

Private market uptake of varicella vaccination and related sociodemographic differences: A Danish nationwide observational study

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Background: Varicella is one of the most contagious diseases affecting approximately 90% of children before the age of ten, and thus constitutes a considerable health and societal burden. Currently, varicella vaccination is not part of the Danish National Immunization Program (NIP) but has been available for out-of-pocket purchase since 2019. No data are available on patterns in varicella vaccination uptake in Denmark.

Objectives: To determine private market uptake of varicella vaccination in Denmark from 2019 to 2022 and to examine potential sociodemographic differences.

Methods: This nationwide, population-based study was based on 1,320,408 individuals aged 1 to 18 years. Data on sociodemographic factors for children and their parents were obtained from Statistics Denmark's registers and linked to varicella vaccination status in the Danish Vaccination Register. Associations were estimated by crude and adjusted multivariable logistic regression models accounting for time trend as for the sibling dependency.

Results: Varicella vaccination coverage rates increased five-fold from 2019 to 2022, with the highest uptake in the youngest age-groups (<10 years). The likelihood of vaccination was markedly increased among children of parents with high education (aOR: 5.99, 95% CI: 4.50-7.98), high income (aOR: 3.06, 95% CI: 2.77-3.38), and education within medicine or nursing specifically (aOR: 1.87, 95% CI: 1.77-1.99). Further, varicella vaccination was most common in the capital and metropolitan areas of Denmark.

Conclusion: Varicella vaccination uptake is greater among children of families with high socioeconomic status and those living in capital/metropolitan areas.