FACTORS THAT INFLUENCE THE IMPLEMENTATION OF KNOWLEDGE TRANSLATION TOOLS

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I have no actual or potential conflict of interest in relation to this presentation.
Breast Cancer Screening Guidelines were revised by the Canadian Task Force on Preventive Health Care (CTFPHC) & published in the Canadian Medical Journal (CMAJ) in November 2011.

The Foundation for Medical Practice Education published & disseminated a Breast Cancer Screening Module in May 2012 to all PBSG members.

Knowledge translation (KT) tools were developed & incorporated into the Breast Cancer Screening Module and CTFPHC website.
KNOWLEDGE TO ACTION CYCLE

RESEARCH QUESTIONS

- How do physicians select and use Knowledge Translation (KT) tools and strategies?
- What factors facilitate and sustain change?
METHODS

Participants:
Canadian Family Physicians and nurse practitioners who are members of the Practice Based Small Group (PBSG) Learning Program

Design:
Mixed methods study with surveys and interviews

Intervention:
An educational module that included CTFPHC guidelines & practice tools.

Protocol:
Discussion of educational module as part of their usual learning session
Completion of a practice reflection tool that identified planned practice change(s)
Review of implementation of planned changes after ~ 3 months
Completion of on-line survey examining the barriers & facilitators to use of practice tools.
Individual telephone interviews to explore barriers & facilitators
KNOWLEDGE TRANSLATION TOOLS

- Screening Recommendations for Breast Cancer with Mammography
- Screening Recommendations for Clinical Breast Exams and Breast Self Exams
- Discussion Video: CTFPHC Breast Cancer Video
- Patient Handout: Breast Cancer Screening – What is the Right Choice for Me?
- Patient Handout: CTFPHC Patient Algorithm
- Patient Handout: CTFPHC Benefits and Risks Poster
- Patient Handout: CTFPHC FAQ for Patients
KNOWLEDGE TRANSLATION TOOLS

APPENDIX 1. Screening Recommendations for Breast Cancer with Mammography

<table>
<thead>
<tr>
<th></th>
<th>Women 40-49 years</th>
<th>Women 50-69 years</th>
<th>Women 70-74 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>estimated 4,700</td>
<td>estimated 10,000</td>
<td>estimated 4,800</td>
</tr>
<tr>
<td></td>
<td>women are of breast cancer in Canada, each year</td>
<td>women are of breast cancer in Canada, each year</td>
<td>women are of breast cancer in Canada, each year</td>
</tr>
<tr>
<td>Routine screening every 2–3 years</td>
<td>Routine screening every 2–3 years</td>
<td>Routine screening every 2–3 years</td>
<td></td>
</tr>
<tr>
<td>(Weak recommendation; moderate quality evidence)</td>
<td>(Weak recommendation; moderate quality evidence)</td>
<td>(Weak recommendation; moderate quality evidence)</td>
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</tbody>
</table>

Women who do not place a high value on a small reduction in breast cancer mortality and are uncertain about false positive results of mammography and overdiagnosis may decide to decline screening.

Number needed to screen in the population (to save one life from breast cancer over approximately 11 years)

<table>
<thead>
<tr>
<th></th>
<th>2,100</th>
<th>720</th>
<th>400</th>
</tr>
</thead>
<tbody>
<tr>
<td>women, every 2–3 years</td>
<td>women, every 2–3 years</td>
<td>women, every 2–3 years</td>
<td></td>
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</tbody>
</table>

Harms and adverse outcomes for every 1,000 women screened, for approximately 11 years (estimated as a total of four screening mammograms per woman, assuming a screening interval of 2–3 years)

- 36 women would have unnecessary breast biopsy
- 292 women would have false positive mammogram, unnecessary anxiety and follow-up testing
- 37 women would have unnecessary breast biopsy
- 292 women would have false positive mammogram, unnecessary anxiety and follow-up testing
- 26 women would have unnecessary breast biopsy
- 21 women will have false positive mammogram, unnecessary anxiety and follow-up testing

It is estimated that for every 1,000 women aged 30 years or older who are screened with mammography, five will have an unnecessary surgery (biopsy or mastectomy) as a result of overdiagnosis.

