

1 Supplementary material

2 Supplementary Table

3 Estimates of incidence rate ratios (IRR) for secondary *Pneumocystis jirovecii* pneumonia (PjP) from  
 4 the fitted general additive model with a cubic spline smoother for CD4 count. In addition, there was a  
 5 highly significant association of PjP with lower CD4 counts ( $p < 0.001$ ). MSM: Men who have sex with  
 6 men; IDU: intravenous drug use, CI: Confidence interval

Variable	IRR	95% CI	p-value
Gender			
Male	Reference		
Female	1.23	[0.98, 1.70]	0.08
Age (per year)	0.99	[0.97, 1.00]	0.03
Transmission Mode			
..MSM	Reference		
..IDU	1.34	[1.00, 1.78]	0.05
..Other	1.20	[0.73, 1.95]	0.48
..Heterosexual	0.96	[0.72, 1.29]	0.81
PjP Prophylaxis			
.. No	Reference		
Yes	1.16	[0.59, 2.27]	0.67
HIV plasma RNA (copies/mL)			
..Low (<400)	Reference		
..Medium (400-10'000)	2.02	[1.19, 3.5]	0.01
High (>10'000)	5.11	[2.87, 9.12]	<0.001
<i>Interaction term</i>			
RNA x PjP Prophylaxis			

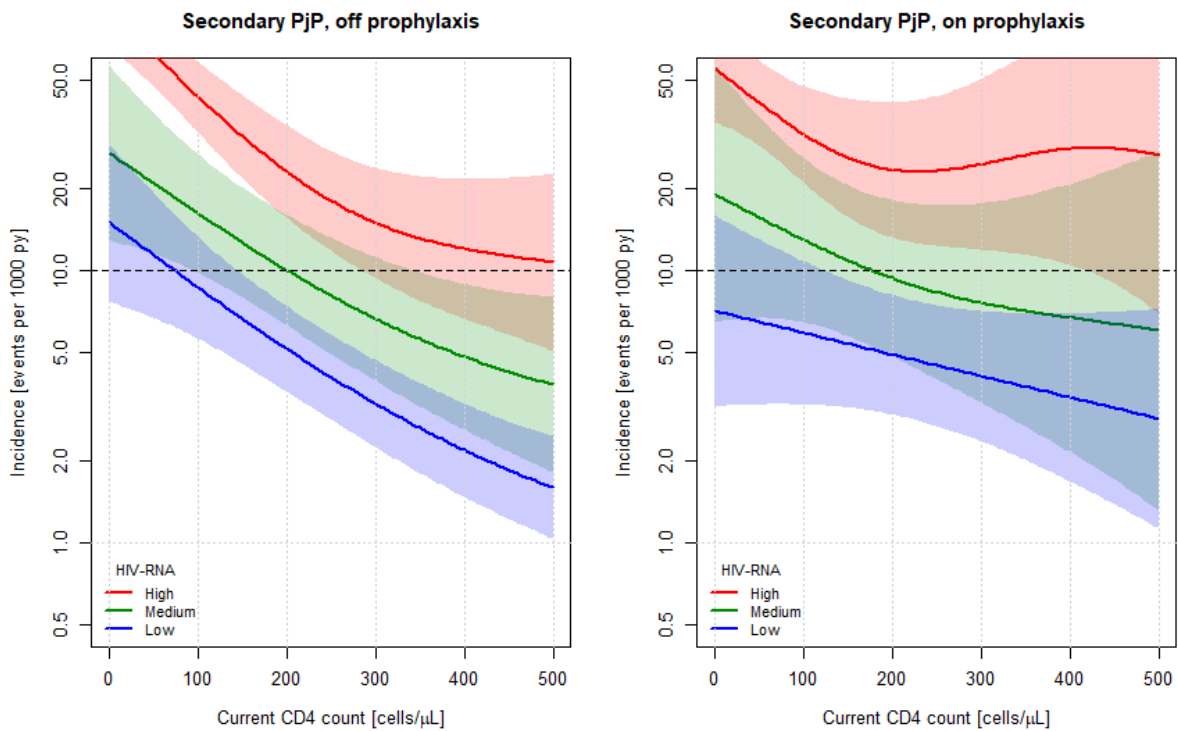
Low (<400) and No PjP Prophylaxis	Reference		
..Medium (400-10'000) and PjP Prophylaxis	1.02	[0.26, 4.07]	0.98
..High (>10'000) and PjP Prophylaxis	1.35	[0.35, 5.22]	0.67

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9 Supplementary Figure

10 Incidence of secondary Pneumocystis Pneumonia (PjP) stratified plasma HIV-RNA levels from those  
11 off (left panel) and on (right panel) PjP prophylaxis. Plasma HIV-RNA levels: High >10'000, Medium  
12 400-10'000, Low <400 copies/mL. From the fitted Poisson general additive model for a 35-year-old  
13 male IDU patient with 95% confidence intervals shown shaded in the respective colour.



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21 Notes: PjP *Pneumocystis jirovecii* pneumonia, HIV-RNA human immunodeficiency viruses (HIV) Ribonucleic acid,

22 IDU: intravenous drug use, py person years, py person years.