The Process and Outcomes of EHR to EHR Conversion for Patients, Providers, and Organizations: A Scoping Review

Sangeetha Thevuthasan[1]; Kelvin Pho MD[1]; Angad Singh MD[1]; Kyle Sears MD[1]; Diana Louden MLib[1]; Joanne Rich MLIS[1]; Robert White MD[2]; Paul Sutton MD, PhD[1]; Andrew A White MD[1]
1:University of Washington, Seattle, WA. 2:Optum New Mexico, Albuquerque, NM.

University of Washington Medical Center
UW Medicine

Background

- EHRs are an essential component of healthcare delivery.
- Although EHR vendors have upgraded their software to meet needs, some hospitals are choosing to transition from one EHR to another.
    - In interviews done by KLAS in 2012, **50% of EHR users** want to replace their systems.
    - Out of 400 ambulatory practice provider interviews, **35%** are replacing existing EMRs.
    - Between 2013 and 2014, **6%** jump in percentage of eligible hospitals that replaced their EHR system.

- These transitions can have effects on patient care, physician satisfaction and organizational efficiency.
- Institutions would benefit from a summary of current knowledge about EHR transitions.

Objective

This scoping review aims to **explore and identify gaps in current literature** on the process and outcomes of transitioning from one EHR system to another as relevant to patients, healthcare workers, and organizations.

Design/Methods

Medline, CINAHL, Inspec, Compendex, Cochrane Central Register of Controlled Trials, and Business Source Complete were searched with a key term search strategy.

- "Conversion," "transition," "electronic health record," "legacy," specific vendor names, and other terms.

Search results screened for inclusion with specific inclusion/exclusion criteria.

Following screening, articles were categorized and analyzed for themes.

Results

After initial screening, 7301 publications → 238 in final inclusion.

- 40% from peer-reviewed journals.
- Categorized as research (33%), non-research other (54%), and non-research case studies (11%).
- 61% of articles were published in last 5 years.

Analysis of non-research other studies:

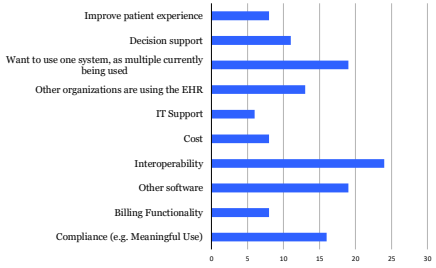

Figure 1: Reasons why users chose to switch EHRs

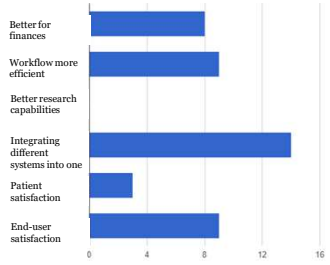

Figure 2: Explicit benefits from EHR transition

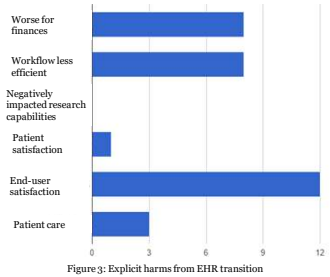

Figure 3: Explicit harms from EHR transition

- 35.9% focused on the VA/DoD conversion.
- Of articles that discussed financial implications (<10%), 63.2% discussed negative financial impacts on their organization after conversion.
- Only 10.1% of the articles focused on small practices.

Conclusions

- Interoperability plays a large role in why organizations want to transition to a new EHR and is a perceived benefit of these transitions.
- Small practices need to be better represented in the literature about EHR conversions.
- EHR conversions do not strongly impact patient satisfaction, either positively or negatively.
- End-user satisfaction, workflow efficiency, and impact on finances are all perceived disadvantages to EHR conversions and might be challenges that organizations need to overcome when considering a conversion.