Clinical Considerations for Implementation

- Provide patients who are aged 60-70 years with the Public Health Agency of Canada’s (PHAC) Breast Cancer Screening in Canada, available at: http://www.phac-aspc.gc.ca/cd-mc/mammography-mammographie-eng.php
- Use the electronic health record to flag a screening reminder for patients aged 50-74 years, every three years: this can be particularly useful if you don’t have a local screening program that generates automated reminders to patients.
- The 2009 PHAC tool provides useful discussion material that addresses the risks and benefits for women. However, specific pages for the different age groups do not currently reflect updated guidance statistics or recommendations. It is hoped this important tool will be updated to parallel current data.

Adapted from:


Website accessed April 2012.


May 2012

APPENDIX 2. Screening Recommendations for Clinical Breast Exam and Breast Self Exam

<table>
<thead>
<tr>
<th></th>
<th>For Women aged 40-74 years without personal or family history of breast cancer, known BRCA1 or BRCA2 mutation, or prior chest wall radiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine Clinical Breast Exam (CBE) by a health professional</td>
<td>Do not advise women to routinely practice breast self-exam</td>
</tr>
<tr>
<td>(Weak recommendation; low quality evidence)</td>
<td>(Weak recommendation; moderate quality evidence)</td>
</tr>
</tbody>
</table>

No evidence indicates that CBE or DSE reduced breast cancer mortality or all-cause mortality.

To date, two have identified no reduction in breast cancer mortality associated with teaching BSE to women aged 54-64 years, but found evidence of increased harm for benign breast biopsy.

Recommendation reflects concerns with the potential harms of CBE and DSE and the corresponding lack of evidence of their effectiveness in decreasing mortality.

Clinical Considerations for implementation

- CBE remains appropriate when women present with, or physicians have concerns about abnormal breast changes.

Adapted from:


Website accessed April 2012.


May 2012
KNOWLEDGE TRANSLATION TOOLS
KNOWLEDGE TRANSLATION TOOLS

PATIENT HANDBOOK — Please feel free to copy this page.

Women 40 to 40 Years

BREAST CANCER SCREENING — What is the right choice for me?

What is breast cancer screening?

Regular screening is a way to help women find breast cancer early. A breast exam (mammogram) has been shown to be the most effective screening tool. It takes images (film or digital) of the soft tissue of the breast, to look for signs that breast cancer may be developing, even if you don’t have any symptoms.

Should I have a breast exam?

A breast exam (self-examination and exams by a health professional) has not been shown to be a helpful screening tool to reduce breast cancer and is generally not recommended. However, if you feel more comfortable having a breast exam done, you should discuss this with your health provider.

Who should have a mammogram?

It is recommended that women between the ages of 50-74 years be offered regular mammogram screening because the risk of developing breast cancer increases with age. Screening for women younger than 50 years or older than 74 years who are at average risk of developing breast cancer is not recommended.

Weighing the benefits and harms of having a mammogram

Mammography is not 100% accurate. The possible benefits (finding cancer early) and harms (false alarms and unnecessary testing) linked to breast cancer screening mammograms are listed in the table below.

Consider each of the following statements to determine how important each one is to you.

<table>
<thead>
<tr>
<th>BENEFITS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Peace of Mind</td>
<td>You fear less worry when you know that you do not have cancer on your screening mammogram.</td>
</tr>
<tr>
<td>Early detection of breast cancer</td>
<td>You can catch cancer at an early stage and simpler treatment.</td>
</tr>
<tr>
<td>If your mammogram finds something abnormal, you will be carefully monitored and/or treated.</td>
<td>If your cancer is found at an early stage, you may have simpler surgery and less need for chemotherapy.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HARMES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer may not be found</td>
<td>Your mammogram may show no signs of an abnormality even though breast cancer is present.</td>
</tr>
<tr>
<td>Extra tests and worry from false alarms</td>
<td>Some women will have a false alarm because something abnormal is found on a mammogram. However, after more tests such as another mammogram, ultrasound or biopsy, no cancer is found. This may take 4 to 6 weeks, causing you worry. Sometimes, the worry lasts long, after the test results are known.</td>
</tr>
<tr>
<td>Reduction in life expectancy and quality of life and unnecessary diagnosis</td>
<td>Even though your screening mammograms found breast cancer, you can live up to 3 years longer than you would have lived if you had not been diagnosed.</td>
</tr>
</tbody>
</table>

For more information visit: [http://www.cancertalk.org/](http://www.cancertalk.org/)

CTFPHC Breast Cancer Screening 2011 Guideline

Should I be screened with mammography for breast cancer?

