the New York Times [2] brought this growing problem into public light in late 2011 and has caused a number of healthcare agencies, professional organizations and hospital systems to address this problem. As stated in a commentary in Anesthesiology News [3], we must actively begin to educate staff on this safety and professionalism issue as early as possible. Anesthesia programs and residencies need to integrate electronic technology interaction education into the undergraduate and graduate curriculum so students and residents can clearly understand how their current, socially acceptable fixation on PEDS impacts their professional lives and patient safety.

An excellent published survey by cardiac perfusionists [4] illustrated that even though perfusionists knew that it was wrong to be distracted from monitoring cardiac bypass, 50% admitted to texting during procedures. In a recent study [5] of behavior on patient rounds, residents observed that fellow residents missed clinical information 34% of the time because they were distracted by smart phones [6]. Faculty stated they believed the number was higher at 43%. In that study residents believed faculty missed 20 percent of clinically relevant information due to this technology. These reports are highly troubling, especially in the realm of health care practice but not surprising.

The lay and business literature is full of reports of decreased productivity with the widespread introduction of computers to the work place. These distractive behaviors are not limited to the workplace. The ever-rising incidence of both motor vehicle and pedestrian accidents and fatalities caused by texting and electronic distraction reinforces that even basic human survival behaviors are impacted by this technological explosion.

The addictive component of this technology has been greatly understudied and may in many ways parallel how cigarette use was at one time highly, socially accepted behavior; and it took a number of decades to clarify its addictive properties. A key tool for evaluation of alcoholism and addiction has been the CAGE questionnaire [7], in

use since the 1970's as a highly validated tool. We at the University of Rochester have modified this tool and use the term PED in place of drink; table 1. At multiple local and national presentations, including at a pre-conference at the 58th Annual Meeting of the AARC, *Patient Safety starts with You*, I have asked for audience response and the responses range from 20% to 50% positive for addiction on each, based on the demographics of the audience. It has been common that younger audiences have scored higher for addiction. This makes intuitive sense in that any trip to a mall would reinforce the observation of young people walking about either fixated on their device or holding it at all times in their right hand. The answers to this tool have been eye opening to audiences and leads them to review self-behavior. More formal studies need to of course be developed and larger populations of health professionals studied to validate this rise in electronic addiction.

The key to changing such behavior is education. A number of professional societies have begun to address this behavior through guidelines and inclusion in educational meetings and materials. The University of Rochester has developed guidelines and has an active education program, including hospital-wide safety rounds to both point out such behavior and modify it. Professional schools and residency programs need to integrate education on distractions and professionalism into the curriculum. This fall, we exposed our respiratory students from the Genesee Community College to a one-hour lecture on electronic distraction, which led to an active question and answer session. The Canadian Society of Respiratory Care was the first group to address this at an annual congress. Several international professional groups like the Neurocritical Care Society and The American College of Chest Physicians had presentations in 2012 addressing these issues I call upon anesthesia societies around the world to also begin education programs and study these aspects of electronic addiction. I believe that education and research throughout the health professions will lead to behavior modification and proper human-to-technology interfacing and lead to enhanced patient safety.

1. Have you ever felt you needed to cut down on use of your PED?
2. Have people annoyed you by criticizing your use of PED?
3. Have you felt guilty about your overuse of your PEDE at work?
4. Do you reach for your PED first thing in the morning?

PED: Personal Electronic Device includes Smartphone, Tablet, and Mini-computer

Table 1: University of Rochester Modified CAGE Questions.

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