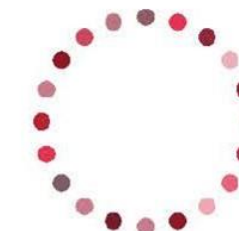


Missed Opportunities to Prevent Congenital Syphilis in Antenatal PrEP Services in South Africa

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HIV and congenital syphilis in pregnant and lactating people

- Pregnant women are a crucial target population for HIV prevention + diagnosis & treatment of syphilis infection
- **↑ rates of congenital syphilis^{1, 2}**
 - In South Africa, RPR seropositivity in syphilis exposed infants ↑ from 6.5% to 13.0% between 2010 and 2019¹
- Few insights into **burden of syphilis in pregnant women on PrEP and their infants in Africa**



Congenital syphilis in South Africa

Global rate of congenital syphilis (CS), 2020: **425 cases per 100k livebirths**

World Health Organization's target: 50 cases per 100k livebirths

South Africa: steady increase in clinical notifications of CS cases and rapid plasma reagin (RPR) positive results in infants/children <2 years between 2017 and 2020



Morifi M et al. *Congenital Syphilis Quarterly Surveillance Report, December 2020*. National Institute for Communicable Diseases Centre for HIV and STIs

Mathebula R, Kuonza L, Musekiwa A, et al. Trends in RPR Seropositivity among Children Younger than 2 Years in South Africa, 2010-2019. *J Trop Pediatr*. 2021;67(1):fmab017. doi:10.1093/tropej/fmab017

HIV risk during pregnancy and postpartum in South Africa

- HIV prevalence among pregnant women in South Africa: ~30%, and incidence in pregnancy and postpartum remains high, contributing to over **one-third of infant HIV infections**¹

SCOPE-PP: ongoing randomized trial of 750 pregnant and postpartum women in Cape Town, South Africa²

- Enroll women on PrEP ≥ 21 gestational weeks
- Follow through 12m postpartum to **evaluate oral PrEP uptake & persistence**

[BMC Public Health](#). 2022; 22: 1306.

PMCID: PMC9264672

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PMID: [35799121](https://pubmed.ncbi.nlm.nih.gov/35799121/)

Stepped care to optimize pre-exposure prophylaxis (PrEP) effectiveness in pregnant and postpartum women (SCOPE-PP) in South Africa: a randomized control trial

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1. Woldesenbet, S.A., Lombard, C., Manda, S., Kufa, T., Ayalew, K., Cheyip M., and Puren, A. (2021). The 2019 National Antenatal Sentinel HIV Survey, South Africa, National Department of Health

2. Joseph Davey DL, et al. Stepped care to optimize pre-exposure prophylaxis (PrEP) effectiveness in pregnant and postpartum women (SCOPE-PP) in South Africa: a randomized control trial. *BMC Public Health*. 2022;22(1):1306.

