Evidence-based Synthesis Program (ESP)

The Effects of Shared Decision Making on Cancer Screening

Linda S. Kinsinger, MD, MPH
National Center for Health Promotion and Disease Prevention

Sarah E. Lillie, PhD, MPH
Center for Chronic Disease Outcomes Research
Minneapolis VA Health Care System

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Evidence-based Synthesis Program (ESP)

VA Evidence-based Synthesis (ESP)
Program Overview

• Sponsored by VA Office of R&D and Quality Enhancement Research Initiative (QUERI)
• Established to provide timely and accurate syntheses/reviews of healthcare topics identified by VA clinicians, managers and policy-makers, as they work to improve the health and healthcare of Veterans
• Builds on staff and expertise already in place at the Evidence-based Practice Centers (EPC) designated by AHRQ. Four of these EPCs are also ESP Centers:
  o Durham VA Medical Center; VA Greater Los Angeles Health Care System; Portland VA Medical Center; and Minneapolis VA Medical Center
Evidence-based Synthesis Program (ESP)

• Provides evidence syntheses on important clinical practice topics relevant to Veterans, and these reports help:
  o develop clinical policies informed by evidence,
  o the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
  o guide the direction for future research to address gaps in clinical knowledge

• Broad topic nomination process – e.g. VACO, VISNs, field – facilitated by ESP Coordinating Center (Portland) through online process:

Evidence-based Synthesis Program (ESP)

• Technical Expert Panel (TEP)
  o Recruited for each topic to provide content expertise
  o Guides topic development; refines the key questions
  o Reviews data/draft report

• External Peer Reviewers & Policy Partners
  o Reviews and comments on draft report

• Final reports posted on VA HSR&D website and disseminated widely through the VA

http://www.hsrdrd.health.va.gov/publications/esp/reports.cfm
Evidence-based Synthesis Program (ESP)

• The Effects of Shared Decision Making on Cancer Screening
  o Topic nominated by National Center for Health Promotion and Disease Prevention (NCP)
  o SDM interventions help patients understand screening harms and benefits, clarify their own values in relation to these harms and benefits, and participate in decisions based on these values
  o Will inform NCP decisions on SDM interventions that may be disseminated with cancer screening guidelines
Evidence-based Synthesis Program (ESP)

Current Report

The Effects of Shared Decision Making on Cancer Screening

A Systematic Review of the Evidence (September, 2014)

Full-length report available on ESP website:
http://www.hsrdrresearch.va.gov/publications/esp/reports.cfm
Poll Question #1

• What is your primary role within the VA?

1. Clinician
2. Researcher
3. Manager or policy maker
4. Student/fellow/trainee
5. Other/non-VA
Evidence-based Synthesis Program (ESP)

Disclosure

This report is based on research conducted by the Evidence-based Synthesis Program (ESP) Center located at the Minneapolis VA Healthcare System, Minneapolis, MN funded by the Department of Veterans Affairs, Veterans Health Administration, Office of Research and Development, Quality Enhancement Research Initiative (QUERI). The findings and conclusions in this document are those of the author(s) who are responsible for its contents; the findings and conclusions do not necessarily represent the views of the Department of Veterans Affairs or the United States government. Therefore, no statement in this article should be construed as an official position of the Department of Veterans Affairs. No investigators have any affiliations or financial involvement (e.g., employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties) that conflict with material presented in the report. Drs. Partin and Wilt have previously received research support from the Department of Veterans Affairs HSR&D Office to develop and compare the effectiveness of shared decision making interventions for prostate cancer screening.
Evidence-based Synthesis Program (ESP)

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- Timothy J. Wilt, MD, MPH

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- Michael J. Barry, MD
- Angela Fagerlin, PhD
- Richard M. Hoffman, MD, MPH
- Linda S. Kinsinger, MD, MPH
- Michael Pignone, MD, MPH
- Mary C. Politi, PhD
- Marilyn M. Schapira, MD, MPH
Poll Question #2

• Which best describes your interest in this topic?
  o Improving communication with patients
  o Decision making research
  o Cancer screening research
  o Systematic review methodology
  o other
What is Shared Decision Making?

