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Learning from lessons on applying information technology in organ transplant: a stepping stone to achieve Electronic Health Record meaningful use

Pirnejad, H [1, 2, 3]

Niazkhani, Z [1, 4] *

[1] Department of Health Information Technology, Urmia University of Medical Sciences, Urmia, Iran

[2] Inpatient's Safety Research Center, Urmia University of Medical Sciences, Urmia, Iran

[3] Institute of Health Policy and Management (iBMG), Erasmus University Rotterdam, Rotterdam, The Netherlands

[4] Nephrology and Kidney Transplant Research Center, Urmia University of Medical Sciences, Urmia, Iran

* Correspondence: Zahra Niazkhani, MD, MSc, PhD, Associate Professor of Medical Informatics, e-mail: niazkhani.z@umsu.ac.ir

Running title: HIT in organ transplantation

Abbreviations:

OPO - Organ Procurement Organization

CDSS - Clinical Decision Support System

HIT - Health Information Technology

EHR - Electronic Health Record

To the Editor:

We read with interest the paper by Zier et al. on automated referral of impending brain deaths to an organ procurement organization (OPO) using a electronic clinical decision support system (CDSS) (1). The paper reports on the evaluation of a home-grown CDSS and how it worked as an effective tool for implementation of a recognized best practice in the organ donation process i.e. timely referral of potential organ donors to an OPO. This is very valuable because effective management of scarce resources of deceased donors can provide ample opportunities for saving lives of potential organ recipients. We thank authors for sharing their experience of CDSS use in the organ transplant domain. This study, however, has cited some of CDSS applications in medical domains other than organ transplantation. Therefore, we would like to draw the authors' attention to recent reviews on the application and impact of transplant specific CDSSs in the organ transplant domain (2, 3).

Through an extensive, systematic literature search from 1990 till December 2015, we found 27 articles describing the deployment of health information technology (HIT), including CDSSs, in organ transplantation (2). Only ten had systematically evaluated their systems (3). Existing evidence shows that organ transplantation has benefited from HIT systems, especially CDSSs, with respect to improved efficiency, safety and cost-effectiveness of care. Zier et al.'s (1) study in fact adds to this body of knowledge. HIT systems can potentially strengthen every aspect of this multidisciplinary, complex, chronic care, from organ procurement to recipients' frequent follow ups (2). These systems can remove duplicate works, fill the gaps in the communication and coordination, or support providers in implementing guideline based practices, for example. As such, "next generation" transplant clinics will truly depend on the power of HIT systems if they are about to afford a life-long, evidence based care for this growing patient population (4).

Like any other intervention in medicine, HIT systems as well should be the subject of rigorous evaluations (5). As our review pointed out (3), we still need a stronger evidence base and explicit knowledge on where and how HIT systems should successfully be deployed in this specific domain of healthcare. In the era of striving to achieve meaningful use of electronic health record (EHR) (6), we need to learn from each other in order to be able to pave the path for more comprehensive, usable, intelligent and advanced systems in organ transplantation. To this end, we call developers and researchers to disseminate their experiences on the HIT use and impact on organ transplant settings; learning from each other will be a stepping stone to achieve EHR meaningful use in organ transplant domain.

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