**Results**

1. The posterior estimates of the model parameters varied in efficiency (table nums) and accuracy (figure nums) for all four model calibration methods compared.

When the targets comprised prevalence at time 50 and prevalence at time 75 (Scenario 1), BMLE was more efficient (10.07 mins) in terms of computational cost, followed by Rejection ABC (14.31 mins) and then sequential ABC (32.13 mins) (table num).

The posterior density for rejection ABC was further from the reference posterior whereas the posterior densities for both sequential ABC and BMLE were close to the reference posterior with the posterior density for BMLE more dispersed compared to that of BMLE (figure num).

1. When the targets consisted of prevalence at time 50, prevalence at time 75 and the peak prevalence (Scenario 2), BMLE was more efficient (13.1 mins) in terms of computational cost, followed by Rejection ABC (16.42 mins) and then sequential ABC (49.20 mins) (table num).

The posterior density for rejection ABC was again further from the reference posterior (figure num) whereas the posterior densities for both sequential ABC and BMLE were close to the reference posterior (figure nums).

The posterior densities for sequential ABC and BMLE in scenario 2 are closer to the reference posterior (figure nums) compared to their posterior densities in scenario 1 (figure nums)..

The posterior density for rejection ABC is more spread out while sequential and BMLE are compacted.