• Preference-sensitive decisions
  o Closely-balanced benefits and harms
  o Individual patient’s values and preferences

• Shared Decision Making (SDM) helps patients:
  o Consider the available evidence on the benefits and harms of options, clarify personal values and preferences relevant to those options, participate in consistent decisions
Why is SDM important in Cancer Screening?

• Cancer screening decisions increasingly complex
  o Whether to get screened, how often to screen
  o Screening modality
  o When to stop screening

• Facilitated with SDM interventions
  o Describe available options
  o Elicit patient preferences and values associated with each option
  o Guide patient/physician discussion
Theoretical Framework

- Decision Quality
  - Knowledge
  - Values clarity (patients’ clarity of their personal values regarding the risks and benefits of decision options)
  - Patients’ participatory role in decision making
- Decision Impact
  - Decisional conflict
  - Use of services
  - Satisfaction with their decision
- Decision Action
  - Screening intention
  - Screening behavior
Key Questions

• KQ1. In adults, what are the effects of SDM interventions on:
  o Decision Quality,
  o Decision Impact, and
  o Decision Action?

• KQ2. What is the receptivity to cancer screening SDM interventions?

• KQ3. What are the resources required to implement a cancer screening SDM intervention?
Literature Search Strategy

• Electronic databases
  o MEDLINE (Ovid), CINAHL, PsycINFO, Cochrane
    o Published January 1995 to July 2014, in English
• Search terms
  o Terms for cancer screening; breast, cervical, colorectal, lung, and prostate cancer screening
  o Decision making; shared decision making; decision aid; informed decision making; values clarification; patient participation; directive counseling; decision support
• Supplemental searches
  o Reference mining (included/excluded articles, Cochrane reviews, 12 key journals)
  o Suggested articles (expert panel and peer reviewers)
Study Eligibility Criteria

• Population: adults
• Intervention: SDM interventions to facilitate cancer screening decisions
• Comparators: usual care, alternative SDM approaches or a combination of both
• Outcomes: Decision Quality, Decision Impact, Decision Action
  – Must report on either Decision Quality or Decision Impact
• Setting: clinic setting
• Randomized controlled trial (RCT)
Study Exclusion Criteria

• Not RCT

• Non-clinical setting

• Not a screening intervention

• Promoted screening

• Assessed only screening intention or behavior

• Not adult population
Data Abstraction

- Abstraction by 1st reviewer independently and checked by 2nd reviewer
- Disagreements resolved by discussion and consensus
Quality Assessment

• Individual RCTs were rated as low, moderate, or high risk of bias based on:
  o Adequacy of allocation sequence generation
  o Adequacy of allocation concealment
  o Blinding of subjects and/or investigators
  o Incomplete outcome data
  o Selective outcome reporting
Data Synthesis

• Summary tables of key outcomes
  o Organized by cancer type

• Qualitative synthesis

• Quantitative meta-analysis, if feasible
  o Pooling data was largely not possible due to heterogeneity of interventions and outcome measurement
Rating the Strength of Evidence

• Assessed on four domains
  o Risk of bias; Consistency; Directness; Precision

• GRADE criteria
  o High: high confidence that evidence reflects the true effect
  o Moderate: moderate confidence that further research may change our confidence in the estimate of effect and may change the estimate
  o Low: low confidence that evidence reflects the true effect
  o Insufficient: evidence either is unavailable or does not permit a conclusion
Peer Review

• Draft report reviewed by content experts and clinical leadership
Literature Search Results

2,368 references
Electronic search results

Excluded = 2,272 references
Excluded at screening level

Full-text review = 96 references retrieved

Excluded = 72 references
Excluded at full-text review

Included = 26 references
23 unique trials; 3 companion articles

Hand Search
2 References
Included

Breast Cancer Screening: 2 trials

Colorectal Cancer Screening: 3 trials

Prostate Cancer Screening: 18 trials
Excluded References at Full-text Review

- Not RCT: 26
- Non-clinical setting: 17
- Not screening intervention: 13
- Promoted screening: 11
- Only measured screening intention and/or behavior: 5
Literature Search Results

• Articles by country
  o US: 15
  o Australia: 5
  o UK: 2
  o Canada: 1

• Articles by year
  o 2009 or earlier: 15
  o 2010 – current: 8

• 21 patient-directed interventions
  o Clinician-directed: 1
  o Multi-level intervention: 1
Intervention Characteristics:

