

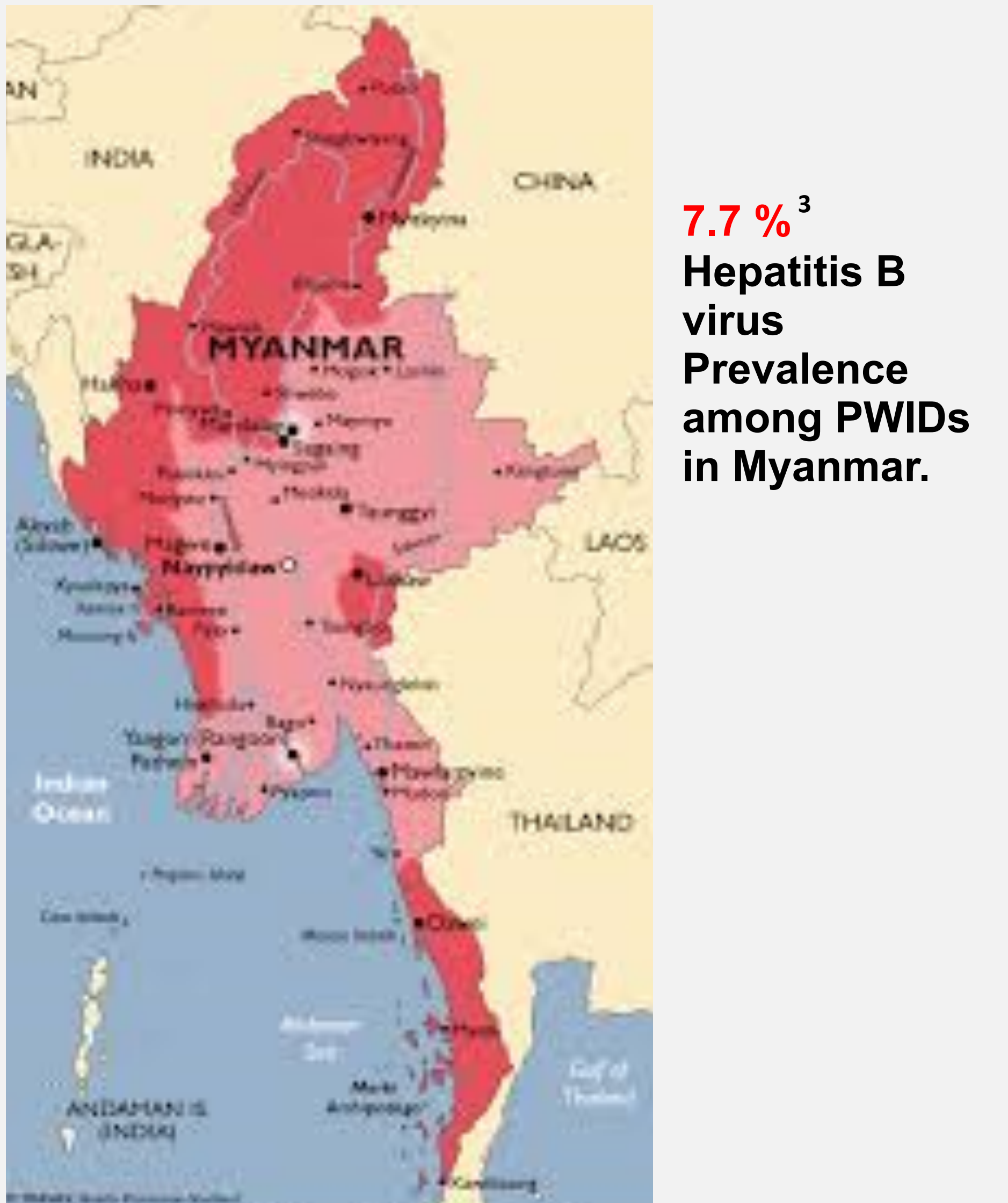
# Gaps in hepatitis B vaccination completion and levels of sero-protection among people who inject drugs in Hpakant, Myanmar from 2015 to 2018



