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REAL TIME ESTIMATION OF REPRODUCTION BASED ON CASE NOTIFICATIONS

- Effective reproduction number of primary pneumonic plague

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Abstract: To estimate the time-dependent transmission potential o plague (PPP), we analyzed historical records from six outbreaks. B investigation information (source of infection information) of three o the probability density function of the serial interval with a Gamma d maximum likelihood estimations. Furthermore, we used a likelihood estimate effective reproduction numbers at time t, R_t, incorporating remaining three outbreaks by assuming independence within unkno

According to our estimates, the R_t of PPP during the initial phases c
roughly in the order of 1.3 (95% confidence interval (CI): 0.0-4.3)
4.6) in Rangoon and 6.5 (0.0-16.0) in Ecuador. The expected valu
slightly exceed unity, even in latter stages. While declining trends in
Oakland and Ecuador, no such trend was observed in Rangoon. Th
the three outbreaks investigated could have been accompanied by c
stochasticity. The statistical usefulness of the transformation procedu
number of recorded cases available, was demonstrated, and the ex
bioterrorism using *Yersinia pestis* were discussed.

Key words: Primary pneumonic plague, *Yersinia pestis*, Reprodu
Maximum likelihood estimation

[PDF (83K)] [References]

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