- Decision Aid Counseling / Educational Program
- Counseling / Educational Program
- Mixed

- Breast
- Colorectal
- Prostate

Counts:
- Decision Aid: 12
- Counseling / Educational Program: 5
- Mixed: 1
Intervention Characteristics: Intervention Delivery

- DVD / video / CD: 1 Breast, 1 Colorectal, 1 Prostate
- Web-based: 1 Breast, 2 Colorectal
- Face-to-face: 1 Breast
- Printed: 1 Breast, 4 Colorectal
- Telephone: 1 Breast
- Mixed mode: 1 Breast, 2 Colorectal
- Compared Different Modes: 7 Breast, 7 Colorectal
Results

• Key Question 1. In adults, what are the effects of SDM interventions on:
  o Decision Quality,
  o Decision Impact, and
  o Decision Action?
Outcomes Reported

Knowledge: 15
Values Clarity: 2
Patient's Role in Decision: 4
Decisional Conflict: 10
Use of Services: 10
Decision Satisfaction: 1
Decision Screening Intention: 8
Screening Behavior: 15

Breast
Colorectal
Prostate
Results

\[ \uparrow = \text{SDM intervention group had higher outcome measure} \]
\[ \downarrow = \text{SDM intervention group had lower outcome measure} \]
\[ \leftrightarrow = \text{No intervention effect (IE) of SDM intervention on outcome} \]

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Results

• Key Question 2. What is the receptivity to cancer screening SDM interventions?
Results

• Intervention use (6 studies)
  o High use overall
  o Interventions either higher (1) or same degree of (2) use as control

• Ratings of intervention content (9 studies)
  o Respondents indicated that intervention content was balanced, clear, helpful and of appropriate length and detail
  o Overall, participants rated materials as balanced and fair
Results

• Key Question 3. What are the resources required to implement a cancer screening SDM intervention?
Results

• Human Resources
  o Counseling sessions, face-to-face or by telephone
  o Provider-level, multi-level interventions

• Technological Resources
  o Web-based interventions
  o Intervention delivery - laptop computers, viewing rooms

• Financial Resources
  o 1 study directly outlined cost: a low-cost ($2) intervention to facilitate PSA decisions either performed equally or outperformed the moderate-cost ($37) intervention
Summary

- SDM interventions to facilitate breast, colorectal and prostate cancer screening decisions:
  - Improve knowledge
  - May improve decisional conflict
  - Varied effects on other outcomes

- Patient receptivity generally positive but not often assessed

- Information on resources required is rarely outlined in published articles
Strengths of this Study

• Systematic literature review
  o Structured around theoretical constructs

• Review limited to evidence gleaned from published, peer-reviewed, RCTs

• Contributes to current landscape of SDM reviews

• VA SDM interventions to facilitate prostate cancer screening decisions
  o Comparative effectiveness trial comparing a low-cost pamphlet DA, a moderate-cost video DA, and UC
  o Effectiveness trial comparing a pamphlet DA to a basic prostate cancer screening brochure
Limitations of this Study

• Quantity and breadth of literature

• Prostate cancer screening studies largely before new clinical guidelines

• Outcome measures varied across studies
Implications for the Future

• Address gaps in SDM research
  o SDM interventions for cervical and lung cancer screening
  o PSA SDM interventions incorporating newest evidence
  o Clinician- and multi-level interventions

• Identify best practices for SDM interventions
  o Ideal intervention strategies
  o Outcome measurement for consistent evaluation
Evidence-based Synthesis Program (ESP)

Questions?

If you have further questions, feel free to contact:

Sarah E. Lillie, PhD
(612) 467-1515
sarah.lillie@va.gov

The full report and cyberseminar presentation is available on the ESP website:

http://www.hsrdr.research.va.gov/publications/esp/
Included Articles


Included Articles


Resources


Upcoming Cyberseminar: The Basics of Shared Decision Making, 1/27/2015 3:00pm, led by Dr. Fagerlin
## Strength of Evidence Summary

<table>
<thead>
<tr>
<th>Outcome Category</th>
<th>Outcome (# of studies)</th>
<th>Risk of Bias</th>
<th>Consistency</th>
<th>Directness</th>
<th>Precision</th>
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Search Terms

DATABASE: OVID MEDLINE(R)