Methods

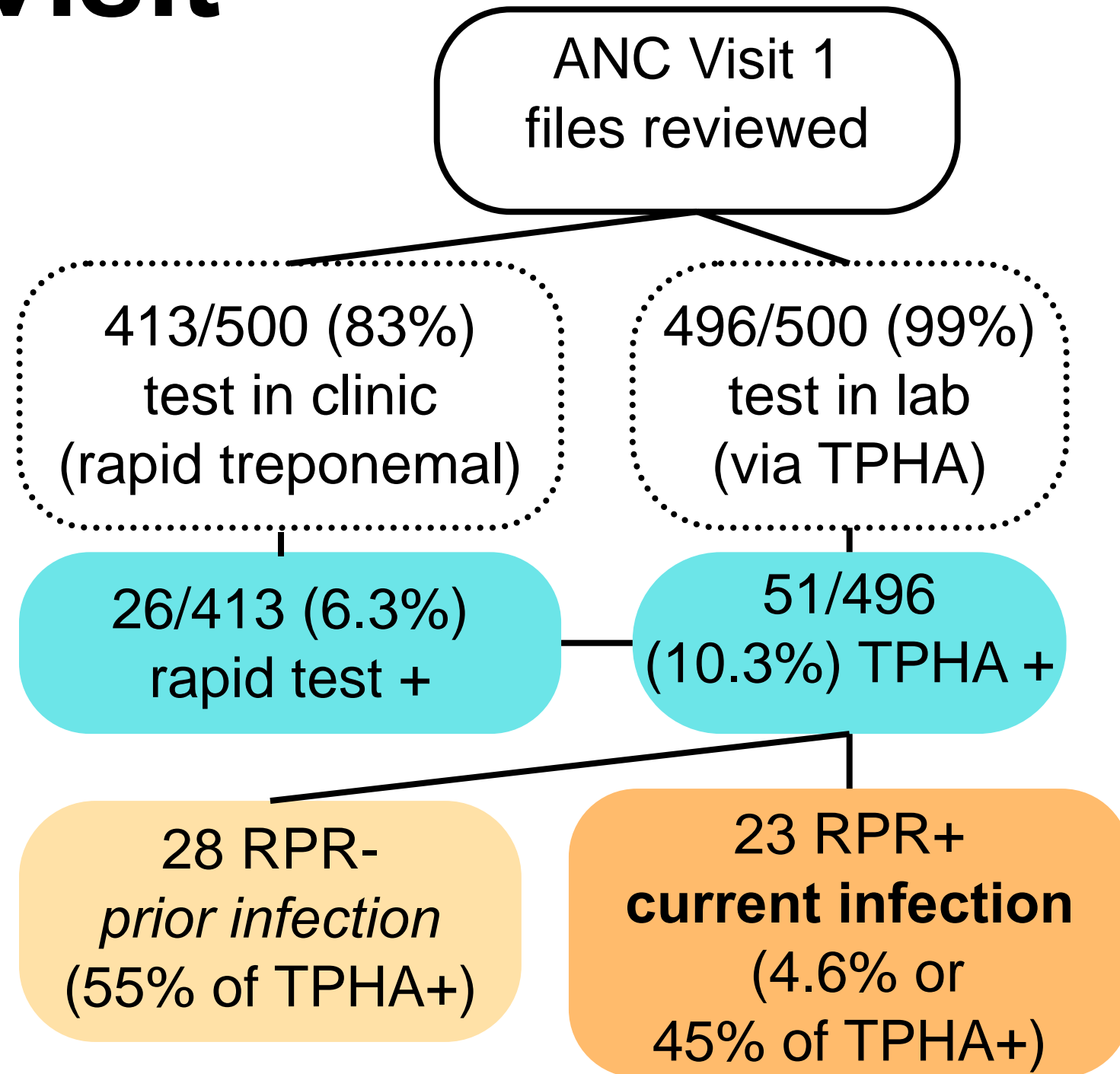
From March 2022 to December 2023, we evaluated syphilis positivity and congenital syphilis among a cohort of pregnant women (>15 years) on oral PrEP in routine primary care clinics within Cape Town (enrolled in SCOPE-PP)



- Tested on site with rapid treponemal test to guide treatment, followed by laboratory testing (TPHA confirmed with RPR)
- Maternal infant data abstracted from antenatal care files, neonatal clinical records, and lab testing data

