# Secular trends in Hepatitis C incidence in people living with HIV: analysis from a MSF cohort in Manipur, India

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## INTRODUCTION

- Hepatitis C virus (HCV) infection is more prevalent in certain key populations, such as people living with HIV (PLHIV), people who inject drugs (PWID), men who have sex with men (MSM) and sex workers (SW).
- PWID form a major source of HCV transmission (1).
- HCV micro-elimination from infected key populations, by expanding HCV treatment access, is an essential tool for elimination of HCV globally (2).
- MSF has provided treatment for PLHIV in Manipur, India since 2006. This context experiences low-intensity conflict and high burden of HIV, HCV and drug use.
- For PLHIV, MSF commenced HCV screening in 2012, conditional HCV treatment in 2015, and universal access to HCV treatment in 2017; with treatment success rate of 87.2%.
- We analyse secular trends of HCV incidence and prevalence in an MSF PLHIV cohort of Manipur to inform program adaptation aiding HCV micro-elimination.

## "Treatment as prevention is a public health paradigm to eliminate Hepatitis C

**Figure 1.** Concept map of HCV micro elimination

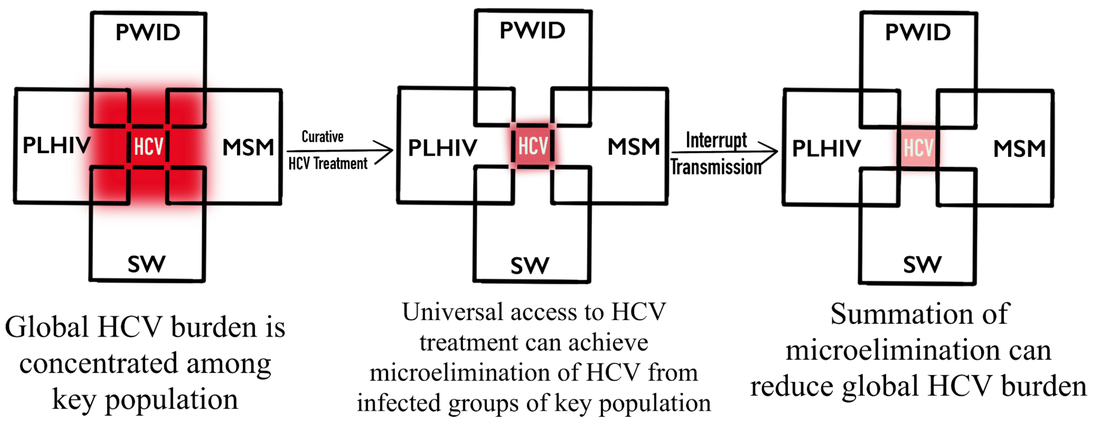
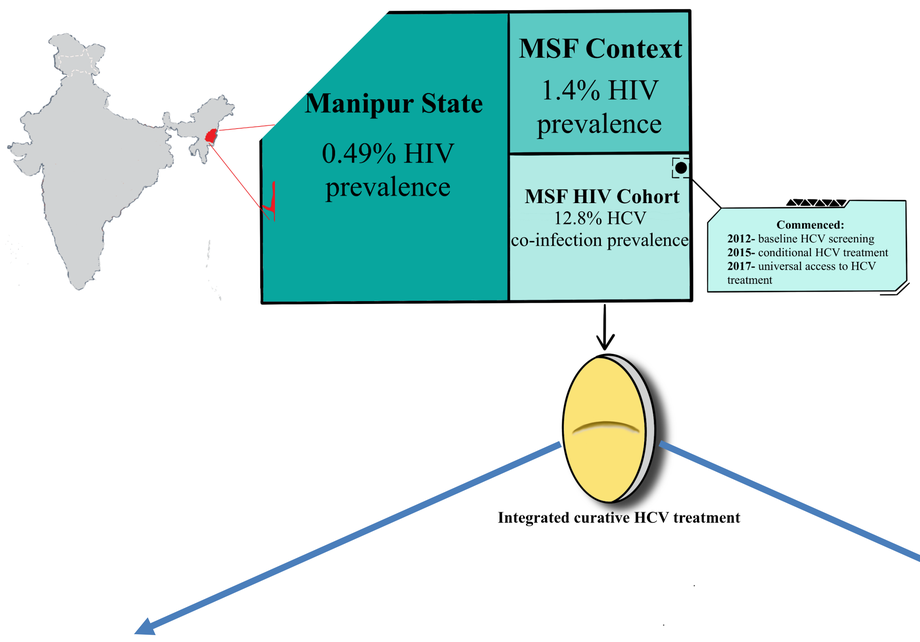
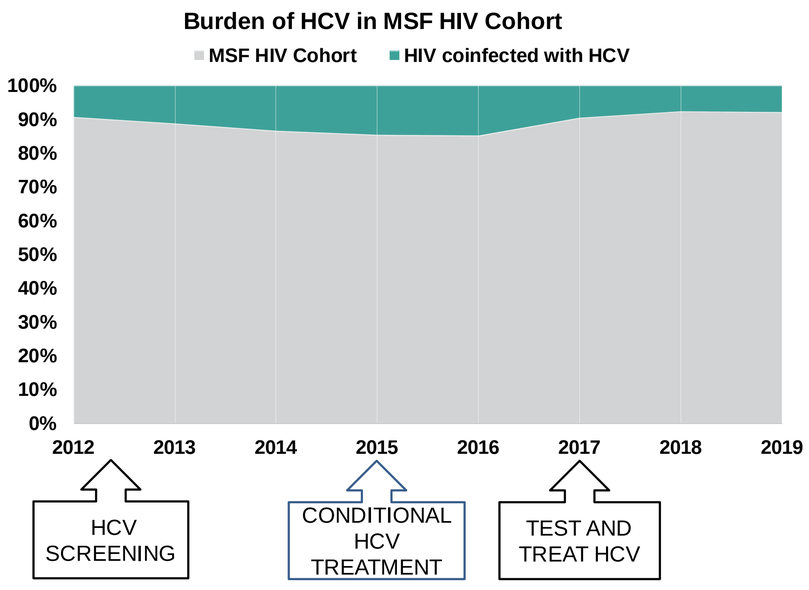
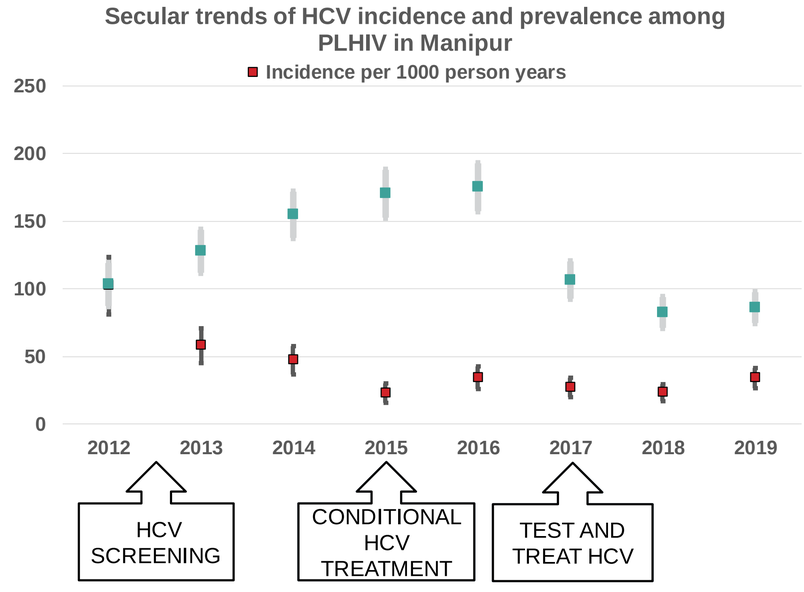



