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Rabi F Sulayman

Chicago Medical School, USA

Healthcare in the digital age: Impact on physicians and inpatient care

Background: The digital revolution has infiltrated every aspect of our lives resulting in the medical transformation of how we obtain and provide healthcare. Physicians today have access to computer-based systems designed to provide diagnostic support and prevent mistakes. While it has been shown that these systems can be helpful, their actual impact continues to be a subject of debate.

Objective: To demonstrate the impact of Differential Diagnosis Generators (DDX) and Decision Support Systems (DSS) on the physician's clinical reasoning, diagnostic capabilities, practice skills and patient outcomes.

Method: Literature review for published evidence and personal interviews with medical students, residents and hospitalists who provide care for most of the hospitalized patients.

Result: The reviewed literature revealed that these systems are a valuable source of information, but none provided a specific diagnosis or prevented diagnostic mistakes. Their impact on care delivery and patient outcomes was marginal and, in some cases, may have impaired clinical judgement and exposed patients to risk. These negative effects on the physicians were recognized. Out interviews revealed that medical students and residents are more likely to utilize these systems than hospitalists. They found them to be helpful in providing information, but not a diagnosis. It was also reported that use of these systems is cumbersome, time consuming and hence not helpful in emergency situations. Two interviewees reported increased confidence, while one reported being misguided.

Conclusion: Available systems do not provide a diagnosis and do not prevent mistakes. They have a negative impact on the physicians' performance. Such impact requires further evaluation. Attending physicians rely on memory or obtain information from other sources. Clinical reasoning skills continue to be critical and algorithms are not likely to replace the physician.

Recommendation: Critical thinking must be taught in the pre-clinical years and continue to be exercised in the post-graduate years. Replace the systems with a more accurate diagnostic tool capable of providing structured, system-oriented problem solving and pattern recognition. This will most likely be a paper tool (not electronic) available at the bedside to allow instantaneous recognition of patient progress.

Biography

Rabi F Sulayman has completed his MD from the American University of Beirut. He completed his Pediatric Residency at Boston Children's Hospital, Harvard Medical School and Pediatric Cardiology Fellowship at the University of Chicago. He is credited for the Building and Development of the Advocate Children's Hospital, Oak Lawn campus. He has demonstrated expertise in the development of Advanced Clinical and Educational Programs at the national and international levels, with collaborative programs in many hospitals in East Africa and China. He is currently the Emeritus Chairman at Advocate Children's Hospital, Oak Lawn and Professor and Chairman at the Chicago Medical School-Rosalind Franklin University.

rabi.sulayman@advocatehealth.com