SUPPLEMENTARY MATERIAL

SUPPLEMENTARY TABLE S1. Rounds of tracing of sexual contacts for index HIV cases in Honghe Prefecture, Yunnan Province, China, 2022–2024.

The process of contact tracing	First round	Second round	Third round	Total
Number of index HIV cases	1,925	54	2	1,981
Number and proportion (%) of index HIV cases traced at least one sexual contact tested positive*	305 (15.8)	9 (16.7)	0 (0)	314 (15.9)
Number of sexual contacts reported by index cases	2,097	69	5	2,171
Number and proportion (%) of sexual contacts received HIV testing[†]	1,474 (70.3)	32 (46.4)	3 (60.0)	1,509 (69.5)
Number and proportion (%) of sexual contacts tested HIV positive[§]	308 (20.9)	9 (28.1)	0 (0)	317 (21.0)

Abbreviation: HIV=human immunodeficiency virus.
* Contact tracing efficacy: proportion of index cases that led to identification of at least one HIV-positive contact, calculated as the number of index cases with HIV-positive contacts divided by total index cases.
[†] HIV testing uptake: proportion of contacts who received HIV testing, calculated as the number of contacts tested divided by total contacts.
[§] HIV positivity rate: proportion of tested contacts who were HIV-positive, calculated as the number of contacts testing positive divided by total contacts tested.

SUPPLEMENTARY TABLE S2. Sociodemographic and behavioral characteristics of index HIV cases and sexual contacts in Honghe Prefecture, Yunnan Province, China, 2022–2024.
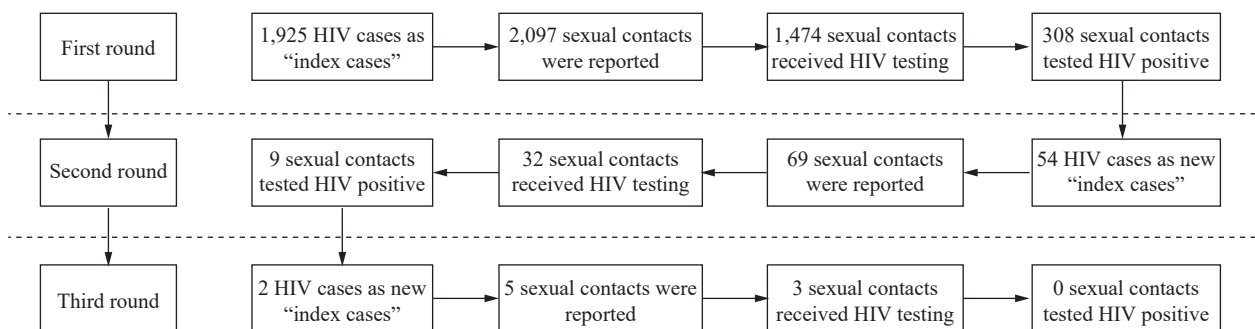
Characteristic	Index N=1,981		Contacts N=2,171		χ^2/F	P
	n	%	n	%		
Sex					185.827	<0.001
Male	1,350	68.2	844	38.9		
Female	631	31.8	1,327	61.1		
Age*					919.34	<0.001
Mean (SD)	47.1	12.9	40.4	12.0		
<18 years	0	0.0	19	0.8		
18–35 years	378	19.1	809	37.3		
36–55 years	1,062	53.6	1,089	50.2		
≥56 years	541	27.3	254	11.7		
Ethnicity					83.544	<0.001
Han	728	36.8	1,030	47.4		
Ethnic minorities	1,253	63.3	1,141	52.6		
Education					35.679	<0.001
≤Primary school	1,248	63.0	1,432	66.0		
Junior high school	512	25.8	592	27.3		
≥Senior high school	221	11.2	147	6.7		
Marital status					42.486	<0.001
Never married	506	25.5	651	30.0		
Currently married	863	43.6	775	35.7		
Divorced or widowed	612	30.9	745	34.3		
Occupation					3.638	0.057
Unemployed	320	16.2	309	14.2		
Employed	1,661	83.8	1,862	85.8		
Type of HIV testing						
Passive testing	1,684	85.0				
Active testing	297	15.0				

Continued

Characteristic	Index N=1,981		Contacts N=2,171		χ²/F	P
	n	%	n	%		
CD4 counts at baseline (cells/microliter)						
≤200	695	35.1				
201–350	587	29.6				
351–500	359	18.1				
≥501	301	15.2				
Unknown	39	2.0				
Type of sexual relationship with index case						
Spouse or long-term sexual partnership			375	17.3		
Commercial sexual partnership			681	31.4		
Non-marital and non-commercial sexual partnership			1,115	51.3		
Duration of sexual relationship with index case						
≤1 year			1,560	71.9		
1–3 years			200	9.2		
>3 years			411	18.9		
Frequency of sexual behavior with index case in the past 6 months						
<once a week			554	25.5		
1–2 times a week			1,379	63.5		
≥3 times a week			238	11.0		
Frequency of condom use with index case in the past 6 months						
Never			1,428	65.8		
Inconsistently			506	23.3		
Consistently			237	10.9		

Abbreviation: HIV=human immunodeficiency virus; SD=standard deviation.
* Chi-square analysis was not feasible due to zero-frequency cells. Age disparity between groups was alternatively analyzed using survey regression procedures ("proc surveyreg").

SUPPLEMENTARY FIGURE S1. Process flowchart of HIV contact tracing and case identification.
Abbreviation: HIV=human immunodeficiency virus