

Table S1. Results of the simulation study with $R_0=1.5$, evolutionary rate of 0.01 subs/site/year, and late sampling starting at 0.9 years of a total time of 1 year. The rows correspond to the seven treatments. The first two columns denote the number of simulations (out of 100) where the value used to generate the data was contained within the 95% highest posterior density (HPD). The last two columns are a measure of precision of the estimates calculated as the estimated mean estimate of R_0 and the evolutionary rate divided by the 95% HPD width, such that large values imply low precision. Here we report the mean value over 100 simulations.

	R_0 within 95% HPD	Evol. rate within 95% HPD	Mean R_0 / HPD width	Mean evol. rate / HPD width
Late sampling BD const.	0	37	0.20	0.39
Late sampling BD skyline	92	93	0.25	0.54
Late sampling Coal. exp.	80	87	0.27	0.59
Constant sampling BD const.	97	94	0.16	0.23
Constant sampling Coal. exp.	96	92	0.16	0.23
Notifications BD const.	92	86	0.16	0.35
Notifications Coal. Exp	66	69	0.23	0.43