**Figure 2.** Concept map of research question




After PLHIV had universal access to HCV treatment, burden of HCV in PLHIV cohort decreased significantly; but did not trend towards micro-elimination




## RESULTS

- Between Jan 2012 and Dec 2019, 4719 PLHIV were followed for 14059.1 person-years with 538 diagnoses of chronic HCV.
- Average HCV incidence in the period was 38.26 per 1000 person-years (95% confidence interval, CI:35.03-41.5).

**Table 1.** Key Demographic characteristics of study cohort

| | HIV cohort | HIV/HCV cohort |
|---|---|---|
| n | 4719 | 538 |
| Mean Age, Years (95%CI) | 30.97 (30.3-31.5) | 37.31 (35.6-39.5) |
| Sex | 52.13% male | 77.3% male[1] |
| PWID | 26.9%[1] | 65%[1] |

## CONCLUSION

- In MSF's Manipur HIV cohort, IVDU is the major risk factor for HCV infection.
- Incidence and prevalence of HCV in PLHIV reduced after expanding HCV treatment access.
- To achieve micro-elimination of HCV, MSF needs to provide HCV treatment and harm reduction services to PWID, irrespective of HIV status.

## METHODS

- Retrospective analysis was conducted on routine clinical databases of PLHIV and HCV /HIV co-infected cohorts.
- Annual HCV incidence and prevalence between Jan 2012 and Dec 2019 were calculated per 1000 person-years follow up and per 1000 PLHIV per year respectively.
- Incidence and prevalence were compared between the year prior to treatment commencement and one year after universal access to treatment.
- Stata 16.0 and Microsoft Excel were used for statistical analysis.

- **Ethics:** This research fulfilled the exemption criteria set by the MSF Ethics Review Board (ERB) for a posteriori analyses of routinely collected clinical data and did not require MSF ERB review.

## DISCUSSION

- In MSF's Manipur clinics, intra-venous drug use (IVDU) is the most prevalent risk factor for HIV and HCV.
- One year after PLHIV had universal HCV treatment access (2018), HCV incidence and prevalence was significantly decreased, relative to prior burden (2014). HCV burden did not decrease subsequently, indicating continued HCV infection incidence in PLHIV.
- Baseline HCV testing of PLHIV and curative HCV treatment access decreased HCV burden. However the burden is not trending towards HCV micro-elimination.
- The secular trend of HCV burden within this MSF cohort in relation to expansion in treatment access is similar to that seen in the Netherlands (3).
- High prevalence of IVDU and possible re-infection may be a contributor towards continued HCV incidence among PLHIV.
- To move towards HCV micro-elimination, MSF may consider providing access to HCV treatment and harm reduction services to PWID, irrespective of HIV status, and adopting periodic HCV screening for PLHIV to identify and treat re-infection.

## REFERENCES

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3. Smit C, Boyed A, Rijnders BJA et al., HCV micro-elimination in individuals with HIV in the Netherlands 4 years after universal access to direct-acting antivirals: a retrospective cohort study. Lancet HIV. 2020:Online December 22, 2020