

Supplementary Online Content

Flannery DD, Zevallos Barboza A, Mukhopadhyay S, et al. Antibiotic use among infants admitted to neonatal intensive care units. *JAMA Pediatr*. Published online October 9, 2023. doi:10.1001/jamapediatrics.2023.3664

eMethods. Supplemental Methods

This supplementary material has been provided by the authors to give readers additional information about their work.

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Data acquisition and analysis took place from August 1, 2021, to November 30, 2022.

The data source was Premier Healthcare Database (Premier Inc), a large administrative database of inpatient encounters from geographically diverse participating academic and community hospitals across the United States. Details on data source, type, and scope are available on the Premier website (<https://products.premierinc.com/downloads/PremierHealthcareDatabaseWhitepaper.pdf>).

Admission to the NICU was defined using room and board charges. The day of birth was defined as the day of hospital admission because only inborn infants were included. Length of stay was defined based on hospital service days and included both admission day and discharge day. Only antibiotics with an ascribed parenteral route were included. For drugs with unknown or other routes, an infectious disease pharmacist performed manual review of the charge descriptions to ascertain the route.

The annual proportion of infants with an antibiotic exposure was calculated by dividing the number of unique infants receiving an antibiotic for at least one day during each by the number of unique infants who were admitted to the NICU that year.

Generalized linear regression was used to estimate average annual absolute differences from 2009 to 2021 in the proportion of infants with antibiotic exposure using binomial distribution to model binary outcomes and identify link function to estimate the absolute difference. Generalized linear regression was also used to estimate the relative change in DOT per 1000 patient days from 2009 to 2021 using negative binomial distribution to model counts and log link function to estimate a relative risk; 1 minus that relative risk is the estimated relative change. Both models accounted for clustering by NICU.