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Author's specialty and conflicts of interest contribute to conflicting guidelines for screening mammography

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Abstract

Objective: To examine the relationship between guideline panel members' conflicts of interest and guideline recommendations on screening mammography in asymptomatic, average-risk women aged 40−49 years.

Study Design and Setting: We searched the National Guideline Clearinghouse and MEDLINE for relevant guidelines published between January 2005 and June 2011. We examined the disclosures and specialties of the lead and secondary authors of these guidelines, as well as the publications of the lead authors.

Results: Twelve guidelines were identified with a total of 178 physician authors from a broad range of specialties. Of the four guidelines not recommending routine screening, none had a radiologist member, whereas of the eight guidelines recommending routine screening, five had a radiologist member (comparison of the proportions, $P = 0.05$). A guideline with radiologist authors was more likely to recommend routine screening (odds ratio = 6.05, 95% confidence interval = $0.57-\infty$, $P = 0.14$). The proportion of primary care physicians on guideline panels recommending routine vs. nonroutine screening was significantly different (38% vs. 90% of authors; $P = 0.01$). The odds of a recommendation in favor of routine screening were related to the number of recent publications on breast disease diagnosis and treatment by the lead guideline author ($P = 0.02$).

Conclusion: Recommendations regarding mammography screening in this target population may reflect the specialty and intellectual interests of the guideline authors.

Keywords: Mammography; Screening; Clinical practice guidelines; Conflict of interest; Bias; Physician specialty

1. Introduction

The balance of benefits and harms of screening mammography for breast cancer detection in asymptomatic, average-risk women aged 40−49 years has been a source of controversy since the mid-1990s [1−6]. This controversy was again brought to the widespread attention of patients and health care providers in November 2009 when the US Preventive Services Task Force revised their 2002

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What is new?

What does this article add to what is known?

- Clinical recommendations for mammography screening for breast cancer in women aged 40−49 years vary between recommending routine screening every 1−2 years and recommending individualized shared decision making between the woman and the health care provider, despite the fact that the body of evidence underlying these disparate recommendations is similar.
- Among guidelines recommending routine screening, a lower proportion of guideline authors were primary care physicians and the odds of a lead author of such a recommendation having a publication on breast disease compared with authors of nonroutine guidelines was significant.
- More attention is needed to the composition and secondary interests of guideline authors and the processes by which a body of evidence is translated into specific recommendations to minimize bias potentially introduced by the intellectual and professional interests of guideline panel members.

guidelines for this target population [7,8]. The revised guidelines recommended that the decision to start regular biennial screening mammography at 40 years of age in a woman who is not at increased risk of breast cancer should be an individual one and takes into account the patient context, including her values regarding specific benefits and harms [7]. Other clinical practice guidelines (CPGs) addressing screening mammography in average-risk women aged 40−49 years reflect this controversy on the balance of benefits and harms: routine annual or biennial screening for this age group on one hand, and routine screening commencing at age 50 years on the other hand, with individualized and shared decision making for women younger than 50 years.

The reasons for these disparate recommendations are unclear and undoubtedly multifactorial. One potential reason is the financial, intellectual, and professional interests of the sponsor or funder of the guideline, as well as the interests of the guideline authors, which may conflict with the primary interest that is (or should be) the health and well-being of the patient. The association between conflict of interest and the reporting of results and on the conclusions in primary research studies is well documented [9−13]. In addition, there are data to suggest that the authors of guidelines frequently have financial conflicts of interest [14−19], and there is anecdotal evidence that these conflicts of interest may play a role in guideline recommendations [16,20,21].

Our goal was to examine the relationship between financial, intellectual, and professional conflicts of interest, and the recommendations in guidelines for or against routine screening mammography for asymptomatic, average-risk women aged 40−49 years. Specifically, our objectives were to examine the relationship between the guideline recommendations and: (1) specialty of physician guideline authors, (2) financial disclosures of physician authors, and (3) the focus of the lead guideline author's academic interests inferred from his or her prior publications.

2. Methods

Guidelines included in this study (1) contained recommendations on screening mammography for asymptomatic, average-risk women aged 40−49 years, (2) were developed, reviewed, or revised within the last 5 years and were the current version recommended by the sponsoring organization (criteria for inclusion in the National Guideline Clearinghouse) [22], and (3) were available in English. There were no restrictions on the country or organization originating the guideline.

To identify guidelines eligible for this study, we searched the National Guideline Clearinghouse (http://www.guideline.gov/) and the MEDLINE database of the National Library of Medicine for guidelines published between week 1 of January 2005 and week 2 of June 2011. In MEDLINE, we used the following Medical Subject Headings: breast neoplasm, mammography, and mass screening. We also searched reference lists and Google News Alerts (Mountain View, CA, USA) for relevant guidelines.

The guidelines were categorized as recommending routine or nonroutine screening in asymptomatic, average-risk women aged 40−49 years. ''Routine'' screening referred to guidelines where the recommendation was to perform screening mammography on a regular basis (generally every 1 to 2 years). ''Nonroutine'' screening referred to recommendations wherein the initiation and frequency of screening mammography was left to the discretion of the physician and the patient, usually as part of individualized and shared decision making.

The issues related to conflict of interest may be different for physicians and other professions, so we examined only the physician authors of guidelines and not authors such as nurses, other health professionals, and doctoral-level scientists without medical degrees (e.g., PhD). The physician authors included Medical Doctors (MD), Doctors of Osteopathy (DO), and equivalent international degrees.

Demographic information, organizational affiliations, and funding for each guideline author were obtained from a variety of sources, including state medical license databases, the National Institutes of Health RePORTER (http://projectreporter.nih.gov/reporter.cfm), and physician