

# Breast self-examination: Resistance to change

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## ABSTRACT

**OBJECTIVE** To investigate whether Canadian family practitioners routinely teach breast self-examination (BSE) after publication of the 2001 Canadian Preventive Health Task Force guideline advising them to exclude teaching BSE from periodic health examinations.

**DESIGN** Self-administered cross-sectional mailed survey.

**SETTING** Canada.

**PARTICIPANTS** A random sample of English-speaking general practitioners and physicians certified by the College of Family Physicians of Canada.

**MAIN OUTCOME MEASURES** Current and past BSE practices and opinions on the value of BSE.

**RESULTS** Response rate was 47.4%. Most respondents (88%) were aware of the new recommendations, yet only 16% had changed their usual practice of routinely teaching BSE. Most physicians agreed that before the recommendation they almost always taught BSE (74.3%). Only 9.5% agreed that physicians should follow the recommendation and not routinely teach BSE. A few also agreed that they now spend less time discussing BSE (25.7%) and that the recommendation has influenced them to stop teaching (12.4%) and encouraging (12.9%) women to practise BSE. Physicians who had changed their BSE practices were less likely to agree that BSE increases early detection of breast cancer and more likely to agree that BSE increases benign breast biopsies. They were also more likely to agree that screening mammography in women older than 50 decreases mortality from breast cancer.

**CONCLUSION** This survey, which assessed routine teaching of BSE, revealed poor adherence by Canadian family physicians to a well publicized evidence-based guideline update. Resistance to change could in part be attributed to a lack of knowledge of the supporting evidence, a lack of confidence in the evidence to date, and personal experiences with patients within their practices.

## EDITOR'S KEY POINTS

- In 2001, the Canadian Task Force on Preventive Health Care advised that teaching breast self-examination (BSE) be excluded from routine periodic health examinations (grade D recommendation).
- In this Canadian survey, although 88% of family doctors were aware of these guidelines, only 16% had changed their practice of routinely teaching BSE.
- Those who had changed their practice were more likely to agree that BSE does not increase early detection of breast cancer and does increase benign breast biopsies.
- Personal and previous experience appears to count more than evidence when considering how this guideline was or was not adopted.

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Until recently, both Canadian and American preventive health task forces concluded that evidence to either include or exclude routine teaching of breast self-examination (BSE) in periodic health examinations for women was insufficient.<sup>1,2</sup> Widespread support for BSE had been based mostly upon weak scientific evidence and an assumption that early detection of breast cancer through BSE would improve prognosis. Potential adverse consequences of BSE had not been studied thoroughly.

Before 2001, 85% of Canadian women aged 50 to 69 years reported that they had been taught how to perform BSE.<sup>3</sup> Sixty percent were taught by their family physicians.<sup>3</sup> Moreover, 75% to 96% of North American physicians reported that they routinely taught BSE to their patients.<sup>4-11</sup>

In June 2001, the Canadian Task Force on Preventive Health Care (CTFPHC) published an evidence-based appraisal and recommendations regarding routine teaching of BSE.<sup>12</sup> The evidence was based on more recent studies that included two large randomized controlled trials, a quasi-randomized trial, a large cohort study, and several case-control studies.<sup>13-26</sup> Overall, this evidence failed to show a survival benefit from regular BSE or BSE education.<sup>12</sup> Good evidence of harm from BSE instruction, including substantial increases in the number of physician visits for evaluation of benign breast lesions and higher rates of benign breast biopsies, were also observed. Based on this evidence, the CTFPHC recommended that routine teaching of BSE be excluded from the periodic health examination.<sup>12</sup>

Despite scientific evidence suggesting an overall harmful outcome from teaching BSE, the recommendations were immediately criticized by breast cancer advocacy groups and by many physicians.<sup>27-</sup>

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<sup>29</sup> Our study was designed to determine the effect of these recommendations on family physicians' practices regarding BSE.

## METHODS

### Study design

A modified Dillman's method was used for this mailed self-administered cross-sectional survey of Canadian family physicians.<sup>30</sup> The survey was first sent out in March 2002, 9 months after the Task Force recommendations were published.

### Study population and sampling procedure

A random sample of English-speaking Canadian family physicians was obtained from the College of Family Physicians of Canada (CFPC). To obtain responses from non-CFPC members, a similar random sample of general practitioners was obtained from Cornerstone List Managers. The geographic proportions of the physician samples intentionally reflected the total provincial proportions of English-speaking physicians across Canada. Physicians were considered eligible to complete the survey if their practices included preventive care of women.