N Shwe Yee<sup>1</sup>, A Yu Naing<sup>1</sup>, J Cuesta<sup>2</sup>, M Das<sup>3</sup>, K Dave<sup>4</sup>

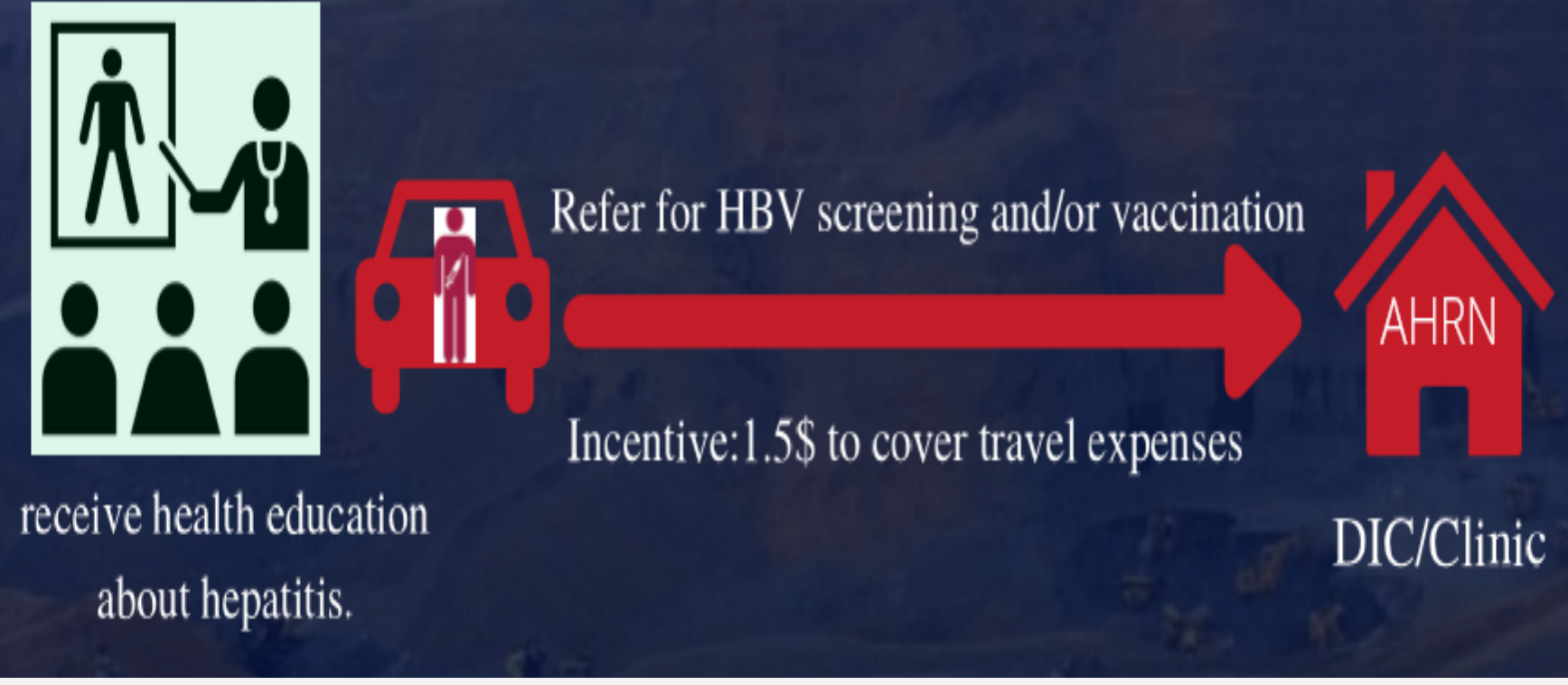
<sup>1</sup>Asian Harm Reduction Network, Yangon, Myanmar; <sup>2</sup>Médecins Sans Frontières, Brussels, Belgium; <sup>3</sup>Médecins Sans Frontières (MSF)/ Doctors Without Borders, New Delhi, India; <sup>4</sup>SEWA Rural, Jhagadia, Bharuch district, Gujarat, 393110, India

## Introduction



Hepatitis B virus (HBV) vaccination is recommended for high-risk groups, such as people who inject drugs (PWID). As part of a harm reduction programme by a non-governmental organization-Asian Harm Reduction Network; Hepatitis B screening, vaccination and antibody (HBsAb) testing after completion of vaccination-schedule were offered to PWID in Myanmar since 2015. We determined the proportion of HBV vaccination non-completion and sero-unprotection among PWIDs enrolled in the programme and their association with socio-demographic and clinical characteristics.

