Mammography Screening Decision Aid

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Current Screening Guidelines

Recommendation organizations:
- World Health Organization, 2014
- Canadian Cancer Society, accessed 2016 Oct. 17
- American Cancer Society, 2015
- U.S. Preventive Services Task Force, 2016
- Australia, 2015

Women's age

From Ivlev, et al. Submitted
Patient Decision Aids

• Patient decision aids are tools that help people become involved in decision making by providing information about the options and outcomes and by clarifying personal values. They are designed to complement, rather than replace, counseling from a health practitioner.
The goal of the IPDAS Collaboration is to establish an internationally approved set of criteria to determine the quality of patient decision aids.

This tool was developed using IPDAS.

http://decisionaid.ohri.ca/
Components of a Decision Aid

- Risk tool to identify above average and average risk women.
- Educational component
- Priority setting activity
- Customized report
Mammopad
Each woman was assessed for risk

Bellcross CA et. al, Genet Med 2009; Bellcross CA Genet Med 2010
Mammopad

The aid encourages a shared approach

It's Your Choice

Starting regular mammograms before you turn 50 is a **choice** that you can make after discussing your options with a doctor or nurse.
Mammopad

The aid provides information on risk and types of cancer.
Mammopad

The aid uses graphics to inform patients

if 1000 WOMEN
in their 40s had a mammogram TODAY

874 do not have cancer
1 cancer is missed

875 normal results

121 do not have cancer
2 cancers are found
2 pre-cancers are found

125 abnormal results

MORE TESTS

Mammopad
Values clarification (setting priorities)

What Matters Most to You
Please choose the one **benefit** that matters most to you in deciding whether to have **mammograms** on a regular basis in your 40s.

- Peace of mind (having a mammogram that shows no cancer)
- Catching cancer early (simpler treatment and reduced chance of dying)

What Matters Most to You
Please choose the one **harm** that matters most to you in deciding whether to have **mammograms** on a regular basis in your 40s.

- Extra tests and worry from false alarms (having a mammogram that finds something that isn’t cancer)
- No improvement in length or quality of life, and unnecessary diagnosis (being diagnosed and treated for cancer that might not be harmful)

What Matters Most to You
Of the one **benefit** and one **harm** that you just chose, please select which one matters most to you in deciding whether to have **mammograms** on a regular basis in your 40s.

- Catching cancer early (simpler treatment and reduced chance of dying)
- No improvement in length or quality of life, and unnecessary diagnosis (being diagnosed and treated for cancer that might not be harmful)
Mammopad
This aid provides customized feedback

My Mammography Decision Summary

What matters most to me in deciding when to start mammograms on a regular basis

Bring this summary with you when you talk with a doctor. It will help you and a doctor or nurse decide which choice is best for you.

Note to Provider: This is a personalized report from an interactive, evidence-based mammography decision aid. It contains information about your patient's values and concerns about breast cancer screening.

Benefits and Harms of Starting in my 40s

What matters most to me: Catching cancer early (simpler treatment and reduced chance of dying)

<table>
<thead>
<tr>
<th>Possible Benefits</th>
<th>Possible Harms</th>
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<tr>
<td>Peace of mind</td>
<td>Extra tests and worry from false alarms</td>
</tr>
<tr>
<td>Catching cancer early (simpler treatment and reduced chance of dying)</td>
<td>No improvement in length or quality of life and unnecessary diagnosis</td>
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Remember, you don't have to have a doctor to get a mammogram, and there are low-cost and free options if you don't have insurance. Please see the research coordinator or dial 211 from any phone for more information.

My Concerns About Mammograms

I am most concerned about: the cost of mammograms, follow-up care, or treatment, not being able to have a mammogram because I do not have a doctor

My Questions

- I would like to know more about my risk according to my family history of cancer
- I would like to know more about my risk according to my own personal health history (e.g., birth control pills)
- I would like to know if it is best to have a mammogram every year or every two years.
- What additional tests are needed if the mammogram is positive

My Plan

I plan to have a mammogram before age 60.
Before After Study

• Recruited 75 women from rural clinics (through ORPRN) to use decision aid on iPad Minis.
• Asked intention for screening, self-efficacy and questions about decisional conflict before and after using the aid.
The decisional conflict scale measures perceptions of uncertainty about options. A total conflict score is computed.