### Survey instrument

The survey instrument was designed specifically for this study. Portions of existing questionnaires were incorporated.<sup>3-11</sup> Clarity and face validity were pilot-tested among 15 academic and community family physicians affiliated with Mount Sinai Hospital's Family Medicine Centre in Toronto, Ont. Statistically significant Spearman rank correlations between comparable questions ensured good internal reliability of the instrument.

Physicians were asked, "are you aware of the recent Canadian BSE recommendations," and "as a result of the CTFPHC 2001 BSE recommendations, have you changed your usual practice regarding routine teaching of BSE?" Open-ended, Likert,

and multiple-choice questions were used to further assess practices and opinions regarding BSE.

## Statistical analysis

Descriptive statistics for all variables were generated. Logistic regression modeling was used to determine variables that predict which physicians have changed their routine BSE teaching practices.

## Sample size calculation

A sample size of 256 was calculated based on assumptions that at least 10% of physicians have changed their BSE practices, that 60% of women are taught how to perform BSE by their family doctors,<sup>3</sup> and that the likelihood of a type II error was .05 and of a type I error was .9. Expecting a response rate of 40% to 50% and that 5% of surveys would be undeliverable, we contacted 600 family physicians.

## Ethics

The study was approved by the Mount Sinai Hospital Research Ethics Board.

## RESULTS

### Response rate

Of the 600 surveys mailed, 329 were returned: 244 completed surveys from eligible physicians, 80 incomplete surveys from ineligible physicians, and five undeliverable at the address we had. Overall, we had a 47.4% response rate of potentially eligible respondents.

### Demographics

Demographic characteristics of study respondents and nonrespondents are presented in **Table 1**. On average, nonrespondents had been in practice significantly longer ( $19.7 \pm 10.4$  years) than respondents ( $16.5 \pm 9.9$  years). Approximately 28% of respondents had university appointments. Seventy-nine percent of respondents reported that they usually or always follow clinical practice guidelines.

**Table 1. Demographics of physician respondents and nonrespondents**

CHARACTERISTIC	RESPONDENTS (N=240) N (%)	NONRESPONDENTS (N=275) N (%)	P VALUE
<b>Sex</b>			.002
• Male	136 (56.9)	187 (70.6)	
• Female	102 (42.6)	78 (29.4)	
<b>Location</b>			.11
• Urban	157 (65.4)	160 (58.6)	
• Rural	83 (34.6)	113 (41.4)	
<b>Region</b>			.60
• Ontario	115 (48.5)	129 (46.9)	
• British Columbia	47 (19.8)	45 (16.4)	
• Alberta	30 (12.7)	36 (13.1)	
• Maritimes	20 (8.5)	29 (10.5)	
• Saskatchewan	10 (4.2)	12 (4.4)	
• Manitoba	9 (3.8)	8 (2.9)	
• Quebec	5 (2.1)	15 (5.5)	
• Territories	1 (0.4)	1 (0.4)	
<b>Country of medical school</b>			.97
• Canada	191 (79.6)	212 (79.7)	
• Other	49 (20.4)	54 (20.3)	

### Awareness and change in practice after recommendations

Eighty-eight percent of respondents were at least somewhat aware of the new Task Force recommendations regarding BSE. Sixteen percent changed their usual practice of teaching BSE as a result of the guidelines (**Table 2**).

In two separate questions, the frequency 1 year before and the current frequency of routinely teach-

**Table 2. Awareness and change in practice after 2001 BSE recommendations released by the Canadian Task Force on Preventive Health Care**

RESPONSE TO RECOMMENDATIONS	TOTAL N (%)
<b>Aware of guidelines</b>	
• Yes	114 (47.7)
• Somewhat	97 (40.6)
• No	28 (11.7)
<b>Changed BSE teaching practices since guidelines released</b>	
• Yes	38 (16.4)
• No	194 (83.7)

BSE—breast self-examination.

ing BSE were also assessed. When current practices among those who reported not having changed their usual practice as a result of the guidelines (n=194) were compared with practices 1 year earlier, two respondents increased their frequency of routinely teaching BSE while eight decreased their frequency. When current practices among those who reported changing their usual practice (n=38) were compared with practices 1 year before, 15 (39%) did not change their frequency of routinely teaching BSE. Of the remaining respondents who reported changing their practice, all but two decreased their frequency of routinely teaching BSE.

Among physicians at least somewhat aware of the Task Force recommendations, only 9.5% agreed that physicians should follow the recommendations and not routinely teach BSE. A few also agreed that they now spend less time discussing BSE (25.7%) and that the recommendations have influenced them to stop teaching (12.4%) and encouraging (12.9%) women to practise BSE. Most physicians agreed that before the recommendations they almost always taught BSE (74.3%).