Absolute Benefit of Screening with Mammography

If we wanted to describe the previous information in regards to the effect on an individual woman then we can look at what would occur in a base of 2100 women instead of 100,000.

In the graphic below, each dot represents 1 woman (x = 1 woman).

If we screened 2100 women, aged 40-49 years, at average risk of breast cancer every two years for 11 years...

...about 700 women would experience a false positive mammogram requiring further imaging...

...75 of these women would have a biopsy...

...all to confirm that they do not have breast cancer...

...at least 10 women would have part or all of a breast unnecessarily removed...

...and bear the burden of over-diagnosis...

...1 woman would escape a breast cancer death.


May 2012
DATA COLLECTION AND ANALYSIS

Practice Reflection Tools
- Qualitative analysis of all statements
- Comparison of commitment to change statements (CTC) with self reported practice changes

On-line Survey
- Quantitative analysis of reported practice changes & usefulness of practice tool
- Qualitative analysis of open ended questions about barriers/facilitators to using the practice tools

Telephone interviews
- Thematic analysis (Brown and Clark, 2006)
RESULTS - PRACTICE REFLECTION TOOL (PRT)

✓ Completion rate 91% (64/70)
✓ 43/64 reported practice change(s) at ~ 3 month (67%)
✓ 79% (34/43) of participants indicated that they followed through with at least some of the planned practice changes:
   ✓ Fewer clinical breast exams
   ✓ Fewer mammography referrals
   ✓ Improved / increased patient consultations on screening
   ✓ Greater distribution of practice tools to patients
RESULTS - ON-LINE SURVEY

- 77% (37/48*) of the participants reported practice change for breast cancer screening

- 73% (35/48) used one or more of the seven breast cancer screening tools in their practice.

- Participants that used tools were mostly satisfied with them & agreed that the tools were useful in implementing practice changes.

* 69% completed survey (48/70)
### Factors Influencing Implementation of Guidelines

<table>
<thead>
<tr>
<th>Facilitators to practice change</th>
<th>Barriers to practice change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information presented in module</td>
<td>Doubt about evidence &amp; benefits of guidelines</td>
</tr>
<tr>
<td>Group discussions at learning session</td>
<td>Mixed recommendations from other breast screening programs</td>
</tr>
<tr>
<td>Evidence (harms / benefits)</td>
<td>Strong patient expectations about screening &amp; low patient literacy</td>
</tr>
<tr>
<td>Patient awareness of guidelines / media</td>
<td>Lack of public awareness</td>
</tr>
</tbody>
</table>
RESULTS - TELEPHONE INTERVIEWS

- Fourteen one-hour interviews were conducted using questions based on Michie’s* key domains and beliefs that influence behavior change
- Ten interviews with participants made a practice change
- Four interviews with those who did not make a change

- Participants indicated that the perceived purpose of the breast cancer screening guidelines was to:
  - Reduce breast exams
  - Inform mammography referrals
  - Facilitate patient consultations on harms/benefits of breast cancer screening

*(Michie et al., 2011, 2013)
# Results - Telephone Interviews

<table>
<thead>
<tr>
<th>Themes taken from interview transcripts</th>
<th>Sample statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes and believes about the usefulness of practice tools</td>
<td>“...that would be kind of like information you keep kind of on the side in your head…” (P01)</td>
</tr>
<tr>
<td></td>
<td>“I tend to like algorithms for more complex clinical scenarios, right, where you have to think... take in a whole bunch of different factors…” (P11)</td>
</tr>
<tr>
<td>Practice tool overload</td>
<td>“so factor number one is guideline overload, so when there’s just so many it becomes difficult” (P03)</td>
</tr>
<tr>
<td>Accessibility of tools and ability to integrate tools into EMR</td>
<td>“... in our EMR...we have, like, a handout sections and we upload the PDF into there so that when we do discuss we can drop it into the patient’s records” (P07)</td>
</tr>
<tr>
<td>Patient literacy level</td>
<td>“...then in terms of other issues with the patient handouts is the reading level. Some of my patients don’t read.” (P06)</td>
</tr>
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</table>
CONCLUSION

- Practice tools were useful in implementing practice changes if they were based on good evidence.
- Once internalized the tools were no longer utilized.
- Accessibility was crucial – in practice and for patients.
- Inform the development of KT strategies for guideline implementation by the CTFPHC & the development of future CPD initiatives by the FMPE.
ACKNOWLEDGEMENTS

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