

A. John Petkau

Selected Recent Publications

Kempf, G., Ng, H.S., **Petkau, J.**, Tremlett, H., Zhu, F. & Zhao, Y. Multi-state modelling in long-term follow-up studies, with application to a multiple sclerosis cohort. *Journal of Clinical Epidemiology*, published online April 27, 2025.

Sadatsafavi, M. & **Petkau, J.** Non-parametric inference on calibration of predicted risks. *Statistics in Medicine*, **43**, 3524-3538 (2024).

Safari, A., **Petkau, J.**, FitzGerald, M.J. & Sadatsafavi, M. A parametric model to jointly characterize rate, duration and severity of exacerbations in episodic diseases. *BMC Medical Informatics and Decision Making*, **23**, article 6, 11 pages, doi:10.1186/s12911-022-02080-5 (2023).

Lee, T.Y., **Petkau, J.** & Sadatsafavi, M. Long-term natural history of severe asthma exacerbations and their impact on the disease course. *Annals of the American Thoracic Society*, **19**, 907-915 (2022).

Karim, M.E., Tremlett, H., Zhu, F., **Petkau, J.**, & Kingwell, E. Dealing with treatment-confounder feedback and sparse follow-up in longitudinal studies: application of a marginal structural model in a multiple sclerosis cohort. *American Journal of Epidemiology*, **190**, 908-917 (2021).

Högg, T., Zhao, Y., Gustafson, P., **Petkau, J.**, Fisk, J., Marrie, R.A. & Tremlett, H. Adjusting for differential misclassification in matched case-control studies utilizing health administrative data. *Statistics in Medicine*, **38**, 3669-3681 (2019).

Kingwell, E., Leray, E., Zhu, F., **Petkau, J.**, Edan, G., Oger, J. & Tremlett, H. Multiple sclerosis: Effect of beta-interferon treatment on survival. *Brain*, **142**, 1324-1333 (2019).

Karim, M.E., **Petkau, J.**, Gustafson, P., Platt, R.W., Tremlett, H. & the BeAMS Study Group. Comparison of statistical approaches dealing with time-dependent confounding in drug effectiveness studies. *Statistical Methods in Medical Research*, **27**, 1709-1722 (2018).

Högg, T., **Petkau, J.**, Zhao, Y., Gustafson, P., Wijnands, J.M.A. & Tremlett, H. Bayesian analysis of pair-matched case-control studies subject to outcome misclassification. *Statistics in Medicine*, **36**, 4196-4213 (2017).

Kondo, Y., Zhao, Y. & **Petkau, J.** Identification of treatment responders based on multiple

longitudinal outcomes with applications to multiple sclerosis patients. *Statistics in Medicine*, **36**, 1862-1883 (2017).

Riddell, C., Zhao, Y. & **Petkau, J.** An adaptive clinical trials procedure for a sensitive subgroup examined in the multiple sclerosis context. *Statistical Methods in Medical Research*, **25**, 1330-1345 (2016).

Reich, D.S., White, R., Cortese, I.C.M., Vuolo, L., Shea, C.D., Collins, T.L. & **Petkau, J.** Sample size calculations for short-term proof-of-concept studies of tissue protection and repair in multiple sclerosis lesions via conventional clinical imaging. *Multiple Sclerosis*, **21**, 1693-1704 (2015).

Kondo, Y., Zhao, Y. & **Petkau, J.** A flexible mixed effect negative binomial regression model for detecting unusual increases in MRI lesion counts in individual multiple sclerosis patients. *Statistics in Medicine*, **34**, 2165-2180 (2015).

Karim, M.E., Gustafson, P., **Petkau, J.**, Zhao, Y., Shirani, A., Kingwell, E., Evans, C., van der Kop, M., Oger, J. & Tremlett, H. Marginal structural Cox models for estimating the association between beta-interferon exposure and disease progression in a multiple sclerosis cohort. *American Journal of Epidemiology*, **180**, 160-171 (2014).

Zhao, Y., Li, D.K.B., **Petkau, A.J.**, Riddehough, A. & Traboulsee, A. Detection of unusual increases in MRI lesion counts in individual multiple sclerosis patients. *Journal of the American Statistical Association*, **109**, 119-132 (2014).

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