

PREVALENCE AND ASSOCIATED FACTORS TO HPV 16 AND 18 IN FIANARANTSOA MADAGASCAR

Human Papilloma Viruses type 16 and 18 are source of many type of cancers including cervical cancer

Statistical Question: Do number of partners and tobacco consumption influence the infection of HPV 16 and 18?

Mechanistic Question: How does HPV infection spread in Fianarantsoa?

Aknowledgment: my sister for reading, all E²M² participants

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Statistical Question: Do number of partners and tobacco consumption influence the infection of HPV 16 and 18?

- Data: Questionnaire filled out by 1712 women from Fianarantsoa combined with the result of DNA amplification by PCR
- Response variable: Positivity of a PCR test
- Family, link: binomial, logit
- Predictor variables: Number of partners, tobacco consumption
- Rcode:

```
glm(pcr_result~number_of_partner+tobacco_consumption,family="Binomial",data=my_data)
```

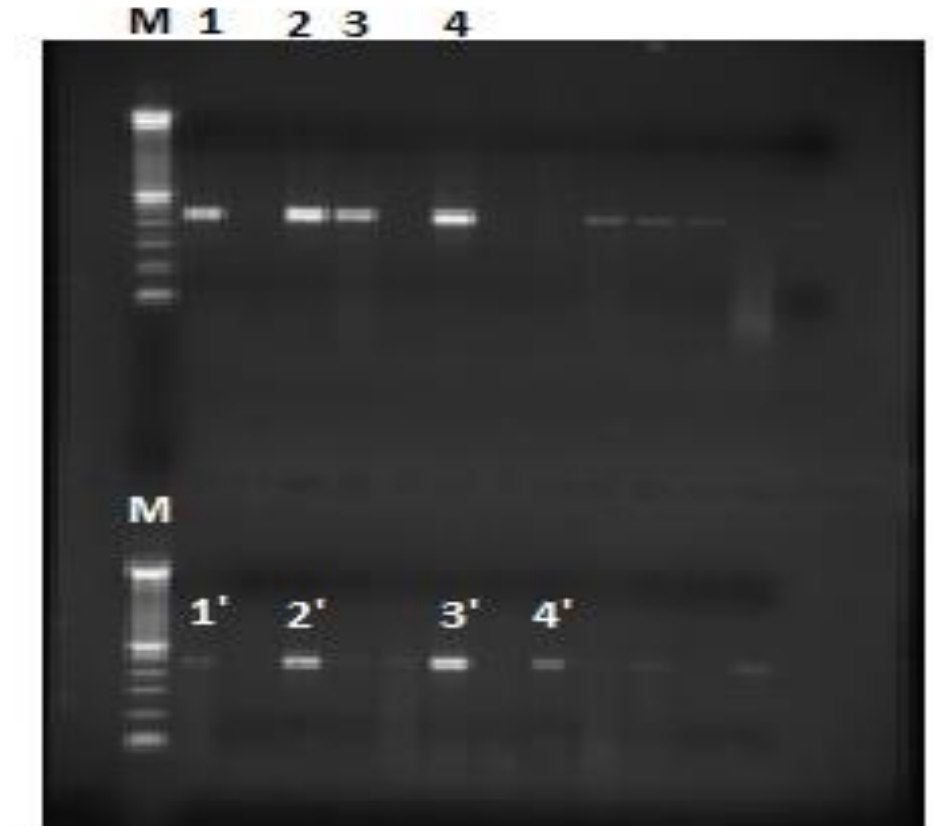
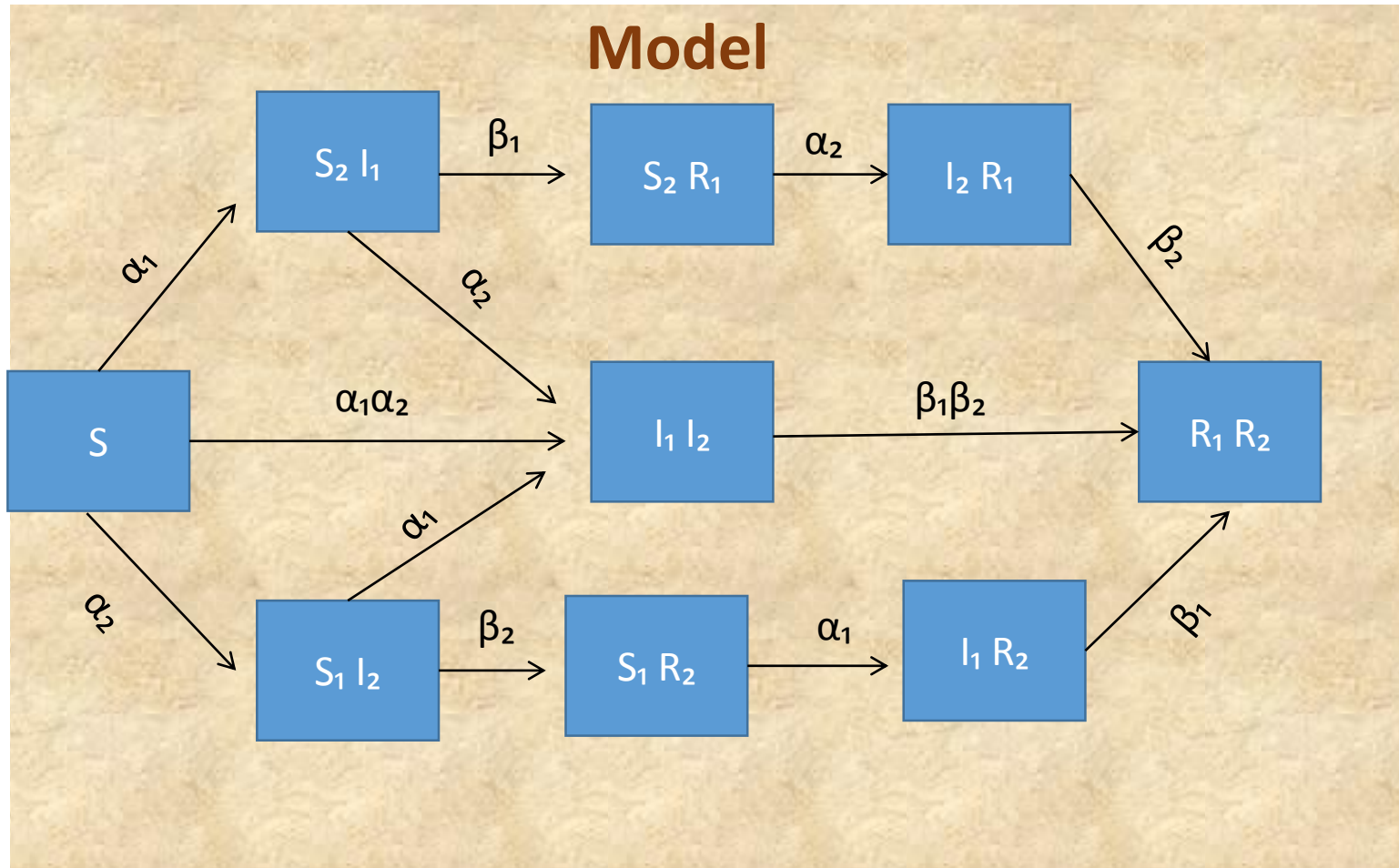


Fig: PCR results with specific primers for HPV 16 and 18

Mechanistic Question: How does HPV 16 and 18 spread in Fianarantsoa Madagascar?



States:

S: Susceptible to HPV

S_1 : Susceptible to HPV 16

S_2 : Susceptible to HPV 18

I_1 : Infected with HPV 16

I_2 : Infected with HPV 18

R_1 : Recovered from HPV 16

R_2 : Recovered from HPV 18

Processes:

α_1 : HPV 16 Infectious rate

α_2 : HPV 18 Infectious rate

β_1 : Rate to be recovered from HPV 16

β_2 : Rate to be recovered from HPV 18

Next step

- Study the evolution of the infection during 3 or more years
- Sensibilisation of women to prevent the spread of the infection.
- Study the feasibility of vaccination against these viruses in this region.

Misaotra Tompoko!