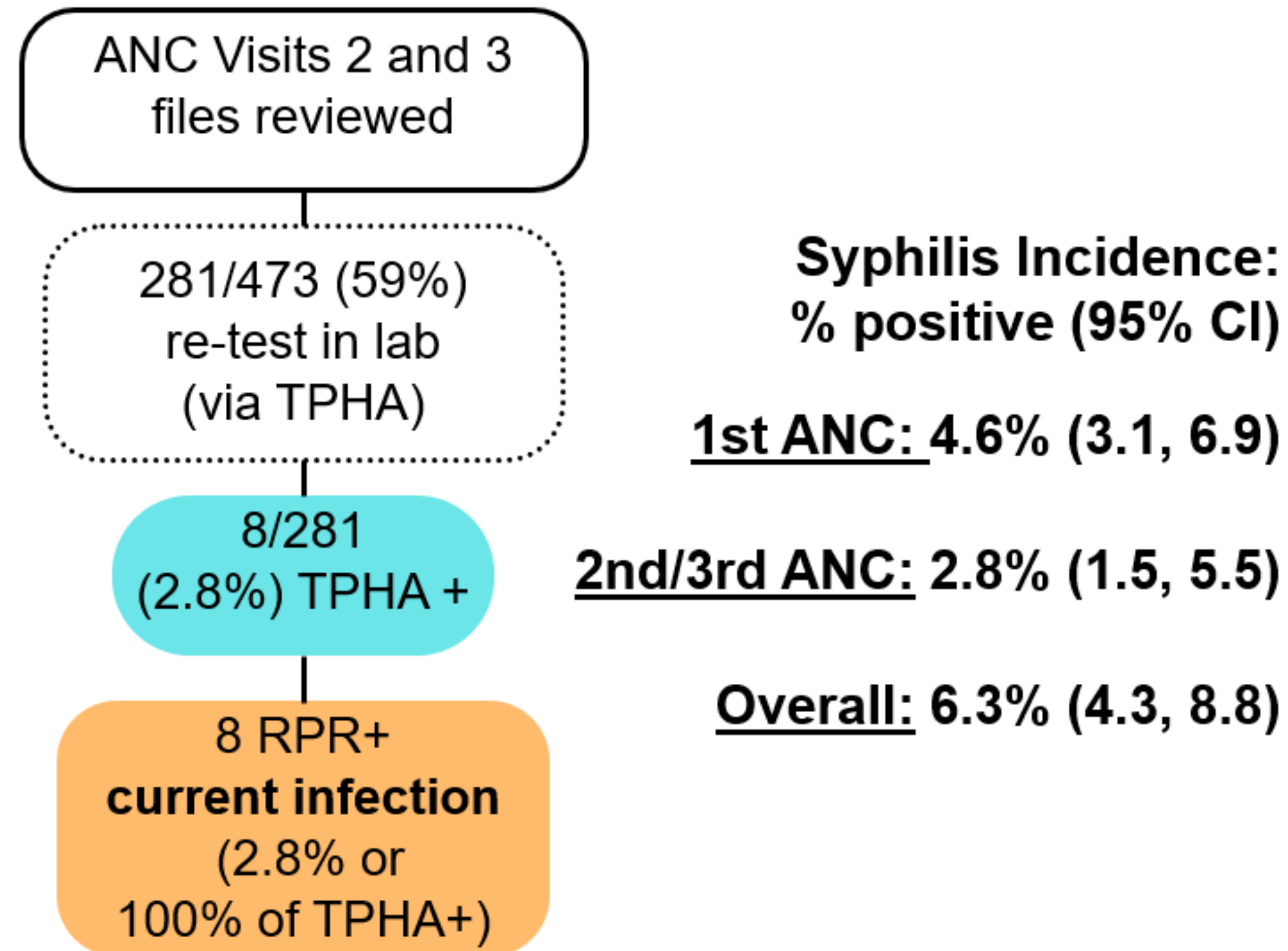
Examined risk factors of maternal syphilis using logistic regression, adjusted for maternal age

Syphilis testing at first antenatal care visit



- **Not all women received rapid test at first ANC visit (83%)**
- **26 women with rapid test were treated immediately at first ANC visit**
- **45% of TPHA+ were RPR+ (current infection)**

High syphilis incidence in ANC testing of women without HIV, on PrEP, by ANC visit



Risk factors associated with maternal syphilis (in women on oral PrEP, Mar 2022-Dec 2023) in Cape Town, South Africa

