

Flexible and practicable regression model-building for investigating infection severity

- ▶ **Context:** Identifying how risks of severe events after respiratory infections vary with sociodemographic and clinical predictors
- ▶ **Data:** Cohort studies of moderate size (1000 - 10000 individuals, 10-50 predictors). Censored times to events.
- ▶ **Considerations:** Both continuous and categorical covariates. All expected to be predictive of risks to a greater or lesser extent. Nonlinear effects and interactions are likely. Hazards and hazard ratios change over time. Multiple severe events of interest, so need multiple time-to-event models. Answers needed rapidly in an ongoing epidemic.
- ▶ **Aim:** Develop a sensible, practicable “default approach” to building regression models.

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