

DIRECT ESTIMATION OF **NEW HIV INFECTIONS** AMONG KEY POPULATIONS USING PROGRAMME DATA



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EXECUTIVE SUMMARY

It is important to identify people newly infected by HIV and to understand their characteristics to achieve the vision of zero new infections. It is also imperative to comprehend the distinction between prevalent (all) and incident (new) infections.

A study was conducted:

- To directly estimate the new HIV infection rate among Key Populations (KPs) enrolled in targeted HIV interventions, using programme data.
- To describe the characteristics of the people who were newly diagnosed with HIV.

The new HIV infection rate among Injecting Drug Users (IDU) and Female Sex Workers (FSW) was calculated using the National AIDS Control Programme (NACP) data that is Master Line-list (Form E) and Positive Line-list of Targeted Interventions (TI) for IDU and FSW enrolled in TI programmes from district of Aizawl, state of Mizoram, from 2006 to 2017.

The study revealed a significant increase in the new infection rate among IDUs and FSWs in Aizawl district and important characteristics of the newly HIV infected people who inject drug, such as, the average age at the time of HIV detection, average number of sexual acts and average number of injecting episodes in a month.

The study showed that it is possible to directly estimate new HIV infection rate using the existing program data such as Master Line-list and Positive Line-list of the TI under NACO programme. Findings from such studies can help in developing tailored HIV responses for KP. This analysis, which require none or minimal resources, may be undertaken at regular intervals for all TIs under NACO.



THE ISSUE

The overall HIV prevalence in India has declined following the efforts carried out by the HIV prevention programmes. According to the HIV Estimations 2017, new HIV infections have decreased by 85 per cent from the 1995 to 2017 but the pace of decline has slowed, with a decrease of only 27 per cent since 2010.

To meet the challenge of 'Zero Transmission' vision by 2030, it is necessary to have a clear understanding of the distinction between prevalent (all) and incident (new) HIV infections. Currently in India, the estimation of new infections is done through Modelling (Indirect estimation) at state and national level and it cannot elicit the characteristics of the newly HIV infected individuals.

Understanding the HIV incidence and characteristics of the newly HIV infected individuals are crucial:

- To comprehend transmission patterns
- To evaluate interventions to reduce transmission



THE STUDY

A study aimed at

- Directly estimating new HIV infection rate among KPs enrolled in targeted HIV interventions using programme data and
- Describing the characteristics of people infected with a new HIV infection.

The new HIV infection rate among IDU and FSW were calculated using NACP data that is Master Line-list (Form E) and Positive Line-list of targeted IDU and FSW enrolled in TI programmes from Aizawl district, in Mizoram state, from 2006 to 2017.

The trends of new HIV infection rate were depicted every year and statistical significance was tested using Non-Parametric Sum Rank Test (NPSRT). The characteristics of those new HIV infected people from the cohort analysis were also examined using the Positive Line-list of TI.

New HIV infection rate



The number of people tested HIV positive in a particular year whom were negative in the previous HIV test, excluding those who are registered in the TI in that same year / Active/validated population (number enrolled minus dropouts) who are HIV negative in the TI

The **new HIV infection rate among IDU and FSW** were calculated using **NACP data that is Master Line-list (Form E) and Positive Linelist of targeted IDU and FSW** enrolled in TI programmes.



FINDINGS

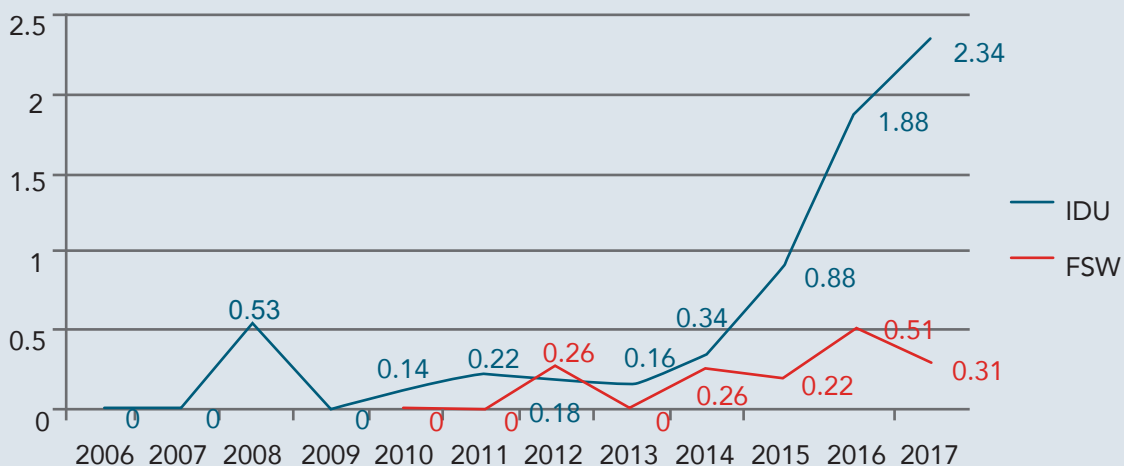
There is a significant increase in the new infection rate among IDUs and FSWs in Aizawl District. (Figure 1)

The new HIV infection rate among IDU enrolled in TIs of Aizawl was 2.3 per 100 HIV negative IDU in 2017. The trend of the new HIV infection rate among IDUs shows a gradual increase from 2006

to 2014 and an exponential increase from 2015 to 2017 with an increase of 167%.