### Advice to patients

When respondents were asked to indicate what they were currently advising their patients regarding BSE, 79% were advising women to use a systematic approach to examine their breasts for lumps regularly, 21% advised women to be aware

of their breasts generally for changes or new lumps, and 0.5% gave no advice regarding self-detection of breast lumps.

### Physicians' beliefs regarding breast cancer screening

Physicians' beliefs regarding the benefits and risks associated with BSE and mammography are summarized in **Table 3**. In general, physicians believed that BSE increases early breast cancer detection, benign breast biopsies, and physician visits for benign breast problems. Several factors predict which physicians are more likely to change their usual practice of teaching BSE (**Table 4**).

Among physicians who routinely teach BSE (88% of total), 90% (n=181) begin routine teaching of BSE before patients reach the age of 40. The remaining 10% (n=20) begin teaching BSE to women between the ages of 40 and 49 years.

Sample comments provided by respondents are listed in **Table 5**.

## DISCUSSION

Most Canadian family physicians are aware of the recent guidelines on BSE from the Canadian Task Force. Although 77% of physicians in this survey reported that they usually follow clinical practice guidelines, only 16% reported that they had

**Table 3. Beliefs about BSE and mammography**

PHYSICIANS' BELIEFS	AGREE* N (%)	DISAGREE† N (%)	NEITHER AGREE NOR DISAGREE N (%)
BSE decreases breast cancer mortality (n=234)	105 (44.8)	42 (17.9)	87 (37.2)
BSE increases early breast cancer detection (n=238)	187 (78.6)	13 (5.5)	38 (16.0)
BSE increases anxiety due to breast concerns (n=238)	108 (45.4)	83 (34.9)	47 (19.7)
BSE increases benign breast biopsies (n=237)	160 (67.5)	38 (16.0)	39 (16.5)
BSE increases physician visits for benign breast problems (n=237)	160 (67.5)	38 (16.0)	39 (16.5)
Screening mammography over age 50 decreases breast cancer mortality (n=237)	194 (81.9)	10 (4.2)	33 (13.9)
Screening mammography between age 40 and 50 decreases breast cancer mortality (n=237)	99 (41.8)	55 (23.2)	83 (35.0)

BSE—breast self-examination.

\*Strongly agree and agree have been combined.

†Strongly disagree and disagree have been combined.

**Table 4.** Final multivariate regression model of factors predicting which physicians have changed their usual practice regarding routine teaching of BSE after the 2001 Task Force guidelines

PREDICTOR VARIABLE	P VALUE	ODDS RATIO* (95% CONFIDENCE INTERVAL)
Agree that BSE increases early breast cancer detection	.0001	0.31 (0.18, 0.51)
Agree that BSE increases benign breast biopsies	.0002	4.07 (1.97, 8.41)
Agree that screening mammography after age 50 decreases breast cancer mortality	.01	2.09 (1.17, 3.73)

BSE—breast self-examination.

\*An odds ratio below 1 indicates the predictor variable is associated with a reduced likelihood of changing BSE practices; an odds ratio above 1 indicates the predictor variable is associated with an increased likelihood of changing BSE practices.

**Table 5.** Respondent comments regarding BSE and the current Canadian guidelines

I am awaiting further research to make major changes in practice.
Until there is an alternative, I cannot justify telling women not to examine themselves, as many women in my practice have found their own lumps. This may not be statistically important, but it certainly is important to these women!
Most of the patients I have with breast cancer find their own lump, so it is hard for me to justify telling women not to check despite what the statistics say about mortality rates.
I encourage women to be in tune with their bodies as much as possible. I warn them that evidence in favour of BSE is not good, but BSE is a way in which they can take control of or responsibility for their health.
In my practice, mammography has picked up two unknown breast cancers; the rest of the breast cancers were brought to medical attention by women doing BSE. If a breast biopsy is required, both my patient and I feel only relief that it is not cancer, not anger.
In my 20 years of practising and teaching family medicine, I have yet to discover more than one case of breast cancer from screening mammography. Yet I have many patients "cured by" detecting lumps that turn out to be cancer.
If one life is prolonged or saved due to early detection, it is worth teaching BSE to all women.
I usually follow evidence-based guidelines, but in this situation, based on my experience in clinical practice, I disagree. I would rather not follow the guidelines than miss a diagnosis.
A fine needle biopsy, perhaps with ultrasound, of the breast is a lot less harmful than ignoring or missing possible breast cancer. Discouraging women from doing BSE at this point (with all previous indications to do it) encourages women to or gives the impression that they can ignore potentially harmful lumps.
Breast self-examination takes very little time to teach, costs nothing to do, and gives women some sense of control (whether real or not). Although it is possible the incidence of benign breast biopsies increases with BSE, I think the cost is acceptable.

