

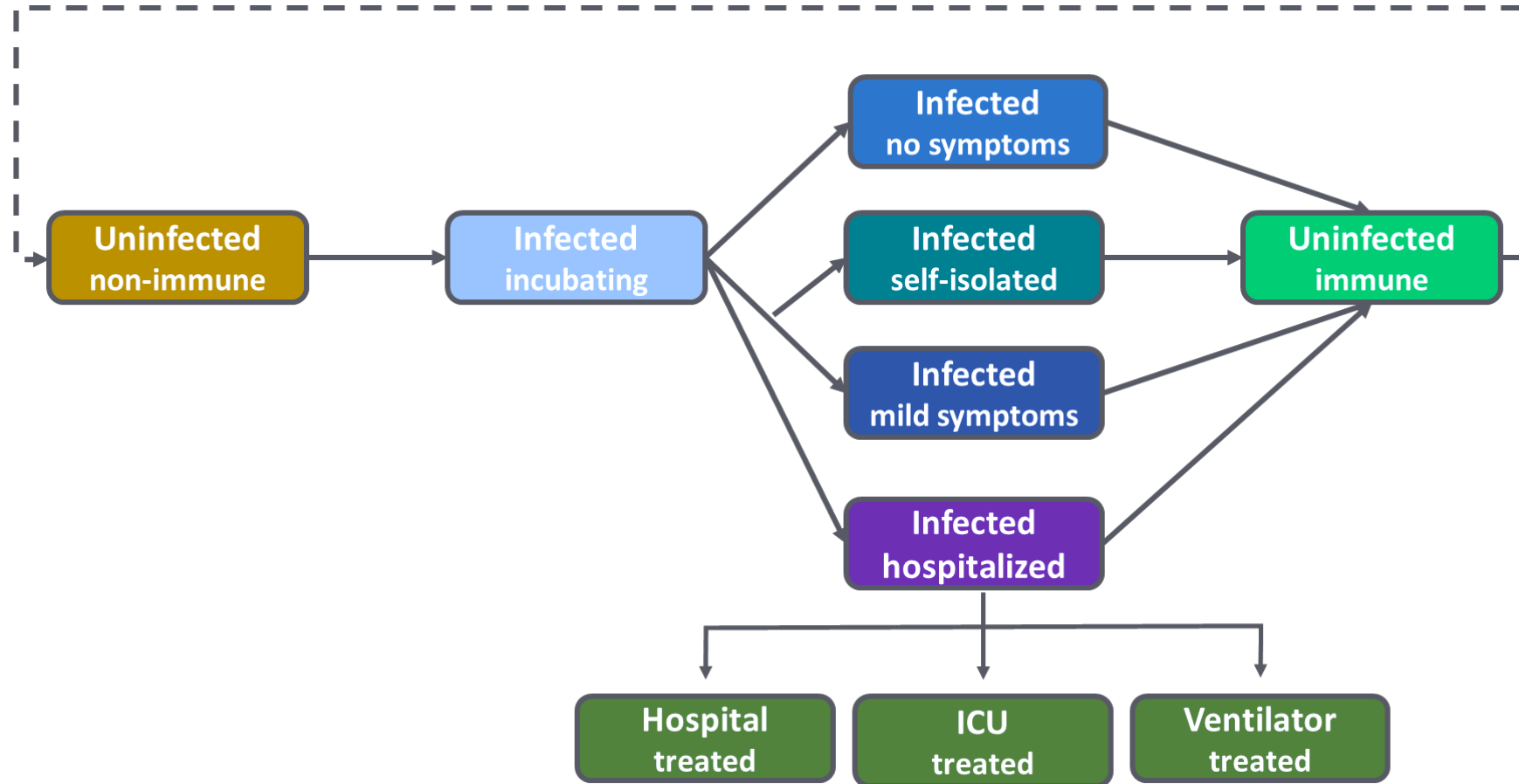
A Mathematical Modelling Analysis of the Potential Impact of COVID-19 and COVID-19 NPIs on Malaria in Nigeria

