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*Response: Checked no changes required*

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Combined multiplex panels and test error

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CH is Principal Investigator and AF is the Chief Investigator of the AvonCAP study which is an investigator-led University of Bristol study funded by Pfizer (<https://www.bristol.ac.uk/translational-health-sciences/research/bcvc/research/avoncap-study/>). RC, AC, GQ, GO, RK, and LD also receive research funding from Pfizer via the AvonCAP study. AF leads another project investigating transmission of respiratory bacteria in families jointly funded by Pfizer and the Gates Foundation. AF is a member of the Joint Committee on Vaccination and Immunization (JCVI) pneumococcal subcommittee. Funding for the AvonCAP study was provided by Pfizer, however, the manuscript development and the analysis that is the subject of this manuscript were conducted independently of the AvonCAP study and Pfizer. Pfizer had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Author contributions (unchanged):

RC and LD generated the research questions. RC, KTA, LD performed the mathematical analysis and simulations, and RC created the supporting software package. AC and LD provided validation of the methods. LD, KTA and AF provided supervision of the research. RC developed the first draft of the manuscript. RC, AC, GQ, GO, RK, CH, AF, KTA and LD contributed to the final editing of the manuscript and its revision for publication and had responsibility for the decision to publish.

Data and code availability (CHANGED to include information from the supporting information field):

All data and code used for running experiments, model fitting, and plotting is available on a GitHub repository at <https://bristol-vaccine-centre.github.io/testerror/>. This is in the form of an R package providing methods to support the estimation of epidemiological parameters based on the results of multiplex panel tests and it is deployed on the Bristol Vaccine Centre r-universe (<https://bristol-vaccine-centre.r-universe.dev/testerror>). We have also used Zenodo to assign a DOI to the repository: doi:10.5281/zenodo.7691196.