

Title

Author

**Abstract**

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## 1 Introduction

### 1.1 SubSection

*Treponema pallidum* subspecies *pallidum* [? ? ].

Itemize

- a
- b
- c
  - (1)
  - (2)

In practice, diagnoses of early versus late latent stages are determined based on serological testing and clinical input.

- d

## 2 Data

## 3 Model Setup

Enumerate

(H1) Assumption

### 3.1 Subsection

Equation

$$\mathbb{P}(K = k) \propto k^{-\alpha} \quad (1)$$

package `fit_power_law` function from the `igraph` R package

Eqref: (1).

Class Eqns

$$\begin{cases} S(t) &= G_p(\theta(t)) \\ I(t) &= 1 - S(t) - R(t) \\ \dot{R}(t) &= \gamma I(t) \\ \dot{\theta}(t) &= -\beta\theta + \beta \frac{G'_p(\theta)}{G'_p(1)} + \gamma(1 - \theta) \end{cases} \quad (2)$$

## **4 Comparing the network-SIR and MA-SIR models**

## **5 Conclusions**

## **Acknowledgements**

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## **Funding Statement**

Funding

# SUPPLEMENTARY INFORMATION

## S1 Section

**Table S1:** Table Exp

Age Groups			Scaling Parameters	
Age range	Risk Level	Proportion	Symbol	Value
[18, 20)	Medium	1.25%	$a_1$	0.150
[20, 30)	High	26.97%	$a_2$	0.250
[30, 40)	Medium	40.66%	$a_3$	0.150
[40, 50)	Low-Medium	21.16%	$a_4$	0.050
[50, $\infty$ )	Low	9.96%	$a_5$	0.025

## S2 Section

## S3 Section

literature [? ? ?] and our data.

## S4 Section

**Table S2:** Complex Table Example

Risk Factor Groups			Scaling Parameters	
Factor Description	Count	Group	Symbol	Value
Anonymous Sex	42	Anonymous Sex	$r_1$	0.6
Met contact through internet	5			
Bath house	1			
Repeat STI	55			
Co-Infection with other STI	10			
HIV Status	5			
PrEP for HIV	4			
HIV positive contact	1			
Pregnant	16			
Tested during first Trimester	4			
Treated > 4 weeks prior to delivery	2	Pregnancy Related	$r_3$	0.0
Received prenatal care	2			
Tested at delivery	1			
Tested at 28-32 Weeks	1			
Tested > 4 weeks prior to delivery	1			
Correctional facility	20	Prison	$r_4$	0.2
Under-housed/Homeless	28	SES	$r_5$	0.0
No condom used	55	Sex Behavior	$r_6$	0.0
More than one sex contacts	22			
Shared sex toys	1			
New sex contact in past 2 months	23			
Sex trade worker	11	Sex Trade	$r_7$	1.0
Sex with sex trade worker	6			
Sex with same sex	45	Same Sex	$r_8$	0.6
Injection drug use	38	Substance	$r_9$	0.3
Inhalation drug use	43			
Judgement impaired by alcohol/drugs	8			
Shared other drug equipment	6			
Sex for drugs/shelter/food	3			
Shared needles	2			
Tattoo and piercing	5	Unknown	$r_{10}$	0.0
Travel outside province	4			
Other social venue	1			
Unknown	248			
Other	7			