High Rate of Falls Risk Screening with Minimal Staff Training using Context Aware Clinical Decision Support

Matt Rafalski, MD, John Gill, MD, Luke Barron, Channing Cochran, M.S.C.P
Heart of Texas Community Health Center, Waco Texas
Waco Family Medicine Residency, Waco Texas
Baylor University, Waco Texas

Introduction
We have shown that context aware clinical decision support (CA-CDS) is more effective\(^1\) and sustainable\(^2\) in depression screening when compared to traditional pop-up interruptive alerts. We also wanted to demonstrate the intuitive nature of the technique by using it for a new type of patient screen not done previously in our organization and implemented with minimal staff education. Decision support that produces consistent, positive results that does not require a great deal of staff training would be of value to EHR design theory\(^3,4\). In this study we theorize that context sensitive workflow can be effective when applied to Falls Risk screening, which had not been performed in our health care system previously, and that it can be effective despite being introduced to the staff with a minimal 5 minute education session.

Design
Using the same technique as our previous study\(^1\) for the CA-CDS, we used a rule that evaluated current patient data combined with a trigger in the EHR navigator section display controls. This caused the activity that displayed the Falls Risk screening tool (STEADI risk screen) to appear in-line in the workflow if the patient was 65 and older, had not had a Falls Risk screen done in the past 365 days, and did not have a diagnosis of falls or fall risk already (these were excluded). The nursing staff was instructed for less than 5 minutes at the monthly staff meeting – with the instruction consisting of informing them we were doing the screening and that the workflow was similar to our depression screening (done as CA-CDS). We collected screening data from all patients seen in each quarter – 109 providers at 14 of our clinic sites. We used clinical quality measure CMS-139 to determine parameters for our numerator and denominator and to drive decision support. Since we had never screened for falls risk before in our system, we compared our screening rates to the screening rate from previous quarter – starting with zero screening rate. Cohen’s \(d\) was calculated to show effect size between each comparison.

Results
• A total of 3362 eligible patients were seen in November 2017 – Feb 2018.
• An average of 840 eligible patients were seen per month.
• Despite no previous falls screening and minimal staff education, effective Screening rates (patients screened who had a visit during the measured time period) increased rapidly during the study period – reaching large effect size (\(d\)) compared to starting rate (zero due to it being a new screen) over a very short period of time – up to 73%.
• We achieved screening rates equivalent to our depression screening rates (78%) from our initial study\(^1\).

Conclusion
Context aware clinical decision support with inline workflow showed rapid achievement of large effect size of patients screened with minimal investment in staff education.

![Image](image.png)

References

Contact: mrafalski@wacofhc.org
@MattRafalski

Future Work
Implement additional screens with no education/introduction; show sustained performance in third year of screens; compare methods with a cognitive workload scale (in progress).