

Supplementary Online Table: List of individual, programmatic and contextual variables included in the multilevel modeling analysis

Sl no	Variables	Source
	Individual variables:	
1	Age in completed years (15-24 years =1, 25-34 years=2 & 35+ years=3)	IBBA data from two rounds
2	Literacy (Illiterate = 0, Literate=1)	IBBA data from two rounds
3	Source of Income other than sex work (No =0, Yes=1)	IBBA data from two rounds
4	Marital status (Currently married=1, Marriage dissolved=2, Never Married=3)	IBBA data from two rounds
5	Age at first sex (<=14 years =1, 15-17 years=2, 18+ years=3)	IBBA data from two rounds
6	Age at first paid sex (<=17 years=1, 18-24 years=2, 25-29 years=3, 30+=4)	IBBA data from two rounds
7	Duration in sex work (<2years=1, 2-4 years=2, 5-9 years=3, 10+ years=4)	IBBA data from two rounds
8	Place of solicitation (Home/Rented room=1, Lodge/Dhaba/Brothel=2, Bar/Night Club/vehicle/public	IBBA data from two rounds

	places/Tamasha =3, Others=4)	
9	Carrying a condom (No=0, Yes=1)	IBBA data from two rounds
10	Client volume per week (<10 per week=1, 10+ per week=2)	IBBA data from two rounds
11	Round of IBBA survey (Round 1=0 & Round 2 =1)	IBBA data from two rounds
12	Proportion of Occasional clients	IBBA data from two rounds
13	Ever experienced violence (No=0, Yes=1)	IBBA data from two rounds
14	Ever consumed alcohol (No=0, Yes=1)	IBBA data from two rounds
15	Consistently used Condoms with clients (No=0, Yes=1)	IBBA data from two rounds
16	Condom use last time with Occasional clients (No=0, Yes=1, No occasional clients=2)	IBBA data from two rounds
17	Condom use last time with regular clients (No=0, Yes=1, No regular clients=2)	IBBA data from two rounds
18	Condom use last time with Main non-paying partner (No=0, Yes=1, No main non-paying partner=2)	IBBA data from two rounds
19	HIV status (as appropriate)(Negative=0, Positive=1)	IBBA data from two rounds
20	Gonorrhoea and Chlamydia status (as appropriate) (Negative=0, Positive=1)	IBBA data from two rounds

21	Syphilis status (as appropriate) (Negative=0, Positive=1)	
	Program variables:	
1	Percentage of Female sex workers covered by the programme (2006 and the difference between 2008 and 2006)	Avahan CMIS data
2	Percentage of female sex workers contacted regularly (2006 and the difference between 2008 and 2006)	Avahan CMIS data
3	Percentage of condom requirement met under the programme (2006 and the difference between 2008 and 2006)	Avahan CMIS data
	Distal variables:	
1	Total literacy rate in the population	Census of India 2001
2	Total female literacy rate	Census of India 2001
3	Percentage of muslim population	Census of India 2001
4	Total fertility rate	http://www.jstor.org/stable/4411750

5	Total number of tourist spots in the district	Erreur ! Référence de lien hypertexte non valide.
6	Mean age at marriage for boys	District Level Household Survey-3, 2007-2008
7	Mean age at marriage for girls	District Level Household Survey-3, 2007-2008
8	Percentage of married couples using condoms	District Level Household Survey-3, 2007-2008
9	Estimate of mean female sex worker population in the district (2006 to 2008)	Alary M, Jayachandran AA, Lowndes CM, Bradley J, Demers E, Adhikary R, et al. Ecological analysis of the association between high-risk population parameters and HIV prevalence among pregnant women enrolled in sentinel surveillance in four Southern India states. Sex Transm Infect. Feb;86 Suppl 1:i10-6
10	Infant mortality rate	Census of India 2001
11	Total migration outside of district among men	Census of India 2001
12	Total migration outside of district among women	Census of India 2001
13	Total urban migration outside the district	Census of India 2001
14	Proportion of urban migration among men outside the	Census of India 2001

	district	
15	Number of urban migrants among women outside the district	Census of India 2001
16	Total migration of men from other states	Census of India 2001
17	Proportion of total male migration of men from other states	Census of India 2001
18	Proportion of total male migration of women from other states	Census of India 2001
19	Percentage urban migration from other states	Census of India 2001
20	Percentage urban female migration from other states	Census of India 2001
21	Estimate of men having sex with men (mean population) in the district (2006 to 2008)	Alary M, Jayachandran AA, Lowndes CM, Bradley J, Demers E, Adhikary R, et al. Ecological analysis of the association between high-risk population parameters and HIV prevalence among pregnant women enrolled in sentinel surveillance in four Southern India states. Sex Transm Infect. Feb;86 Suppl 1:i10-6
22	Average per capita income	http://des.kar.nic.in/indexie.html , http://www.tn.gov.in/dear/tab/7.pdf , AP directly from the Central statistical office upon request , http://maharashtrastat.com
23	Number of 24hr truck halt points	Documenting the geographic variation in HIV-1, its determinants and intervention coverage in 115 districts in southern India. Center for Global Health Research
24	Number of trucks halting in 24 hours	Documenting the geographic variation in HIV-1, its determinants and intervention

		coverage in 115 districts in southern India. Center for Global Health Research
25	Percentage of long distance trucks	Documenting the geographic variation in HIV-1, its determinants and intervention coverage in 115 districts in southern India. Center for Global Health Research
26	Number of longhaul trucks stopping in 24 hours	Documenting the geographic variation in HIV-1, its determinants and intervention coverage in 115 districts in southern India. Center for Global Health Research
27	Percentage of persons aged 15 to 49 years	Census of India 2001
28	Percentage of females aged 15 to 49 years	Census of India 2001
29	Total population aged 15 to 49 years	Census of India 2001
30	Total population of females aged 15 to 49 years	Census of India 2001
31	Percentage of widowed/divorced/seperated adult female population of age 15-49 years	Census of India 2001
32	Percentage of urban population between 15 to 49 years	Census of India 2001
33	Percentage of urban females between 15-49 years	Census of India 2001
34	Total urban population between 15-49 years	Census of India 2001
35	Total urban female population aged between 15-49 years	Census of India 2001
36	Percentage of widowed/divorced/seperated adult	Census of India 2001

	urban female population of age 15-49 years	
37	Total scheduled caste and scheduled tribe population	Census of India 2001
38	Total scheduled caste and scheduled tribe male population	Census of India 2001
39	Total scheduled caste and scheduled tribe female population	Census of India 2001
40	Percentage of SC & ST population	Census of India 2001
41	Percentage of SC & ST female population	Census of India 2001
42	Scheduled caste and scheduled tribe population in urban areas	Census of India 2001
43	Scheduled caste and scheduled tribe male population in urban areas	Census of India 2001
44	Scheduled caste and scheduled tribe female population in urban areas	Census of India 2001
45	Percentage of SC & ST urban population	Census of India 2001
46	Percentage of SC & ST urban female population	Census of India 2001
47	Percentage of female population in urban areas	Census of India 2001
48	Literacy rate in urban areas	Census of India 2001

49	Proportion of urban female migration both within and outside the district	Census of India 2001
50	Sex ratio (15-49 years)	Census of India 2001
51	Total urban female migration both within and outside the district	Census of India 2001
52	Percentage of boys married under 21 years of age	Census of India 2001
53	Percentage of girls married under 18 years of age	Census of India 2001

*IBBA: Integrated behavioural and biological assessment; CMIS: Computerized management and information system; SC: Scheduled caste; ST: Scheduled Tribe.