1 decision making/ or patient participation/ or directive counseling/
2 decision support technique/
3 (decision making or decision-making or decision support or decis$ aid$ or shared decis$ or shared decision making or informed decision making or valu$ or valu$ clarific$).mp.
4 or/1-3 [decision making search terms]
5 limit 4 to (english language and humans and yr="1995 -Current")
6 limit 5 to ("all adult (19 plus years)" or "young adult (19 to 24 years)" or "adult (19 to 44 years)" or "young adult and adult (19-24 and 19-44)" or "middle age (45 to 64 years)" or "middle aged (45 plus years)" or "all aged (65 and over)" or "aged (80 and over")
7 limit 5 to ("newborn infant (birth to 1 month)" or "infant (1 to 23 months)" or "preschool child (2 to 5 years)" or "child (6 to 12 years)" or "adolescent (13 to 18 years)"
8 5 not 7
9 6 or 8 [decision making limited to English, humans, 1995-Current, adult]
10 Randomized controlled trials as topic/
11 Randomized controlled trial/
12 Random allocation/
13 Double blind method/
14 Single blind method/
15 Clinical trial, phase iii.pt.
16 Clinical trial, phase iv.pt.
17 Controlled clinical trial.pt.
18 Randomized controlled trial.pt.
19 ((singl$ or doubl$ or treb$ or trip$) adj (blind$3 or mask$3)).mp.
Random$ allocat$.mp.
(allocat$ adj2 random$).mp.
or/10-21 [RCT terms]
Meta analysis/
Meta analys$.mp.
(systematic adj (review or overview)).mp.
meta analysis.pt.
or/23-26 [SR/MA terms]
(neoplasm$ or cancer$).mp. or exp Neoplasms/ [cancer terms]
screen$.mp. or screening/ or cancer screen$.mp. or "Early Detection of Cancer"/
colonoscopy/ or sigmoidoscopy/ or colonography, computed tomographic/ or barium sulfate/ or Occult Blood/
(fobt or fecal occult or colonoscop$ or sigmoidoscop$ or ct colonograph$ or virtual colonoscop$ or barium enema or lower GI series or lower gastrointestinal series or lower gastrointestinal exam$ or FIT or fecal immunochemical test).mp.
vaginal smears/ or DNA Probes, HPV/ or Papillomavirus Infections/ or Human Papillomavirus DNA tests/ or CA-125 Antigen/
(pap test$ or pap smear$ or hpv or human papillomavirus or TVUS or (transvag$ adj ultraso$) or CA-125).mp.
mammography/ or (mammography/ and Magnetic Resonance Imaging/) or (MRI mammogra$ or mammogra$).tw. or ultrasonography, mammary/
prostate-specific antigen/ or (PSA or prostate specific antigen).tw.
Tomography, X-Ray Computed/ or Tomography, Emission-Computed, Single-Photon/ or (computed tomography or tomography).tw.
or/29-36 (1087048) [screening terms]
9 and 28 and 37
38 and 22 [RCTs]
38 and 27 [SRs/MAs]
DATABASE: CINAHL
1 (MM “Decision Making”) OR (MM “Decision Making, Clinical”) OR (MM “Decision Making, Patient”)
2 (MM “Cancer Screening”)
3 TX directive counseling OR TX decision support OR TX shared decision OR TX shared OR TX informed OR TX patient participation
4 TX screen* AND TX cancer
5 1 OR 3
6 2 OR 4
7 5 AND 6
8 Narrow by SubjectAge (all adult) AND SubjectMajor (cancer screening)

DATABASE: PSYCINFO
1 TX Shared OR TX Shared Decision OR TX Decision Support OR TX Informed OR TX Directive Counseling OR TX Decision OR TX Preference OR TX Choice
2 MJ “Cancer Screening”
3 TX PSA OR TX Colonoscopy OR TX Sigmoidoscopy OR TX Colonography OR TX Fecal Occult OR TX FOBT OR TX Pap OR TX cervical OR TX mammography OR TX prostate OR TX tomography
4 1 AND 2 AND 3
5 Narrow by Methodology (treatment outcome/clinical trial), Narrow by Methodology (quantitative study), Narrow by SubjectAge (adulthood [18 yrs & older])
6 (MJ “Decision Making”) AND (MJ “Cancer Screening”)
7 5 OR 6