The new infection rate among FSWs enrolled in TIs of Aizawl in 2017 was 0.31. The overall trend of the new HIV infection rate among FSWs shows gradual increase from 2010 to 2017.

Figure 1: New HIV infection rate



Important characteristics of the new HIV infections among IDUs were elicited. (Figures 2 & 3)

At the time of the HIV diagnosis, the average age was 27.6 years. At the time of their HIV identification, 60% of them were older than 25 years. Most of them lived in their districts.

The average number of sexual acts in a month was 2.3 while in the previous month, more than one fourth of them reported not using condoms. They injected on average 18 times in a month and almost all of them stated that they did not share the syringe/needles.

High proportion of IDUs diagnosed with a new HIV infection (91%) used alcohol concomitantly, which is higher than among the IDU population (71.6%). Linkages to OST and ART for the IDUs with new HIV infection were 17.6% and 67.4% respectively.

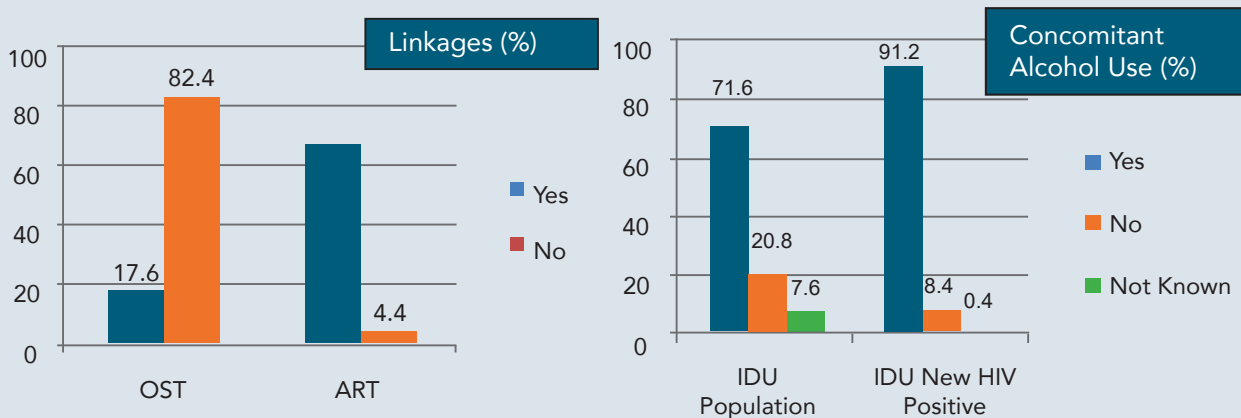


The trend of the **new HIV infection rate among IDUs** shows a gradual increase from 2006 to 2014 and an **exponential increase from 2015 to 2017 with an increase of 167%.**

Figure 2: Characteristics of new HIV positive IDUs

	Current Age	Age at TI Registration	Age at HIV Detection	Baseline CD4	Recent CD4	Sexual act/ Month	Injecting episodes/ Month
N	337	337	337	265	227	226	275
Mean/ average	29.27	23.47	27.60	393.81	417.02	2.25	17.79
Std. Deviation	5.661	4.93	5.32	183.629	205.764	5.004	27.379
Minimum	18	13.84	17.70	25	34	0	0
Maximum	48	39.93	43.67	1413	1430	56	160

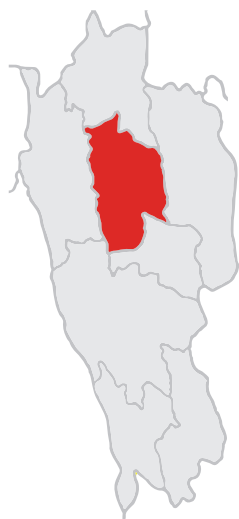
Figure 3: Linkages to services and concomitant alcohol use among new HIV positive IDUs





LEARNINGS

- It is possible to directly estimate new HIV infection rate using the existing programme data such as Master Line-list and Positive Line-list of the TI programme under NACO.



The **new HIV infection rate** among **IDUs and FSWs** in Aizawl district, Mizoram, is **rising**.



RECOMMENDATIONS

- This analysis may be undertaken at regular intervals for all the TIs under NACO to directly estimate new HIV infection rates and to understand the characteristics of newly HIV infected KPs. This analysis is a simple analysis and it does not require additional resources except brief training or instructions to SACS and field staff.
- These results can be compared with the IBBS results using the age of onset of risky sexual or injecting practices and the age when diagnosed HIV positive as a proxy for incident new infections among the KPs studied (TI and Non-TI).
- In a sub-sample of HIV Sentinel Surveillance KPs participants, an incidence essay may be used to arrive at an incidence rate of HIV among KPs.

ACKNOWLEDGEMENT

The study was undertaken as part of National Data Analysis Plan (NDAP) Round II, initiated by NACO in 2018. We thank NACO and particularly, Strategic Information Division (Data Analysis & Use) for supporting the study. We also thank our mentor, Dr Rajesh Kumar, for guiding us in the development of the technical brief. We would also like to acknowledge the support of development partners – UNAIDS, CDC, WHO, USAID, LINKAGES, FHI 360, ACCELERATE and JHU in finalising the technical briefs. Printing was supported by UNAIDS using the Cooperative Agreement Number NU2GGH001971-01-00 funded by the CDC.

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