Authors’ reply

The observed closing of the life expectancy gap between men and women in our study of life expectancy trends in England and Wales, and the projections that this closing will continue, are consistent with data in other populations with small mortality differences between men and women. Investigators of the most recent of such reports concluded that “the current excess of female life expectancy in adulthood is a relatively new demographic phenomenon.”

The divergence and reconvergence of male–female mortality is well known to be largely due to different levels and trends in deaths from external causes (injuries) and from disorders such as lung cancer and cardiovascular diseases, for which risk factors (eg, smoking) have different trends in men and women. All of these causes of death are preventable, and many of them are treatable.

We are surprised that Frederick Peters and colleagues consider a 4 month per year rise in national life expectancy for men implausible. Many countries have maintained this sort of improvement for long periods of time. In addition to the rise of 4-1 months per year in England and Wales between 2002 and 2012, some examples of countries with an annual gain of at least 4 months in life expectancy for men include Japan (last half of the 20th century), New Zealand (1983–2011), and the Netherlands (1999–2013). Similarly, the forecasted 1.3 months per year closing of the female–male life expectancy gap in our study is similar to or even smaller than those found in other national populations. Australia (1998–2008), New Zealand (1997–2011), the Netherlands (1990–2012), Switzerland (1991–2010), and the USA (1990–2010) are examples of countries that have shown a rate of
decline in the life expectancy gap of 1.5–1.7 months per year.

The most rigorous approach to model testing is to confront the model with the task it is designed to do—in the case of forecasting, this task would be to estimate an unobserved future. For this reason, rigorous validation of forecasting models should be based on holding back data and measuring the bias and error of the forecasts relative to the withheld data, as we and others have done in forecasting studies. Supplementary figure 1 and tables 2–4 of our Article show that the chosen model best predicts data over the entire withheld period at the national as well as district levels, with virtually no bias.

Our study of life expectancy and life expectancy inequalities in England and Wales presents novel methods and results on subnational trends and forecasts that are strongly founded and related to the methodological and empirical research in statistics and population health.

We declare no competing interests.

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