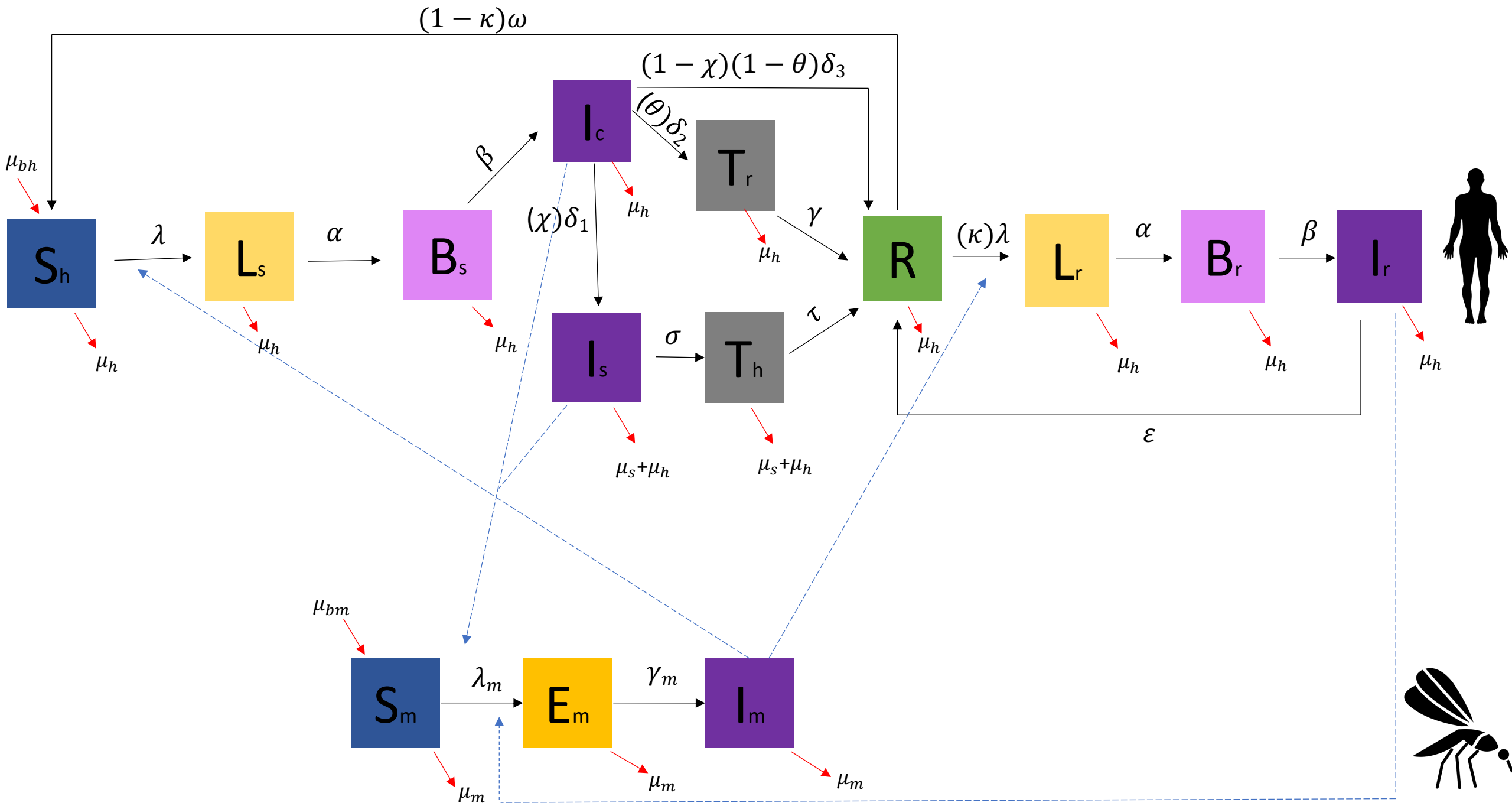
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Model 1 (COVID-19 Model-CoMo)



