

# Surveillance of the vaccination coverage of the 5-6 and 13-14 years-old school children in Geneva

Thibaut Merle<sup>1</sup>, Emilien Jeannot<sup>2,3</sup>

1. Institute of Global Health - Faculty of Medicine, Chemin de Mines 9, 1202 Geneva, Switzerland; thibaut.merle@etu.unige.ch

2. Institute of Global Health - Faculty of Medicine, Chemin de Mines 9, 1202 Geneva, Switzerland; emilien.jeannot@unige.ch

3. Community Psychiatric Service, Lausanne University Hospital (CHUV), Lausanne, Switzerland

## Introduction

Vaccination coverage rate was a key to evaluating childhood immunization programs.

Schools have been identified as a potentially promising setting for adolescent vaccination.

## Results

We have collected 1'994 records of 2th and 8th grade children. For all the vaccines studied in this study the rates of immunization were significantly better in 2nd than for the children in 8th grade ( $p < 0.0001$ ).

	Fully vaccinated 2 <sup>nd</sup> grade % (CI 95%) N=1'084	Fully vaccinated 8 <sup>th</sup> grade % (CI 95%) N=910	Critical Coverage needed to block transmission of infectious agent (percent)[13]	P
Diphtheria	96.2 (95.4-96.9)	84.5 (82.0-86.8)	80-85	< 0.0001
Tetanus	96.2 (95.5-96.9)	85 (82.5-87.1)	80-85	< 0.0001
Pertussis	96.1 (95.3-96.8)	82.3 (77.2-84.7)	92-95	< 0.0001
Polio	95.4 (94.6-96.2)	84.4 (81.9-86.6)	80-85	< 0.0001
Hib	89.7 (88.5-90.8)	71.5 (68.4-74.3)	NA	< 0.0001
Measles	92.2 (91.2-93.2)	84.2 (81.7-86.4)	92-95	< 0.0001
Mumps	90.9 (89.8-92)	83.1 (80.5-85.4)	90-92	< 0.0001
Rubella	90.9 (89.7-91.9)	83.2 (80.6-85.5)	85-87	< 0.0001
Hepatitis B	45.7 (42.8-48.7)	61 (58.3-64.6)	NA	< 0.0001

Table 2 - Vaccinations status of 2nd grade and 8th adolescents in Geneva, Switzerland

## Objective of the study

A descriptive cross-sectional school-based study was carried out. The objectives were to assess the immunization coverage of children aged 5–6 years and 13–14 years during the 2017–2018 school year in the canton of Geneva in Switzerland, and to identify sociodemographic factors associated with full immunization in these children

## Methods

The data extracted from the vaccination cards included dates of administration of all doses of diphtheria, tetanus, Pertussis, Polio, Heamophilus influenza type b, Measles, Mumps, Rubella and Hepatitis B.

Other data collected were socio-demographic and economic factors including; gender, citizenship and socio-professional status of parents.

## Discussion

Children in 2nd grade, we can observe high cover rates (superior of 95 %) for a certain number of vaccine (diphtheria, tetanus, pertussis and polio). On the other hand, for the vaccination MMR the rates for vaccinal coverage are sufficient (90-92 %) but at limit level required to have a herd immunity [13]. These rates are even lower for the 8th grade pupils

Spanish pupils living in Switzerland have a higher coverage (nearly twice) than swiss pupils. One of the explanations is the vaccination coverage in Spain who is one of the higher in the European Union.

## Conclusion

The data collection of the vaccination card allows a regular surveillance of the vaccination coverage of the pupils and can be easily made in schools. It offers the possibility of following the evolution of vaccination rates and strengthening prevention messages