Conclusion: Between 2010 and 2015, 1305 different providers used HealthDecision, a shared decision-making (SDM) tool embedded in the medical record of an academic medical institution, with results of patient satisfaction surveys.

Method: We identified patient surveys returned for visits during which HealthDecision was used and compared results with surveys from similar patients seeing the same providers during visits not using HealthDecision. Using logistic regression, we compared survey results between groups, controlling for level of provider experience with the tool. We also compared the proportion of "strongly agree" responses for the two groups using z-tests. We evaluated survey questions related to the goals of shared decision making, as well as questions that appear unrelated.

Result: Between 2010 and 2015, 1305 different providers opened HealthDecision within charts of over 28,000 patients. Of these, 982 patients seen by 184 providers completed 1,014 surveys. By comparison, 22,681 patients completing 30,600 surveys. By comparison, 22,681 patients seeing the same 184 providers who did NOT open HealthDecision completed an additional 30,617 surveys for visits not using HealthDecision. Patients whose visit included HealthDecision were significantly more likely to "strongly agree" using HealthDecision. Patients whose visit included HealthDecision were significantly more likely to "strongly agree" with survey items related to shared-decision making, including: "I was given the chance by my provider to provide input to decisions about my healthcare," (OR=1.30 p=.0439). These effects remained significant by controlling for provider's experience with the tool. Most domains not showing improvement were associated with logistics of provider interaction.

Conclusion: Over 5 years at an academic medical center, use of an embedded decision tool was associated with significantly higher patient survey ratings, particularly for questions related to provider-patient communication. While not proof of causality, the association suggests that use of HealthDecision within the clinic visit may improve the patient's experience. Future research should focus on how providers are using the tool before, during, and after clinic visits and investigate the reasons for the improved responses.

Evaluation #1: Surveys with and without HealthDecision tool use

Study Group:
- 982 patients completed 1,014 surveys for visits with
- 184 providers who had open HD the same day
Comparison group
- 22,681 patients completed 30,800 surveys for
- same 184 providers who did NOT open HD
Chart shows 13 of 43 items
- compared with two-tailed z-test for 2 proportions
- 5 items meet significance (p < .05)
- Yellow = Below UW Health Target
- Green = Meets UW Health Target

Evaluation #2: Surveys grouped by provider’s experience with HealthDecision

All 240 primary care physicians and APPs
- Grouped by # of patients with HD used
- Filtered out HD sessions without cardiac risk score
- FY15 survey items evaluated across groups
- Grouped by # of patients with HD used
- Two-tailed z-test for 2 proportions
- Figure shows
- 7 items with increased scores for users vs non-users
- 1 item without significant change ("seen on time")

Evaluation #2 shows higher scores for providers with greater experience with the tools. This suggests a graded impact of tool use on providers that may accumulate over time.

Use of the HealthDecision tool was associated with higher patient satisfaction in communication domains; and this impact was greater for the physicians with more experience using the tool. Most domains not showing improvement were associated with logistics of clinic flow. This suggests that the improved experience for the patient is focused on areas of the provider interaction.

Discussion

These data show a positive association between use of the HD SDM tool and increased patient satisfaction.

Evaluation #1 demonstrates improved scores between tool-use and non-tool-use patients of the same providers. This suggests influence of tool use per provider.

Evaluation #2 shows higher scores for providers with greater experience with the tools. This suggests a graded impact of tool use on providers that may accumulate over time.

Use of the HealthDecision tool was associated with higher patient satisfaction in communication domains; and this impact was greater for the physicians with more experience using the tool. Most domains not showing improvement were associated with logistics of clinic flow. This suggests that the improved experience for the patient is focused on areas of the provider interaction.

Near Future

HealthDecision has built 3 additional tools:

- Anticoagulation for Atrial Fibrillation
- Mammography Risk Benefit
- Lung Cancer Screening CT Risk Benefit

The platform is built for SDM tool collaboration HD is scheduled to install into 2 more EHRs