The subscales are:

1. Informed
2. Supported
3. Clear Values
4. Certain
Before After Study

Aid reduced decisional conflict

• After using Mammopad, women reported reduced overall decisional conflict (mean before 46.33 versus after 8.33; $Z=-7.225$; $p<0.001$) and reported reduction on all subscales ($p<0.001$).

References
Evaluations of Aid


References
Breast Cancer Risk Screening


References
Screening Recommendations


Overview of Implementation

• 3 small rural clinics
  – 3 PCPs/clinic
  – EMR: Greenway (2), NextGen (1)
• Two stages of implementation:
  – Locating eligible patients
  – Administering the DA
Overview of Implementation

Stage 1: Locating Eligible Patients

- Eligibility criteria:
  - Women
  - Age 40-49
  - No mammography during the previous year
  - No high risk factors
    - Family Hx
    - Previous biopsy
    - Current symptoms
    - Genetic marker (e.g., BRCA1)
    - Hx of repeated radiation to the chest
    - Ashkenazi Jewish Heritage

390 potential participants identified in medical charts and contacted

71 Declined:
  - 61 Before screened for eligibility
  - 10 Eligible

208 Ineligible:
  - 84 Mammogram within 1 year
  - 50 Higher than average risk
  - 31 by B-RST
  - 4 Personal history
  - 8 Prior breast biopsy
  - 1 Personal/Family BRCA
  - 1 Repeated radiation to the chest
  - 5 Current breast symptoms
  - 74 Other
    - 54 No longer at clinic
    - 9 Non-English speaking
    - 7 Over age 50
    - 2 Cognitively impaired
    - 1 Incarcerated
    - 1 Deceased

16 Eligible but not enrolled:
  - 12 Unable to schedule
  - 4 Lost internet access

20 Pretesters: of earlier versions of Mammopad

75 Eligible and enrolled
Overview of Implementation

Stage 2: Decision Aid Administration

Pt Check-in → Intro to DA → Risk assessment

- High risk?
  - Yes: Referred to PCP for f/u
  - No: Pt. Completes DA

- Summary print/scan
Overview of Implementation

Barriers for Clinics

- Sustainable workflow
- Internet access
- DA documentation
- Prompt for PCP to engage patient
Overview of Implementation

Benefits of Using Mammopad

- Ease of use/convenience
- Increased access
- Portable
- Privacy
- Future uses
- Identification of 16 high risk women
- Visuals helped with communication
- CPC milestone 7
Technology
Platform

• HTML5/Javascript/PHP/MySQL stack
• jQueryMobile for mobile responsiveness
• Text-to-speech (TTS) – www.voicerss.org
• Admin console for basic management
• Excel import for content and CMS capable
Technology
Admin Console

User data access – raw data and report

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Basic configurations

Options
- Participant Password
- Admin Password
- Email Report Addresses
- Add Email Report Addresses
- Report Email

Report Details
- RESULT_BENEFIT_HARM_SELECTED
  - user/id: 2133
  - userState: cancer
  - RESULT_BENEFIT_HARM.Selected: no improvement in length or quality of life and unnecessary diagnosis (being diagnosed and treated for cancer that might not be harmful).
- RESULT_CONCERN_SELECTED
  - user/id: 2133
  - userState: cancer
  - RESULT_CONCERN_Selected: I am concerned about the cost of mammograms, follow-up care, or treatment; I am concerned about being exposed to radiation from mammograms.
- RESULT_AWARENESS_SELECTED
  - user/id: 2133
  - userState: cancer
  - RESULT_AWARENESS_Selected: I would like to know more about my risk according to my family history of cancer.
- RESULT_AWARENESS_Selected: I would like to know more about my risk according to my own personal health history (e.g., birth control pills); I would like to know more about breast density (thickness of breast tissue).

- Date Started: 2016-1-1 16:21:00
- CNS_CONSENT: 1
- SCRNR.CANCER: 0
- SCRNR.RADIATION: 0
- SCRNR.GENE: 0
- SCRNR.DISEASE: 0
- SCRNR.BIOPSY: 2
- SCRNR.BIOPSY.RESULTS: 0
- SCRNR.ASHKENAZI: 0
- SCRNR.FAMILY.O: 0
- SCRNR.MOTHER.O: 0
Questions?

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