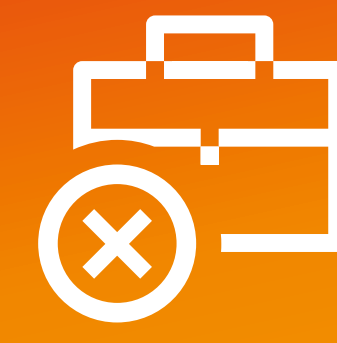


Regional Inequity in 4CMenB Vaccination Rates in Austria & Correlation with Unemployment: A Retrospective Ecological Study



4CMenB vaccination uptake rate in Austria was negatively correlated with unemployment



SCAN ME

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Aims

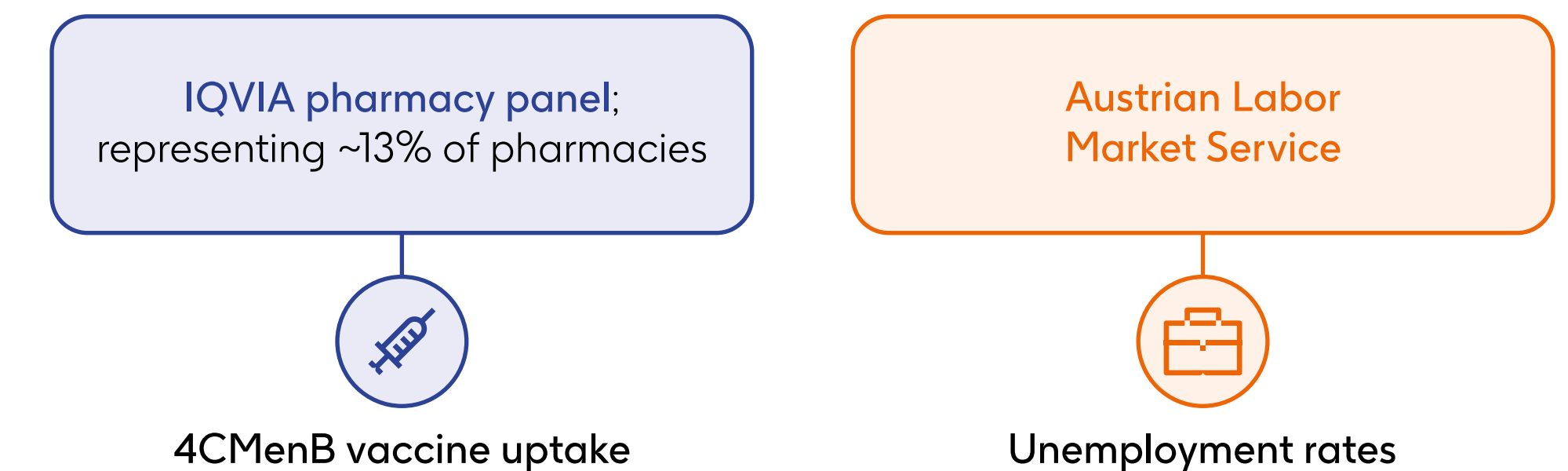


To investigate four-component MenB (4CMenB) vaccination rate per births and its association with unemployment in Austria

Methods

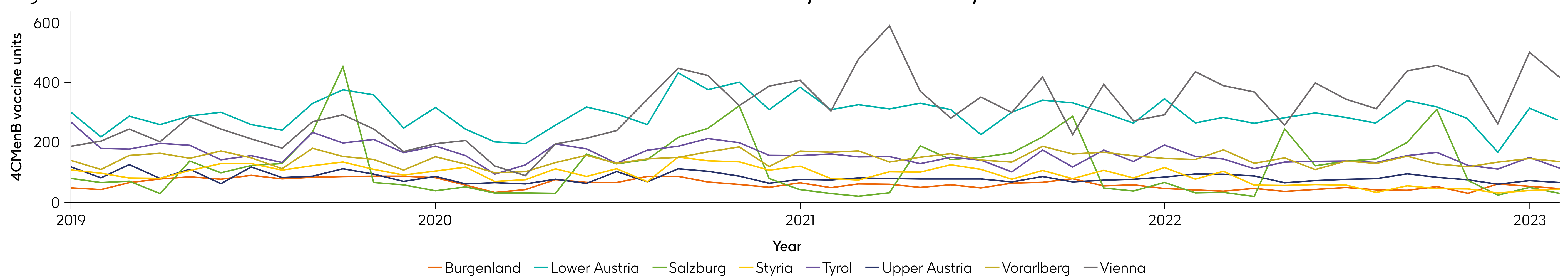
- In this retrospective, ecological correlation study, 4CMenB vaccine uptake and unemployment data were obtained (Figure 1)
- 4CMenB vaccination rate was estimated as total doses distributed, divided by doses required for newborns in the catchment population
- Correlation between 4CMenB vaccination rates and unemployment rates at district and municipality levels were assessed using Spearman's coefficient

