A systems engineering approach for disseminating and implementing shared decision making around breast and lung cancer screening using decision aids embedded in electronic health records

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Background

Shared Decision Making (SDM) • Should include a balanced explanation of potential benefit and harms, taking into account patient values and preferences • Be appropriate when offering clinical preventive services as patients are often uncertain and unprepared about screening • Has suboptimal uptake due, in part, to lack of clinician training and a limited number decision aids (DAs) embedded in electronic health records (EHRs) to facilitate SDM

Project goals • Create a SDM training program for clinicians, focusing on use of DAs for breast and lung cancer screening • Employ system engineering approaches to develop pragmatic strategies for primary care clinics leading to increased SDM and use of DAs for breast and lung cancer screening • Provide clinic teams with best practices to efficiently and effectively engage in SDM with patients

Setting • Pilot project within UW Health, an integrated, academic health system of University of Wisconsin-Madison • Funded by UW Health, demonstrating a commitment to SDM as part of its quality assurance model • Adult primary care clinics in urban/suburban/rural settings • Family Medicine (17 clinics: 182 clinicians) • General Internal Medicine (10 clinics: 87 clinicians)

HealthDecision Patient Decision Aids • Individualized risk assessment with visual prediction of possible outcomes of screening • DAs for lung & breast cancer screening integrated within UW Health EHR system • Clinician use of DAs are being monitored throughout the project

Needs Assessment • Goal: assess clinician attitudes about SDM, comfort with SDM processes and knowledge of DAs • Surveys emailed to 272 UW Health primary care clinicians • 72 (26.5%) responded to the survey (40 family medicine, 18 general internal medicine, 14 ob/gyn)

Value of SDM

Post training Pre training

Mean SD Mean SD

Goal: assess clinician attitudes about SDM, comfort with SDM processes and knowledge of DAs • \( \frac{\text{Mean}}{\text{SD}} \) for “Strongly Agree”

Breast and lung cancer screening DA use before and after SDM training

Analyzed DA use by participants of the training workshop held May 3, 2018, at the UW Depart- ment of Family Medicine & Community Health • Of 52 workshop participants, 30 were UW Health clinicians (MDs, Dos, and APPs) where DA use could be measured • The figure shows the average DA use per quarter for the 30 UW Health clinician workshop participants • Use of the breast and lung cancer screening DAs were significantly higher (p<0.05) in the quarter following the training (2018 Q2) than the quarter before (2018 Q1) • DA use in 2018 Q2 to 2019 Q1 were not significantly different than DA use before the workshop

Take Aways • Primary care clinicians within this health system see value in SDM • Time spent on SDM is the primary perceived barrier, which is consistent with published reports • Although clinicians report using SDM with their patients and agree DAs are valuable, <10% are consistently using DAs available to them in the EHR system

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Pilot Implementation

• Goal: employ human factors and system engineering to develop pragmatic clinic workflow strategies leading to increased SDM and use of DAs for both breast and lung cancer screening • Pilot sites are four with primary care clinics (one urban and one rural family medicine, one urban and one rural general internal medicine). One family medicine site is a Federally Qualified Health Center. • Systems engineering approach being performed in partnership with clinic staff through practice facilitation meetings and tailored for each clinic based on their needs • Implementation is in progress for all four sites

Results to date • Change clinic team use Nominal Group Brainstorm Technique® facilitated by research team members to identify and rank top ideas for: • Challenges or barriers that might prevent more frequent use of SDM and DAs • Strategies or solutions to overcome the top identified barrier • Top ranked strategies are used to inform a workflow change or interventions for each individual clinic

Common barrier themes across 4 pilot clinics: • Limitations of current workflow • Patients have other priorities during clinic visit • Patients may have difficulty understanding cancer screening (positive or negative) • Patients may call for mammograms without a clinic visit, circumventing the opportunity for SDM • Clinicians and non-familial with whom they are comfortable using DAs • The lung cancer DA is more difficult to find in the UW Health EHR (whereas the mammography DA is conversant in the health maintenance section) • Unfavorably lung cancer screening guidelines • Smoking history may be unclear or not up to date in EHR

Example solutions from 4 pilot clinics:

• Medical assistants identify patients eligible for cancer screening and leave laminated cards to flag clinician to initiate SDM • Expand pre-planning to identify patients eligible for screening • Give questionnaires about cancer screening to patients to prepare them for a SDM conversation • Place patient education materials in room (handouts, posters, etc.) • Incorporate SDM and DA training in new clinician onboarding • Develop workflows to collect accurate smoking histories • Work with EHR vendor to include lung cancer screening in health maintenance listing

Conclusions and next steps

• Primary care clinicians see value in SDM, but <10% consistently use DAs available in their EHR • Use of DAs increased after a SDM training workshop, but the increase was temporary • Use of the DA for lung cancer screening was more challenging than for mammography, possibly due to inaccessibility of the lung cancer screening DA in the EHR and less familiarity with lung cancer screening • The clinic implementation phase will conclude in 2019 with development of dissemination and implantation strategies to follow • Results will inform development of a tool kit summarizing best practices for SDM, which can be applicable to any clinical encounter requiring a decision

References