

Childhood asthma—not associated with BCG vaccination

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Credit: Institut national de la recherche scientifique - INRS

Childhood asthma is a serious public health challenge in Québec and throughout the world. Although the immune mechanisms implicated in the development of childhood asthma are not fully understood, some studies seem to suggest that the BCG vaccine, used in tuberculosis prevention, may have a protective effect on childhood asthma. However there is no consensus and contradictory findings have been reported in other studies.

A research team at the INRS that included professors Marie-Claude Rousseau and Marie-Élise Parent has conducted the largest study on the subject to date. The results? No association was found between the [vaccine](#) and [childhood](#) asthma. The investigation, based on a large sample drawn from the Québec population, was published in the *American Journal of Epidemiology*.

The team had already compiled data from the registries and archives of the BCG vaccination campaign in Québec from 1956 to 1974, which led to a study previously published in the journal *Vaccine*. Combining some of these data with several reliable [public health](#) data sources on asthma and using a survey designed to collect information on relevant risk factors, they were able to investigate the presence of any links between BCG vaccination and asthma with a high degree of accuracy.

"It is rare that a vaccination registry covers an entire population," says Marie-Claude Rousseau, "particularly in North America. We are lucky that such a remarkable source of data was preserved here at Centre INRS-Institut Armand Frappier." "Dr. Armand Frappier," she continues, "led the fight against tuberculosis in Québec and saw things from a public health perspective. The data that he gathered and saved for the future are tremendously useful for epidemiological research."

Dr. Rousseau notes that the new study is undoubtedly the largest and most comprehensive ever undertaken to investigate the relationship between BCG vaccination and [asthma](#). It also adjusts for a broad range of confounders—factors that might otherwise distort the findings. The authors conclude that it might be time to look elsewhere for the determinants of [childhood asthma](#) and its prevention.

More information: Mariam El-Zein et al, Association Between Bacillus Calmette-Guérin Vaccination and Childhood Asthma in the Quebec Birth Cohort on Immunity and Health, *American Journal of*

Epidemiology (2017). [DOI: 10.1093/aje/kwx088](https://doi.org/10.1093/aje/kwx088)

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