

## Comment on 'Effect of population breast screening on breast cancer mortality up to 2005 in England and Wales: an individual-level cohort study'

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Sir,

Johns *et al* (2017) reported 'a substantial, statistically significant reduction in breast cancer mortality between 1991 and 2005 associated with NHSBSP (UK NHS breast screening programme) activity'.

The term 'associated' is appropriate as there was uncontrolled confounding with treatment and better breast cancer management. The UK breast screening programme could not be introduced everywhere at once because the facilities were not available everywhere. The initial areas included had to have been selected because they already had the necessary diagnostic and treatment facilities and expertise, hence better treatment. And since, as better treatment is the dominant cause of the fall in breast cancer mortality seen since 1990 in many countries, including the UK (Jatoi and Miller, 2003), that must have been largely responsible for the differences seen by Johns *et al* (2017).

As we demonstrated in Canada (Miller *et al*, 1992a, b, 2000, 2002, 2014), it is not possible to demonstrate a reduction in breast cancer mortality due to mammography screening in an era of modern adjuvant therapy for breast cancer. Those observational studies that attempt to do so cannot escape bias and confounding – even those studies that perform complicated approaches to adjustment for selection bias (e.g., that of Morrell *et al*, 2017). This fact, together with the acknowledged complications from mammography screening, especially from overdiagnosis (Baines *et al*, 2016), should lead us to re-consider screening with mammography, and instead concentrate on the simpler approach the World Health Organization (WHO) defines as *early diagnosis* of breast cancer (WHO, 2017), namely 'the early identification of cancer in patients who have symptoms of the disease'.

WHO (2017) distinguishes between screening and early diagnosis of cancer, both resulting in early detection of cancer. Early diagnosis is probably best understood as what is now called 'breast awareness': encouraging women by public education to be aware of the appearance and feel of their breasts, and if she detects an abnormality in her breast to seek skilled examination by physicians who know the signs of early breast cancer, followed by appropriate diagnostic tests – diagnostic mammography and/or ultrasound.

### CONFLICT OF INTEREST

The author declares no conflict of interest.

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