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## **SKMC Class of 2022: SI/DH Abstract**

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### **Understanding subscription-based automated electronic notification usage in hospitals: a qualitative study**

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**Introduction:** The potential exists for patient harm when clinicians do not respond to clinical results in a timely manner. Much of the research on asynchronous electronic notifications (pager, cellphone or wearable devices) comes from home-grown electronic health records (EHR). Little is known about factors influencing notifications from vendor-based EHRs and the effect of subscription-based notifications, where providers select which results for notification. This study investigates what factors influence a clinician’s decision to order result notifications, the perceived role of these notifications in the clinical setting, and ways to improve notifications in a vendor-based EHR.

**Methods:** We queried the EHR to identify clinicians using the “bell” notification functionality of Epic (Epic Systems, Verona WI) in an academic health system comprised of one tertiary care center and one community hospital. We distributed an online survey to individuals identified to have used the functionality via retrospective review of clinical results over a 12-month period. We received completed surveys from a diverse group of clinical staff, and we used descriptive statistics to analyze the survey data.

**Results:** Via retrospective review, we identified 874 individuals who used the system. Of these, we received 67 (7.7%) survey responses. Of those who responded, 72% reported the

functionality is “likely to help” patients, and 66% of respondents believe the functionality “speeds up workflow.” Additionally, 41% of clinicians stated they had experiences where the “bell” notification “improved patient outcomes.”

**Discussion:** A majority of clinicians viewed the subscription-based “bell” notification functionality favorably, would recommend it to other clinicians, and stated that it has a positive impact on workflow. However, only a minority of clinicians identified specific instances where the functionality improved patient care. Further research should prospectively identify what factors impact how and why healthcare providers use subscription-based notifications and if use of these systems can improve patient outcomes.