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To the Editors of *Proceedings of the National Academy of Sciences*

We would like to submit our article titled 'Assessing the effects of date and sequence data in phylodynamics' for consideration as a *Research Article* to *Proceedings of the National Academy of Sciences*.

Infectious disease phylodynamics has had a profound impact in recent pandemics and outbreaks by exploiting the information in genomic sequence data to infer epidemiological parameters. In our manuscript we introduce a novel method to tease apart the effects of date and sequence data in phylodynamic analyses. The field has lacked a way to answer this question until now, and we expect our method will be of great interest to developers and users of phylodynamic models. Moreover, with the ever-increasing scale of pathogen genome sequencing our method provides an inroad to exploring optimal sampling design for genomic surveillance.

The core results of our manuscript are:

- The first method to tease apart the signals of date and sequence data in phylodynamic analysis.
- Detailed discussion of how to interpret the output of our method with application to simulated and empirical data.
- Consistency with earlier results surrounding the relative impacts of date and sequence data under the birth-death phylodynamic model.

We believe that our report addresses a prescient question that will be of interest to readers of *Proceedings of the National Academy of Sciences* alongside other key contributions to the field published in the journal.

Yours sincerely,

Leo Featherstone (corresponding author)