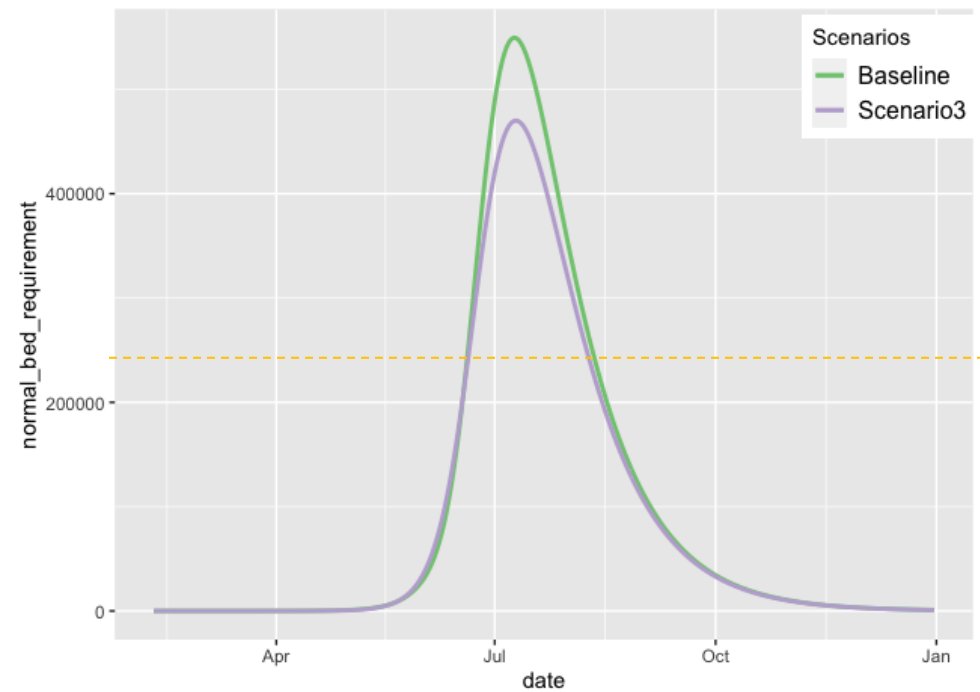
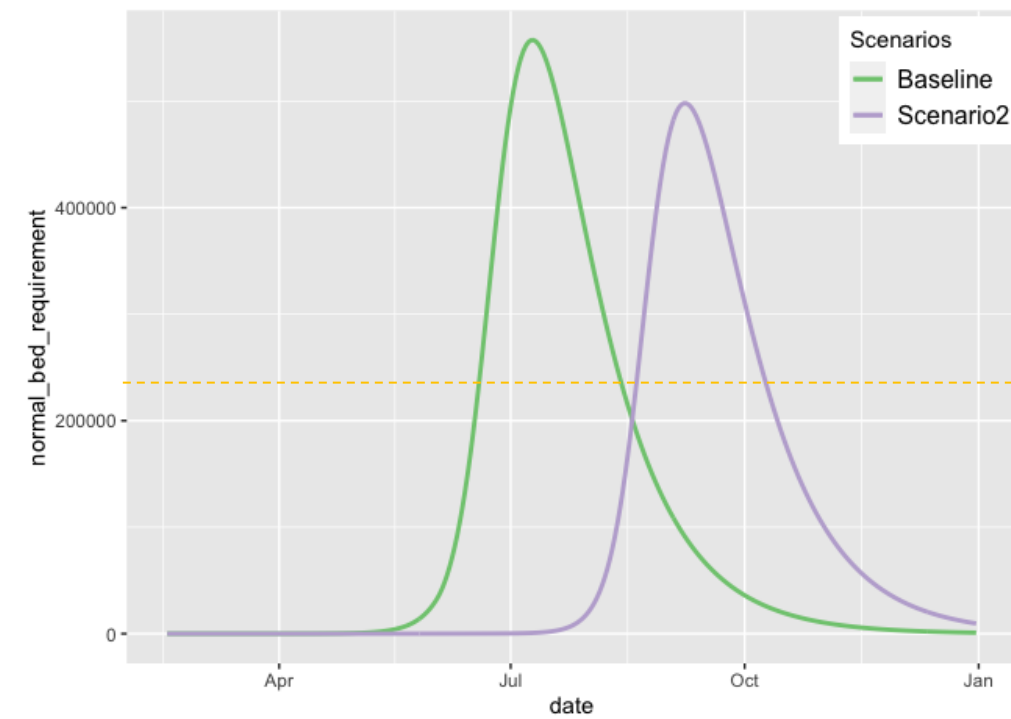


