weight in infants. We simulated 10 confounders, and a dichotomous exposure variable conditional on these confounders. We generated a binary outcome Y conditional on both exposure and covariates, setting the true exposure effect to OR = 2.0. We examined two scenarios interchanging exposure misclassification between cases and non-cases, for varying levels of sensitivity and specificity. We fit models based on the misclassified exposure and compared five common PS methods (matching[M], regression adjustment [RA], inverse probability of treatment weighting [IPTW], standardized mortality weighting[SMRW], and stratification[S])in terms of bias and coverage of 95% confidence intervals.

Results: PS estimates were similar in most scenarios, with some exceptions. For fixed specificity and misclassified non-cases, losses in sensitivity resulted in greater bias and lower coverage for weighting estimators (bias [−30%, −20%] for SMRW and IPTW, vs [−15%, −7%] for M, S, and RA). On the contrary, weighting estimates performed better with losses of specificity only when cases were misclassified (bias <10% for IPTW and SMRW, vs >20% for S, M, and RA).

Conclusions: These preliminary results suggest researchers should consider exposure misclassification when choosing a PS method for confounding control.

882. Comparison of Statistical Efficiency of Self-controlled Case Series and Case-Crossover Designs in Vaccine Safety

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Background: Safety of vaccines is very relevant for the benefit /risk of a vaccine since vaccinees are generally healthy individuals. To build capacity and provide information on serious and rare events following immunization, global collaborative studies are promoted by WHO, including higher and lower income settings. Case-only designs are very efficient and feasible through sentinel sites in all settings. The self-controlled case series (SCCS) has been widely used for vaccine safety assessment, but requires follow-up after the event occurs, which may be complicated in settings without automated registries. The case-crossover (CCO) has been used in the drug area is case-only and does not require post-event follow-up. We wanted to explore whether the case-crossover would be suitable for sentinel based case only designs.

Objectives: To compare statistical efficiency of two case-only designs: SCCS and CCO using a simulation study.

Methods: We simulated scenarios where each child with start of follow-up at age 270 and end of follow-up at 732 days was exposed to the vaccine and encountered the event. We varied the distribution of exposure dates from being uniform over the full follow-up till short periods during follow (mimicking fixed age of vaccination schedule). The ratio of probability of an event in the period following the vaccination compared to the remainder of the follow-up was fixed, representing the true incidence rate ratio. SCCS and CCO analyses were performed on these data. To inspect the impact of censoring on discharge date in the SCCS analysis, we censored the follow-up information after event for part of the cases, in a sub-analysis.

Results: Both SCCS and CCO analyses produced unbiased results when the exposure dates were uniformly distributed over the full follow-up period. The CCO was less efficient since only the period before case occurrence was used to assess exposure. Variation in distribution of exposure dates did not bias the result of the SCCS when the full follow-up information was available. However, when the follow-up information was censored at discharge and the exposures were distributed closer to either start or end of follow-up, SCCS gave biased results. CCO was found to less biased in these scenarios. However, in all examples, the SCCS was found to be more efficient than CCO analysis.

Conclusions: In situations where the assumption for SCCS of independence of follow-up duration from event occurrence is not fulfilled, CCO is unbiased but much less efficient.

883. Abstract Withdrawn

884. The Use of Group-Based Trajectory Models to Characterize Longitudinal Patterns of Nonmotor Symptoms in Patients with Parkinson's Disease in Japan

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