

Influenza immunisation coverage among children and adolescents with medical preconditions in Germany

Abstract

For more than 30 years, the German Standing Committee on Vaccination (STIKO) has recommended that children and adolescents with certain medical preconditions receive an annual influenza vaccination.¹ An analysis of health claims data from the Associations of Statutory Health Insurance Physicians (ASHIP) covering 11 seasons (2014/15 through 2024/25) now shows: Only around 10 % of children and adolescents with medical preconditions had an influenza vaccination during the respective influenza season. Given an estimated at-risk population of about 1.2 million children and adolescents, there is a significant potential for improving immunisation coverage – including, and particularly, in the upcoming 2026/27 season.

Background and methodology

For individuals with an increased health risk, e.g. due to certain medical preconditions or individual risk factors, immunisation against seasonal influenza is recommended every autumn/winter for those aged ≥ 6 months.^{2,3} There is currently no general recommendation for influenza immunisation for all children and adolescents. As part of its immunisation coverage monitoring program, the Robert Koch Institute (RKI) annually analyses and publishes data on the uptake of the seasonal influenza vaccine as a routine immunisation for individuals aged ≥ 60 and as an immunisation recommended for specific groups of people, including adults with medical preconditions and pregnant women.^{4–8} Until now, no estimates were available for children and adolescents with medical preconditions.

This brief report presents, for the first time, the influenza immunisation coverage among children and adolescents with medical preconditions. In the future, it will be included in the annual reporting on immunisation coverage. The vaccination coverage presented here, as well as updated estimates for the

2025/26 season following the next data update in December 2026, will then also be available via the RKI's immunisation dashboard "VacMap" (<https://www.rki.de/vacmap>).

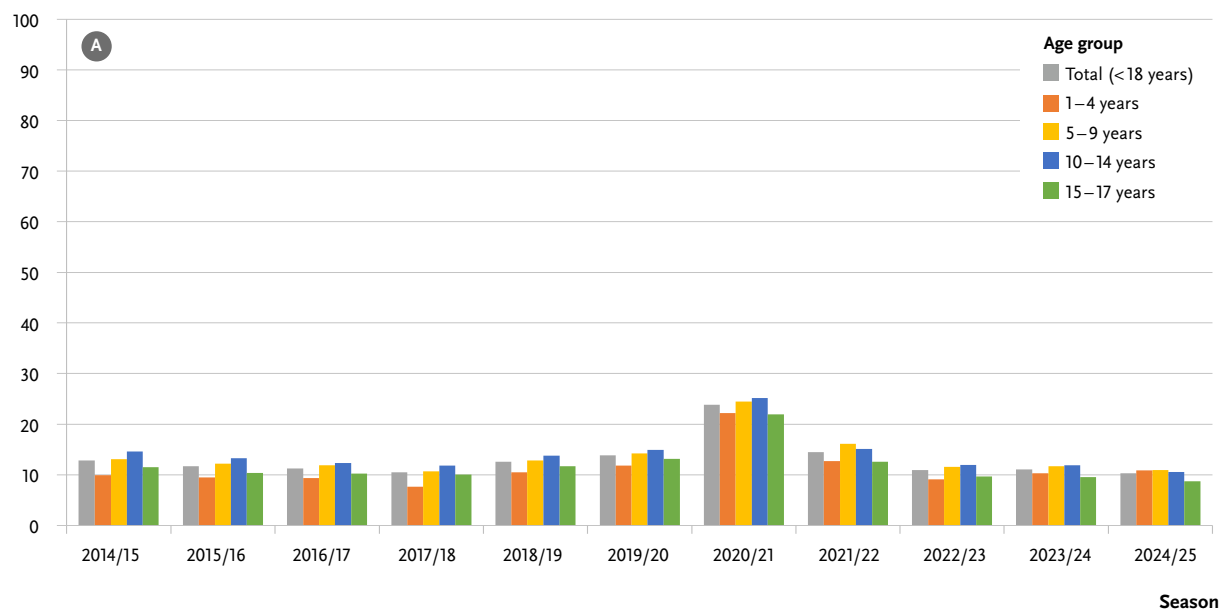
The analysis is based on pseudonymized outpatient claims data from physicians participating in the statutory health insurance system, which are submitted quarterly to the RKI by the ASHIPs in accordance with Section 13(5) of the German Infection Protection Act. The data sets contain information on billed immunisation services, preventive medical checkups, and diagnoses. Each season (2014/15 through 2024/25) was analysed separately using a cohort design and the same methodology that was previously applied to calculate immunisation coverage among adults. The seasonal study populations were defined based on documented contacts with statutory health insurance physicians. Using a pseudonymous identifier, documented immunisations and diagnoses of selected medical preconditions were linked at the individual level. This made it possible to determine, for each season, what proportion of children and adolescents with a medical precondition had been immunised against influenza. Due to differences in the availability of the data required for the analysis, all 17 ASHIPs could only be included from the season 2018/19 onwards (2014/15: 11 ASHIPs, 2015/16: 13 ASHIPs, 2016/17: 15 ASHIPs, 2017/18: 16 ASHIPs). Since then, an average of 7.3 million children and adolescents have been included in the analysis per season (range: 7.0–7.5 million). The 2020/21 season was an exception, with just under 5.9 million children and adolescents included, due to the lower use of outpatient medical services during the COVID-19 pandemic. Depending on the season, between 7 % and 9 % of the children and adolescents included had a medical precondition relevant to the immunisation recommendation. Further details on the methodology and limitations of the analysis have been described in detail elsewhere.^{5,7}

Results

In the 2024/25 season, the influenza immunisation coverage among children and adolescents with medical preconditions was very low, at around 10 % (Figure 1A). The differences between age groups were minimal. Coverage was lowest among 15- to 17-year-olds at 9 %; in the other age groups, it was

11 %, respectively. At the federal state level, immunisation coverage ranged from 8 % to 16 %, with six federal states reporting coverage below 10 % (data not shown). The highest immunisation coverage was observed in Saxony-Anhalt (16 %) and Saxony (14 %).

