Decision aids and shared decision making implementation in cancer screening

Michael Pignone[,] MD, MPH

Department of Internal Medicine, Dell Medical School and LiveStrong Cancer Institutes, University of Texas Austin

Advancing Progress in the Development and Implementation of Effective, High-Quality Cancer Screening: A Workshop

Disclosures

Previous editorial and research support from Healthwise

Current grant support from Cancer Prevention and Research Institute of Texas

Objectives

- 1) Understand the challenges in decision making about cancer screening
- 2) Review data on effectiveness of decision aids in cancer screening
- Examine the challenges of implementing decision aids for cancer screening using two examples: lung cancer screening and colorectal cancer screening

What defines a high-quality decision-making process ?

- Patient engagement
- Recognition of the decision to be made
- Awareness of the alternatives
- Awareness of pros and cons of each option
- Awareness of the uncertainties in the decision
- Consideration of patient preferences / values
- Ability to carry out the decision

Decision aids are tools that help patients . . .

- Understand they have a decision
- Recognize possible options
- Understand pros and cons of each option

 Recognize uncertainties
- Clarify values
- Come to a decision
- Interact with health care system

Preference-sensitive decisions in cancer screening: examples

- Starting age (if any) for screening mammography
- Whether to screen for prostate cancer with PSA?
- Whether to screen for lung cancer in high-risk patients?
- Which test(s) to use for colorectal cancer screening in adults 50-75?

Cancer screening decision aids

- Systematic review through 2014
- 68 trials with over 25,000 participants
- Decision aids:
 - Increased knowledge : SMD 0.23 (0.09, 0.35)
 - Reduced decisional conflict by 5.3 (1.8, 8.9)
- More likely to have accurate risk perception and be able to make informed decisions
- Little data on satisfaction, visit length, resource use, or costs

Trikalinos et al Decision Aids for Cancer Screening and Treatment. AHRQ Comparative Effectiveness Review No. 145. Brown Evidence-based Practice Center 2014

Why focus on lung and colorectal cancer?

- Common cancers (high illness burden)
- Effective screening available
 - Reduced cancer-specific mortality in trials
- Important downsides:
 - Require uncomfortable / risky tests
 - Over-diagnosis (lung cancer)
- Evidence that patients are not receiving high quality decision support through usual care

Lung cancer screening

- NLST: CT screening reduces lung cancer mortality for high-risk patients 16 – 20% over 7 years – NELSON trial (2020) confirms benefit
- Identifying high risk patients challenging!
 Practices not accustomed to assessing pack years
- Requires many CT scans
- Some patients will require invasive procedures and will not have lung cancer
- Over-diagnosis
- CMS policy requires evidence of decision support for coverage

Cubillos L et al Transl Lung Cancer Res. 2018 Sep;7(Suppl 3):S297-S301.

Current lung cancer screening decisions suboptimal

"Because of the smoking history, I'd like to get a CT scan of the lungs and make sure there's nothing in there. This is a new benefit now. Insurance companies are paying for it."

Doctor



"Okay? Now, I'll just get that set up and we'll move on."

Doctor

Evaluating Shared Decision Making for Lung Cancer Screening; JAMA Intern Med. 2018;178(10):1311-1316.

Lung cancer screening decision support

- Several small trials
- Mostly efficacy-focused less on effectiveness in real-world settings
- Generally show that decision support increases knowledge and improves risk perception accuracy

Study	N	Population	Design	Results
Volk et. al.	52	45-75 yrs old current	UCT	 Increased knowledge
2014		smokers in tobacco		- Increased interest in screening
		treatment program		 High clarity of values after
				decision aid
Lau et. al.	60	45-80 yrs old current or	UCT	 Increased knowledge
2015		former smokers		 Reduced decisional conflict
				 Increased accuracy of risk
				perception
Reuland et.	50	55-80 yrs old current or	UCT	-Increased knowledge
al. 2018		former smokers who		-High acceptability of decision aid
		quit w/in 15 years; min		-Significant movement in interest,
		20 pack years		but no overall changes in screening
Volk et. al	51	55-77 yrs old quitline	RCT	-Increased knowledge
2020	6	clients (current		-Increased values clarity
		smokers); minimum 30		-Higher "feeling prepared" to
		pack years		decide
				-No effect on screening intention or
				behavior

Decision support in CRC screening

- Several similarly effective screening methods are available
 - Good: more ways to complete screening
 - Bad: multiple options can be confusing
- Screening under-utilized despite efficacy

 Especially for vulnerable patients
- Informing about options and helping patients complete a value-concordant option could improve outcomes
- Current evidence suggests usual care decision making is suboptimal

CRC screening decision aids

- Systematic review identified 21 trials
- CRC screening decision aids, compared with controls:
 - Increase knowledge (18% points)
 - Increase screening interest / intent (RR 1.5)
 - Increase screening completion (RR 1.3)
 - Tendency to produce more varied test preferences and uptake (more FOBT)

In-clinic CRC screening decision aid trials

Author / Year / Design	Media and additional support	Modalities selected – intervention group	Effect
Pignone Ann IM 2001	Videotape + brochure	FOBT 66% SIG 17% FOBT + SIG 12%	47 vs. 26% ordered 37 vs. 23% completed
Miller AJPM 2011	Web- based	FOBT 38% COL 34%	30 vs. 21% ordered 19 vs. 14% completed
Reuland JAMA IM 2017	lpad + navigation	FOBT 67% COL 32%	82 vs. 32% ordered 68 vs. 27% completed
Miller Ann IM 2018	lpad + self- ordering+ text msg reminders	FOBT 53% COL 43%	66 vs. 32% ordered 30 vs. 15% completed

Challenges in implementing decision support

- Cancer screening decision aids are not easily integrated in current practice:
 - Unclear eligibility for decision(s)
 - Limited recognition of "need" for decision support
 - Limited availability/ familiarity with SDM
 - Staff / physician training low
 - Competing demands / time pressure
 - Optimal timing unclear
 - Integration within existing workflows limited
 - Challenges in implementing the decision

Options for providing decision support

• Unrelated to clinical visit / care

• Before clinical visit

• During clinical visit

• After clinical visit

Few comparisons of different implementation methods

- Brackett examined different methods for distributing CRC and PSA decision aids:
 - Automatic pre-visit mailing
 - Pre-visit letter allowing opt-in
 - In-clinic distribution post-visit viewing (MD or MA)
- Automatic mailing had greatest reach but resulted in some erroneous deliveries

– Other methods had < 10% uptake</p>

- Providers preferred pre-visit distribution to facilitate "closing the loop"
- Patient satisfaction high for all methods

Conclusions

Patients are not receiving high-quality decision support for cancer screening

 Decision aids can improve decision making outcomes

• Implementation can be challenging

Questions?

Michael Pignone, MD, MPH Professor of Internal Medicine Dell Medical School LiveStrong Cancer Institutes

Extra slides

Effects of decision support tools

- Cochrane review (to 4/2015): 105 studies with over 31,000 participants
- Decision support tools:
 - Consistently increased knowledge
 - Increased accuracy of risk perception
 - Reduced decisional conflict
 - Increased proportion ready to make a decision
 - Effects on health care choices and length of consultations varied

Stacey et al. Cochrane Database of Systematic Reviews 2017