Reply to Lynge et al

TO THE EDITOR—We appreciate the interest of Lynge et al in our article about the incidence of genital warts (GWs) after vaccination against human papillomavirus [1, 2]. As they correctly pointed out, we compared the incidence of GWs in vaccinated (receiving at least 1 dose) with that in unvaccinated women. For women vaccinated within the free vaccination program, vaccination was identified from the National Health Insurance Service Register, and for women who bought the vaccine themselves, we obtained the information on vaccination from the National Prescription Register. The vaccinations bought directly by the physicians, estimated to amount to 7%–10% in that period, are not included in our “vaccinated group” as they could not be linked to a specific individual. This implies that some women who were classified as unvaccinated in our article had actually received the vaccine, and this would tend to underestimate the effect of the vaccine. Furthermore, as mentioned and discussed in our paper, the women with GWs in our analysis were cases admitted to hospitals and outpatient clinics, so strictly speaking, the results may not be generalizable to diagnoses in the primary healthcare system. However, it may not be likely that vaccine effect would be very different between cases seen in hospitals/outpatient clinics and general practitioners and practicing specialists. Our results are in line with a Swedish study that, besides inpatient/outpatient GWs, also included use of pharmaceuticals for treatment of GWs (podophyllotoxin and imiquimod) in the GW case definition, thus including some of the GWs identified in primary healthcare [3].

Regarding the third point, in our analysis we only compare vaccinated women with unvaccinated women within birth cohorts: for example, for birth cohort 1989–1990 comparing vaccinated women with unvaccinated women where vaccinated women are counted as unvaccinated until vaccination; that is, they contribute person-time in the unvaccinated group until they are vaccinated. In addition, reporting the incidence over time by birth cohort implies that the time trends in incidence are confounded with age and the incidence is known to vary considerably in the considered age span. Moreover, the incidence rate of GWs has increased significantly since 2003 among young women in Denmark. Although the increase in the incidence rate among unvaccinated individuals tends to decline around 2008, it is difficult to quantify the selection bias from the historical rates in this study. Finally, we have now also retrieved data on socioeconomic status, and adjustment for mother’s education, for example, gave almost identical results.

We again thank Lynge et al for bringing some of their insightful thoughts to our paper.

Note

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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