BSE—breast self-examination.

changed their usual BSE teaching practices as a result of the recommendations. These results are consistent with a recent survey in which 80% of Canadian family physicians reported that they continue to teach BSE.<sup>31</sup>

Discordances between Canadian Task Force cancer screening recommendations and physicians' practices have been reported. One survey concluded that family physicians often do not adopt cancer screening guidelines backed by good evidence but will perform nonrecommended screening procedures.<sup>32</sup> Evidence from our survey shows that most respondents continue to teach BSE. Physicians begin teaching BSE to most women before they reach 40 even though BSE in this age group has not been adequately studied and even though benign breast lumps are more likely to be detected. As a result, health care resources are potentially being spent on inappropriate maneuvers. Evidence suggests these resources would be better spent on interventions that have been proven effective.

The reluctance of physicians to adopt new practice guidelines into their clinical practice could stem from ignorance of the evidence upon which the guidelines are based, lack of confidence in the evidence to date, personal experiences with patients within their practices, or personal beliefs.

Despite scientific evidence showing a substantial increase in the number of benign breast biopsies and no difference in breast cancer incidence, stage at diagnosis, and survival among women who are taught BSE,<sup>13-26</sup> physicians in this survey who had not changed their practice were more likely to agree that BSE increases the incidence of early detection of breast cancer. Although physicians might be aware of the guidelines, they might not be aware of the specific underlying scientific evidence upon which the recommendations are based. Physicians who no longer teach BSE were more likely to agree that screening mammography in women older than 50 decreases breast cancer mortality. Perhaps they offer only a very well proven breast cancer screening method.

Some respondents in our survey commented on their lack of confidence in the current evidence regarding BSE and concern that future studies will



show benefits. After this survey was completed, however, the existing evidence was further validated by an update of one of the large randomized trials on which the 2001 BSE recommendations were based, which reported that even after longer follow up, BSE did not reduce breast cancer mortality.<sup>33</sup>

For many physicians, practice guidelines conflict with personal experiences. Physicians commented on women in their practices who detected malignant breast lumps through BSE. Practice guidelines could also conflict with personal beliefs. A survey of Canadian family physicians concluded that, overall, some Task Force recommendations are inconsistent with physicians' personal beliefs and those of their patients.<sup>34</sup> Physicians often attribute high value to detection of insidious diseases, even in the absence of proof of the effectiveness of such activity. Similarly, in our survey, physicians indicated that it is easier to live with not adhering to guidelines than with having missed a diagnosis and that, even if only one life was prolonged or saved due to early detection, it was worth teaching BSE to all women in their practices.

Given that this study looked only at practice changes and opinions of the recent Canadian guidelines on teaching BSE, further research is needed to understand how physicians incorporate evidence-based recommendations into usual practice. Specifically the underlying reasons supporting physicians' reluctance and the factors that would influence them to change their clinical practice should be assessed in more detail.

## Limitations

The observed sample of 244 approached the target sample size of 256. Therefore, a low response rate of 47%, which was factored into the sample size calculation, would only minimally affect the generalizability of these results. Although our study did not show a difference between sexes observed in a comparable survey,<sup>31</sup> we observed significantly more female respondents than nonrespondents, thereby potentially inflating our estimates.

Breast self-examination practices reported in this survey could differ from actual practice. In a

1994 Canadian survey, only 60% of women reported that they were taught BSE by their family doctors.<sup>3</sup> In our 2002 survey, however, 78% of physicians reported that they had routinely taught BSE before the new guidelines were published. Further, given the criticisms of the guidelines after they were published, perhaps physicians influenced by social desirability were less likely to report that they no longer teach BSE.

## Conclusion

Although most family physicians state that they usually follow clinical practice guidelines, this survey, which assessed routine teaching of BSE, revealed poor adherence by Canadian family physicians to a well publicized guideline update. ❁

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## Contributors

**Dr Del Giudice** completed this research as part of a family medicine resident research project. She conceived and designed the study; acquired, analyzed, and interpreted the data; and drafted the article. **Dr Tannenbaum** supervised the family medicine resident research, contributed ideas to the study design and data interpretation, and critically revised the article. **Dr Goodwin** provided ideas and content expertise on research methods and on breast cancer. She also helped interpret the data and critically revise the article.

## Competing interests

*None declared*

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