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Breast cancer mortality trends in England and mammography screening (1971–2009): authors' response

In their interesting reply¹ to our article,² Paci et al. suggest data in Supplementary Table 3 show that the reduction in breast cancer mortality is 'greater for the age group 50–64 than for all other age groups combined'. This issue can only be resolved by showing the data. In Table 1 below, we use mortality rates published in Supplementary Table 3, and we show the fall in mortality rates as a percentage decline between the time periods as published. It is evident that it is simply not the case that the reduction in mortality is 'greater for the age group 50–64 than for all other age groups combined'. In our article, we examine declines in age-specific breast cancer mortality between 1988, the year the National Health Service Breast Screening Programme was introduced in England, and 2009, and we find that declines were

greatest in women under the age of 40, an age group not routinely screened for breast cancer.

As we emphasise in our article, our findings do not rule out a benefit of screening at the level of individual women. However, we permute the data in a number of ways, over an observation period of 39 years, and we find that any benefit is too small to be detected at the population level, in the period and country covered by the study, in any of the analyses.

The coding of underlying cause of death has not been done using the same 'standardised coding process' across the years of our study, despite the assertion that it has. The Office for National Statistics changed the rules for selecting the underlying cause, when more than one cause is certified, in 1984, 1993 and 2001, see the Introduction of our article.² This is why we analysed all mentions as well as (not instead of) underlying cause.

We agree that, in a trends analysis, mortality data should be considered alongside incidence data, which

Table 1. Percentage difference between time periods in age-specific female breast cancer mortality rates per 100,000 population in England, underlying cause.*

Age group (years)	1980–84 vs. 1985–89	1990–94 vs. 1995–99	1990–94 vs. 2000–04	1990–94 vs. 2005–09	1985–89 vs. 2005–09
30–34	1.6	–13.8	–20.7	–48.3	–52.4
35–39	0.7	–8.2	–17.9	–32.1	–40.1
40–44	–3.0	–14.9	–28.6	–33.8	–38.4
45–49	–5.2	–13.4	–30.1	–38.2	–45.5
50–54	–4.0	–13.3	–28.0	–39.9	–45.4
55–59	–0.9	–16.9	–26.0	–34.2	–40.9
60–64	5.9	–16.7	–27.9	–33.3	–38.1
65–69	5.5	–15.6	–26.7	–34.7	–38.0
70–74	6.1	–10.1	–22.6	–29.0	–31.6
75–79	12.5	–10.1	–14.5	–22.3	–25.1

*Percentage difference between age-specific breast cancer mortality rates by time period presented in Supplementary Table 3.

is why we did precisely this when comparing incidence and mortality for England in Supplementary Figure 3.

Declarations

Competing interests: None declared

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