Immunisation coverage in %



Immunisation coverage in %

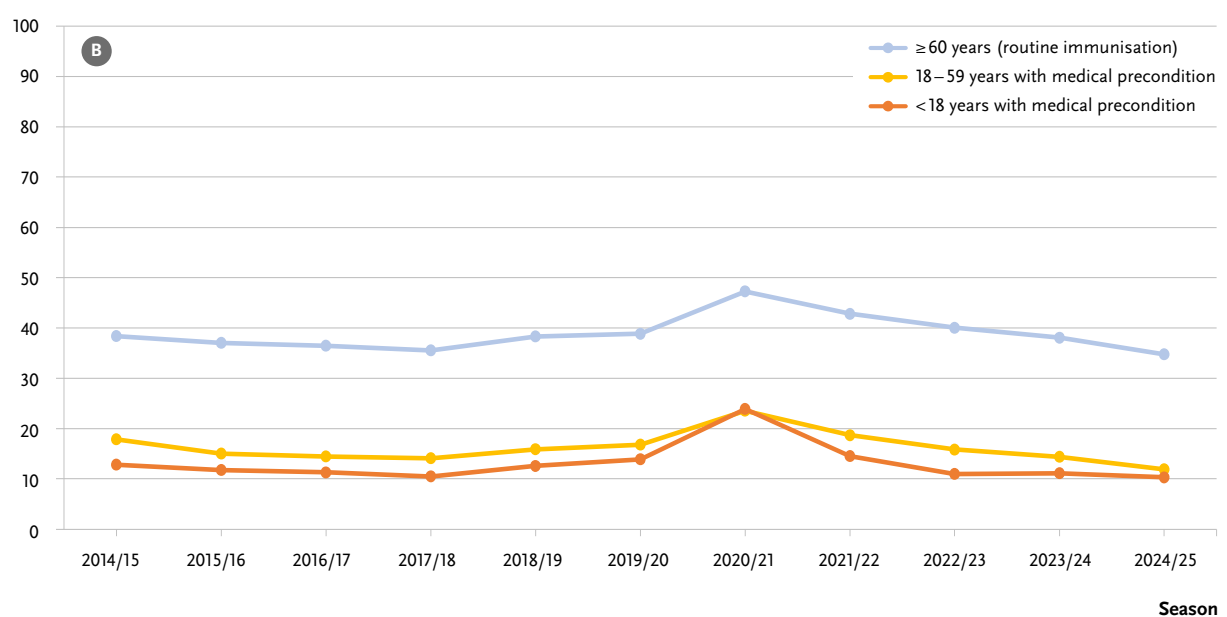


Fig. 1 | Nationwide uptake of the influenza immunisation (routine immunization or immunization for individuals with medical precondition) for the 2014/15–2024/25 seasons among A) children and adolescents, by age group, and B) children, adolescents, and adults.

Over the entire observation period since the 2014/15 season, immunisation coverage remained largely stable. It increased temporarily to 24 % only during the COVID-19 pandemic in the 2020/21 season, before subsequently returning to its previous level. A similar trend over time was observed among adults aged 18 to 59 with medical preconditions, as well as among older adults aged ≥ 60 years for whom routine immunisation is recommended (Figure 1B).

Overall, immunisation coverage among children and adolescents with medical preconditions was similarly low to that among adults aged 18 to 59 with medical preconditions (e.g., 10 % and 12 % in the 2024/25 season). People aged ≥ 60 years had substantially higher immunisation coverage (e.g. 35 % in the 2024/25 season). This suggests that age plays an important role in the uptake of the influenza immunisation. However, even among people aged ≥ 60 years, immunisation coverage remains well below the 75 % target for risk groups, as set out in the European Immunisation Agenda 2030 (EIA2030).⁹

Comprehensive data on the prevalence of chronic conditions constituting an indication for influenza vaccination among children and adolescents in

Germany are currently lacking. Studies published to date have focused primarily on individual conditions or selected groups of conditions, such as autoimmune diseases, life-threatening or life-shortening conditions.^{10–13} Extrapolating the findings of the present analysis to the total population of children and adolescents in Germany yields an estimated at-risk population of approximately 1.2 million children and adolescents with medical preconditions. If immunisation coverage remains unchanged, approximately 1.1 million children and adolescents with medical preconditions would therefore remain unprotected against influenza in the 2026/27 season.

Conclusions

Influenza immunisation coverage among children and adolescents with medical preconditions in Germany is very low. In recent seasons, only about 1 in 10 children and adolescents with medical preconditions were immunised against influenza. Raising awareness amongst doctors about influenza immunisation for children and adolescents with medical preconditions could make an important contribution to preventing severe influenza outcomes.

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Conflict of Interest

All authors declare that there is no conflict of interest.

Disclaimer

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