Figure 1: Schematic of databases used



Results

Figure 2: 4CMenB vaccination units sold across Austrian federal states from January 2019 to February 2023

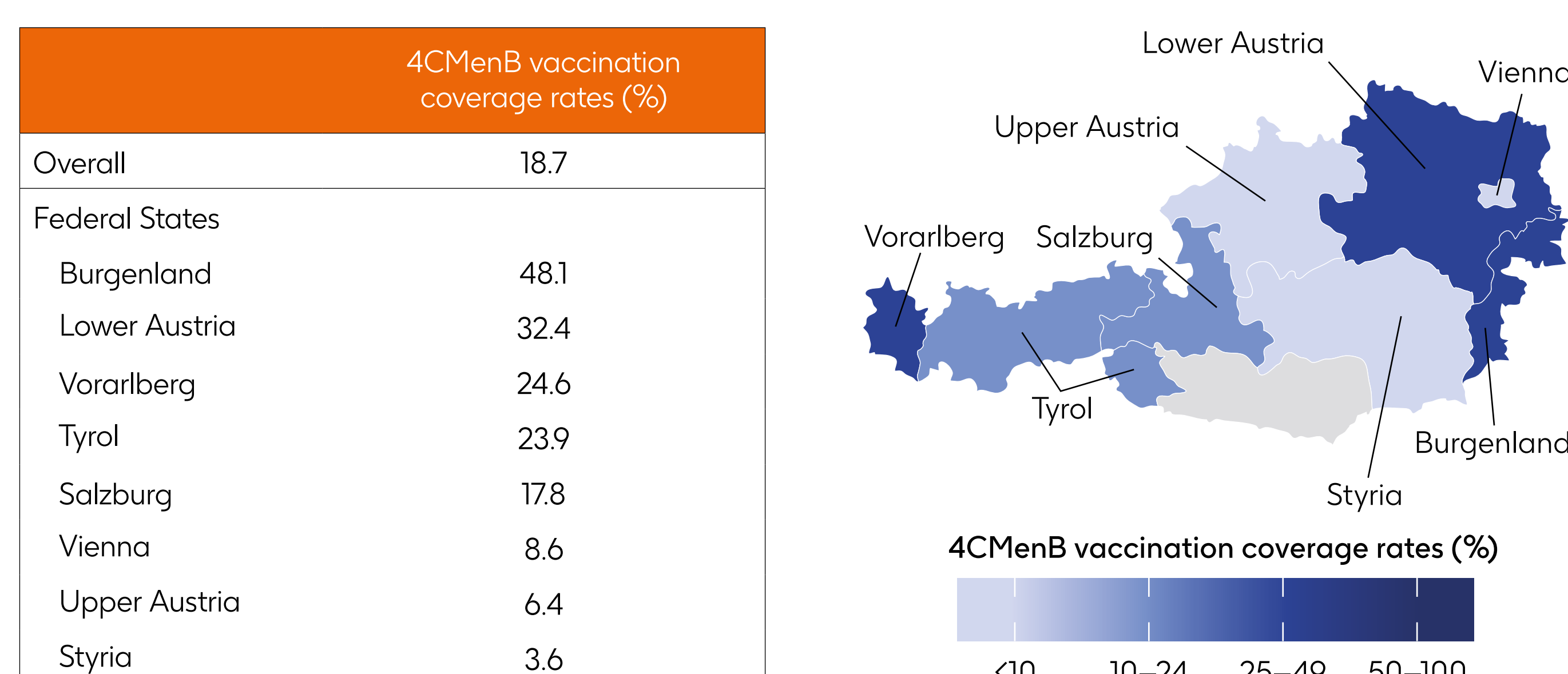


4CMenB units sold from January 2019–February 2023

Vaccination rates

- Seasonal fluctuations in the number of 4CMenB vaccine units sold can be observed across Austrian federal states (Figure 2)
- Base case (2022 births) Austrian 4CMenB vaccination rate was 18.7% for a small proportion of the national population
- Highest vaccination rates were observed in Burgenland and Niederösterreich, while the lowest were observed in Oberösterreich and Steiermark (Figure 3)

Figure 3: 4CMenB vaccination coverage rates across Austrian federal states in 2022