	Overall (N=500)	RPR negative (N=469, 94%)	RPR+ during pregnancy (N=31, 6.3%)	OR (95% CI)	Age adjusted OR (95% CI)
Maternal age (median, IQR) years	25 (21 - 31)	26 (21 - 31)	24 (22 - 28)		-
16 – 24	224 (45%)	203 (43%)	21 (68%)	2.75 (1.30, 6.22)	-
Relationship status					
Married / cohabiting	175 (35%)	166 (35%)	9 (29%)	-	-
Not married / not cohabiting	283 (57%)	268 (57%)	15 (48%)	1.03 (0.45, 2.51)	0.88 (0.36, 2.23)
No partner	42 (8%)	35 (8%)	7 (23%)	3.69 (1.24, 10.6)	3.07 (0.98, 9.22)
IPV experienced in past 12m	43 (9%)	37 (8%)	6 (19%)	2.80 (0.99, 6.87)	2.81 (0.99, 6.91)
Any alcohol use in last 12m	212 (42%)	191 (41%)	21 (68%)	3.06 (1.44, 6.91)	2.89 (1.35, 6.58)

IPV: Intimate partner violence



Risk factors for syphilis infection:

- Younger age (16-24 vs >24 years)
- No recent sex partner (vs. sex partner)
- Experience with IPV and alcohol use in past year

Maternal and Infant Outcomes

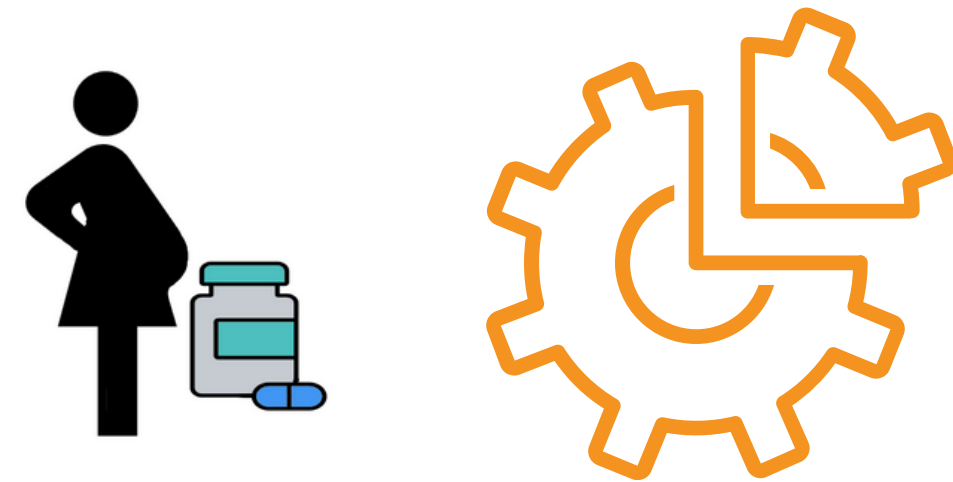
	Number	Proportion	Definition
Maternal outcomes (in n=31 RPR seropositive women)			
Treated (<i>file review</i>)	16	52%	3 doses of penicillin \geq 30 days prior to delivery
Treated (<i>lab review</i>)	15	48%	>4-fold RPR titer decline in 3-months
Infant outcomes (in live births)			
Congenital syphilis	2	<ul style="list-style-type: none"> 6.4% vertical transmission 0.4% population prevalence 	File review of infant RPR results or neonatal symptoms
Symptomatic infants	1	50%	Hepatosplenomegaly in newborn exam



Both CS cases born to mothers with maternal diagnosis and treatment <30 days before delivery

Key Takeaways

- These novel data demonstrate a **remarkably high occurrence of incident syphilis in pregnancy among women enrolled in antenatal PrEP services**
- $\frac{1}{2}$ of women not fully treated in pregnancy leading to preventable congenital syphilis



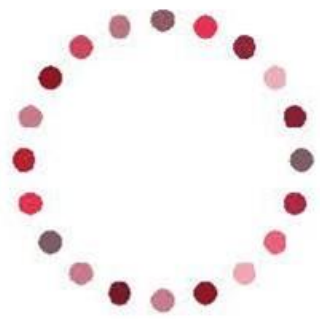
- To achieve **WHO Triple Elimination targets**¹, there is a clear and urgent need to integrate syphilis prevention and treatment into antenatal PrEP and ART services

Acknowledgements



SCOPE-PP

Stepped Care to Optimise PrEP Effectiveness
in Pregnant & Postpartum Women



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More information or questions?

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