

Correction

Correction to: Consistent and fast inference in compartmental models of epidemics using Poisson Approximate Likelihoods

This is a correction to: Michael Whitehouse, Nick Whiteley, Lorenzo Rimella, Consistent and fast inference in compartmental models of epidemics using Poisson Approximate Likelihoods, *Journal of the Royal Statistical Society Series B: Statistical Methodology*, Volume 85, Issue 4, September 2023, Pages 1173–1203, <https://doi.org/10.1093/jrsssb/qkad065>

Table 1 in section 7.3 of [Whitehouse et al., 2023b] presents AIC values for three variants of the PAL method, and one AIC value quoted from [Stocks et al., 2020]. All four AIC values were derived from the same raw count data, but the results for the three PAL methods were obtained via a different method of pre-processing than that applied by [Stocks et al., 2020, Stocks, 2017]. The R script [Whitehouse et al., 2023a] details both pre-processing methods. In [Stocks, 2017] the raw case counts for each age group are re-scaled by under-reporting rates, then rounded to integers and summed across regions. For all three PAL results, the raw case counts for each age group were directly summed across regions, with under-reporting accounted for by model parameters as described in [Whitehouse et al., 2023b, Sec 7.3.1], rather than by pre-processing. The relationship between the discrete, count values output from the two pre-processing methods is not bijective. Consequently, whilst the AIC values for PAL in the first three lines of table 1 are well-defined in their own right and can be meaningfully compared to each other, it is incorrect to compare them to the AIC value quoted from [Stocks et al., 2020]. Consequently the comments in the last two paragraphs of section 7.3 about comparison of model fit between the three PAL methods and [Stocks et al., 2020] should be disregarded. Similarly, the ARMA benchmark AIC value reported in section 7.3 was computed for the data pre-processed as per [Stocks et al., 2020] and should be disregarded. The interested reader is directed to [Hao et al., 2024, Hao, 2024] for further analyses of the rotavirus data under alternative models, with marginal likelihoods computed using SMC. We are very grateful to the authors of [Hao et al., 2024] for bringing this issue to our attention.

As a separate matter, in the Funding section of [Whitehouse et al., 2023b], a studentship from the EPSRC Centre for Doctoral Training in Computational Statistics and Data Science (Compass) is mentioned without the EPSRC funder grant number, which is EP/S023569/1.

References

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- Michael Whitehouse, Nick Whiteley, and Lorenzo Rimella. Consistent and fast inference in compartmental models of epidemics using Poisson Approximate Likelihoods. *Journal of the Royal Statistical Society Series B: Statistical Methodology*, 85(4):1173–1203, 2023b.

These emendations are outlined only in this notice to preserve the version of record.