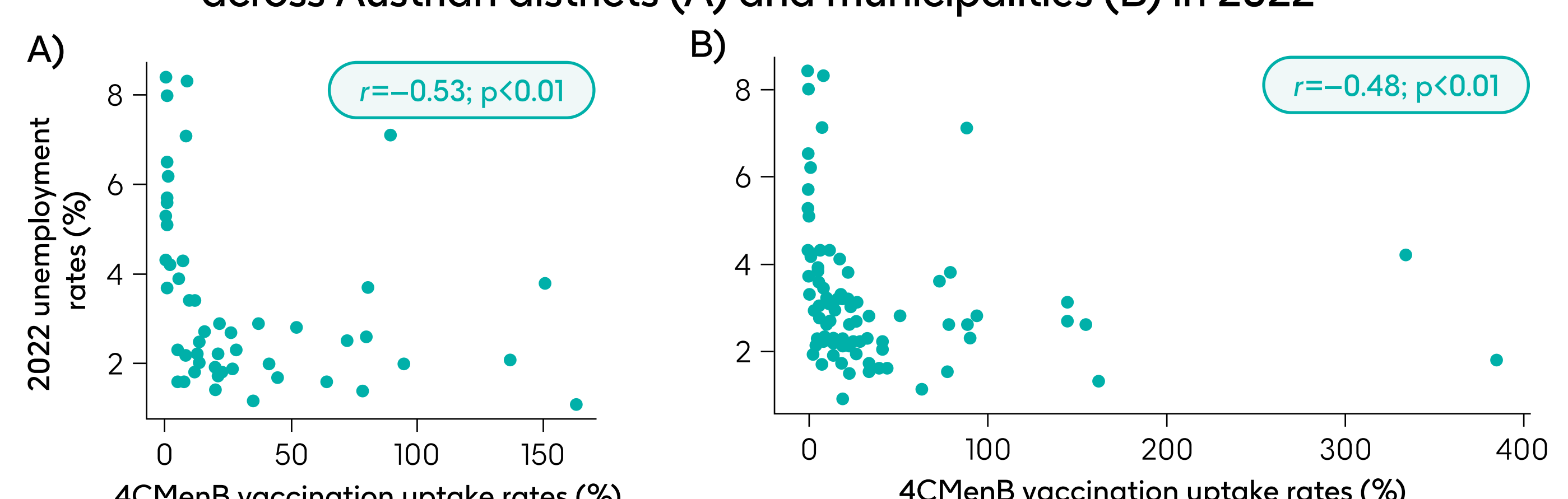


4CMenB vaccine uptake from January 2022–February 2023. Carinthia was excluded from analysis as an outlier; Carinthia vaccination rates were inflated by one pharmacy, with similar observations made for other vaccines

Correlation between vaccination uptake rates and unemployment rates

- Base case analysis at district and municipality levels showed that unemployment rates correlated negatively and significantly with 4CMenB vaccination uptake rates ($r=-0.43$; $p<0.001$ for both district and municipality levels)
- This correlation remained significant when excluding Vorarlberg, Salzburg and Burgenland as regions with partial reimbursement, at both district and municipality levels (Figure 4)
- Sensitivity analyses showed similar results across Austrian districts and municipalities when the correlation analysis was repeated for 2019 ($r=-0.47$, $p<0.01$ and $r=-0.28$, $p<0.01$, respectively) and 2021 ($r=-0.36$, $p<0.01$ and $r=-0.27$, $p<0.01$, respectively)

Figure 4: Correlation between 4CMenB vaccination uptake rates and unemployment rates (excluding regions with partial reimbursement) across Austrian districts (A) and municipalities (B) in 2022



Correlation measured using Spearman's coefficient; Two-tailed p-value used. 4CMenB vaccination uptake from January 2022–February 2023; unemployment rate in 2022

Background

- Despite a recent decline in invasive meningococcal disease (IMD) cases, meningococcal serogroup B (MenB) remains the most reported IMD serogroup in Europe¹
- The 4CMenB vaccine provides protection against MenB²
- MenB vaccination is recommended in Austria for those aged 2 months–<25 years, but is not included in the National Immunisation Program³
- As it is a non-funded vaccine, access to 4CMenB vaccine may vary by region and socioeconomic status

Conclusions



This study was limited by database coverage and uncertainties in vaccination rates, as not all Austrian pharmacies were included and it was assumed that vaccination rates represent the maximum achievable rates based on distributed doses



Despite this, the analysis showed that 4CMenB vaccination uptake rate in Austria was negatively correlated with unemployment, a socioeconomic factor with disparity across different regions in Austria⁴



Inclusion of the 4CMenB vaccine into Austria's National Immunisation Program could reduce the inequity seen in vaccination rates

Abbreviations

4CMenB, four-component MenB; IMD, invasive meningococcal disease; MenB, meningococcal serogroup B

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Disclosures

GN: employee of, holds financial equities in and has received grants/contracts from GSK; GU: employee of GSK; AGA and AM: employees of and hold financial equities in GSK; KB and JG: employees of IQVIA which was paid by GSK to conduct this study

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