

Commentary on Breast Cancer Screening, Incidence, and Mortality Across US Counties

To the editor:

Harding et al (1) use ecological analysis to assess an important and complex issue. The authors would judge mammography outcomes, but lack key information to draw a reliable conclusion. They don't know which women actually had mammograms (or did not) or which cancers were detected by screening. The report relies on self-reporting of mammography, the accuracy of which is questionable. They assume fairly uniform populations, which is unlikely. Lacking longitudinal data, the authors have no idea whether or not the rate of advanced cancers declined. In fact, there are numerous confounding factors that could make their analysis irrelevant.

In addition, actual data appears to have been ignored. Surveillance, Epidemiology, and End Results (SEER) data show that between 2000 and 2010, the breast cancer death rate fell from 26.6/100,000 to 21.9/100,000. In spite of this decline of 18 percent (almost 2 percent per year), the authors report no decline in deaths during this period.

Helvie, et al, have shown that there is a substantial reduction in late-stage breast cancer with the introduction of mammography when appropriate adjustments are made for prescreening temporal trends (2). Likewise, Puliti, et al, showed that overdiagnosis is often overestimated because researchers failed to account for breast cancer risk and/or lead time (3). While overdiagnosis is known to occur, this paper contributes nothing to further our knowledge of this process because of fundamental unknowns and poor assumptions in the report. There is no direct evidence of overdiagnosis but the best estimates, using more reliable methodology, are on the order of 1-10 percent (3). This is likely due almost entirely to ductal carcinoma in situ (DCIS). The authors refer to "regressive" tumors, yet there is absolutely no evidence in any literature to suggest that invasive tumors regress without treatment.

Using solid data on actual patients is not an "unachievable ideal". Mr. Harding is continuing a pattern that has emerged in the screening literature: use of unreliable estimates, complex modeling far removed from actual patient data, and failure to account for important variables. This leads to conclusions that are likely to be in error. Years of real patient data are available on women who have actually had mammography. These show a clear and significant reduction in breast cancer mortality with little overdiagnosis. To suggest otherwise, based on the data presented, is a grave disservice to women.

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References:

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3. Puliti D, Duffy SW, Miccinesi G, de Koning H, Lynge E, Zappa M, Paci E; EUROSCREEN Working Group. Overdiagnosis in mammographic screening for breast cancer in Europe: a literature review. *J Med Screen* 2012;19 Suppl 1:42-56.