COVID-19 model scenarios

| | Self-isolation if symptomatic | | Handwashing | Social distancing | | International travel ban | | School closure | | Working at home | |
|--|-------------------------------|-----------------|-------------------|-----------------------|------------------|--------------------------|------------------|-----------------------|------------------|-----------------------|------------------|
| Scenario 1-Baseline NPIs | 1 Mar to 2 Jun | 3 Jun to 31 Dec | 1 Mar to 31 Dec | 18 Mar to 2 Jun | 3 June to 31 Dec | 18 Mar to 2 Jun | 3 June to 31 Dec | 30 Mar to 2 Jun | 3 June to 31 Dec | 30 Mar to 18 May | 19 May to 31 Dec |
| Scenario 2-Baseline NPIs with increased adherence and efficacy | 1 Mar to 2 Jun ↑ | 3 Jun to 31 Dec | 1 Mar to 31 Dec | 18 Mar to 2 Jun ↑ | 3 June to 31 Dec | 18 Mar to 2 Jun ↑ | 3 June to 31 Dec | 30 Mar to 2 Jun ↑ | 3 June to 31 Dec | 30 Mar to 18 May ↑ | 19 May to 31 Dec |
| Scenario 3-Baseline NPIs with extended duration to 30 Jun or 31 Dec | 1 Mar to 30 Jun | 1 Jul to 31 Dec | 1 Mar to 31 Dec | 18 Mar to 31 Dec | | 18 Mar to 30 Jun | 1 Jul to 31 Dec | 30 Mar to 30 Jun | 1 Jul to 31 Dec | 30 Mar to 30 Jun | 1 Jul to 31 Dec |
| Scenario 4- Baseline NPIs with extended duration to 31 Dec with decreased adherence and efficacy | 1 Mar to 31 Dec ↓ | | 1 March to 31 Dec | 18 Mar to 31 Dec | | 18 Mar to 31 Dec ↓ | | 30 Mar to 31 Dec ↓ | | 30 Mar to 31 Dec ↓ | |
| Scenario 5-Baseline NPIs extended until 31 Dec with increased and decreased adherence and efficacy | 1 Mar to 31 Dec | | 1 March to 31 Dec | 18 Mar to 31 Dec ↑ | | 18 Mar to 31 Dec ↓ | | 30 Mar to 31 Dec ↓ | | 30 Mar to 31 Dec ↓ | |
| Scenario 6- Baseline NPIs extended until 30 Jun or 31 Dec with increased adherence or efficacy | 1 Mar to 31 Dec ↑ | | 1 March to 31 Dec | 18 Mar to 31 Dec ↑ | | 18 Mar to 30 Jun ↑ | 1 Jul to 31 Dec | 30 Mar to 30 Jun ↑ | 1 Jul to 31 Dec | 30 Mar to 30 Jun ↑ | 1 Jul to 31 Dec |

| Intervention | Coverage | Adherence | Efficacy | Home contact inflation limit |
|-------------------------------|----------|-----------|----------|------------------------------|
| Self isolation if symptomatic | 50% | 60% | | |
| Hand washing | | | 5% | |
| Social Distancing | 60% | 40% | | |
| International Travel Ban | | | 95% | |
| School closure | | | 85% | 10% |
| Working from home | | | 60% | 10% |

| Intervention | Coverage | Adherence | Efficacy | Home contact inflation limit |
|-------------------------------|----------|-----------|----------|------------------------------|
| Self isolation if symptomatic | 50% | 50% | | |
| Hand washing | | | 5% | |
| Social Distancing | 60% | 30% | | |
| International Travel Ban | | | 80% | |
| School closure | | | 70% | 10% |
| Working from home | | | 50% | 10% |



Increased malaria incidence from malaria service disruptions

Main title