## Methods



**HBsAg screening** using SD Bioline HBsAg WB test, determine HBsAg test, HBsAg Diagnos test (sensitivity and specificity > 99%) HTS using determine STAT-PAK for screening and Uni-Gold for confirmation.

**Hepatitis B - Rapid vaccination schedule 1,7,21 day**

**Dosage**  
Non HIV infected : 20 µg<sub>4</sub>  
HIV infected : 40 µg<sub>4</sub>

We conducted a descriptive study based on routine AHRN programme in five selected clinics in Hpakant Township, Myanmar. We included PWIDs who were HBV antigen negative at screening from January 2015 to December 2018. They were offered HBV accelerated vaccination schedule: day 0, 7 and 21 and double vaccine dosage for HIV positive clients. Clients were traced if they did not appear to complete vaccination by peer treatment-facilitators. HBsAb were tested two months after the third dose of vaccine. Unadjusted risk ratios (RR) and adjusted risk ratios (aRR) were calculated for association of select socio-demographic and clinical factors with outcome variable (HBV vaccination refusal, vaccine incompleteness, those who did not turn up for HBV Antibody test and HBV sero-unprotection). 95% Confidence intervals (CI) and p-value<0.05 were considered significant.

## Results

Among 5,386 PWIDs participants eligible for HBV vaccination, 9% refused vaccination. Among those who accepted vaccination (3,177), 22% received only one vaccine dose, 13% two doses and 65% three doses (complete vaccination). Young-adults (aged 18-44 years) had higher risk of incomplete vaccination (2.3 aRR (95% CI 1.8-2.8), p-value <0.01) compared to older, however participants who used methadone had lower risk (0.2 aRR (95% CI 0.1-0.5), p-value <0.01) compared to non-users. Among those who completed vaccination, 31% (975) PWIDs did not return for HBsAb testing after the third dose. Migrant workers had higher risk of not returning for HBsAb test (1.3 aRR (95% CI 1.01-1.6), p-value =0.02). Of those who returned and were tested with HBsAb, 30% (650) were sero-unprotected. HIV-positive participants had a higher risk of being Hepatitis B sero-unprotected (1.9 aRR (95% CI 1.6-2.2), p value<0.01) compared with non-HIV.

## Conclusion

Gaps were identified among young adults who did not complete HBV vaccination and migrant workers failing to return for antibody testing after completion of vaccination-schedule. Considering their higher risk, efforts to increase awareness and uptake of HBV vaccination in PWIDs using methadone and anti-retroviral services should be prioritized. HIV positive PWIDs are less likely to achieve sero-protection and other preventive measures should be in place.

## Acknowledgements

This research was conducted through the Structured Operational Research and Training Initiative (SORT IT), a global partnership led by WHO / TDR. The model is based on a course developed jointly by the Union and MSF/Doctors without borders. We would like to acknowledge to Asian Harm Reduction Network (AHRN), Myanmar and all the patients for their kind support in conducting research.

## Ethics

Ethics approval was obtained from the Institutional Review Board, Department of Medical Research, Ministry of Health and Sports, Myanmar (Ethics/ DMR/2019/132), the Ethics Advisory Group (EAG) of the Union, Paris (25/19) and the international relation division (2019/1248) from MOHs, Myanmar, and National Drug Dependency Treatment and Research Unit, Myanmar.

## References

<sup>1</sup> WHO Hepatitis B fact sheet July 2018  
<sup>2</sup> Nelson et al. Global epidemiology of hepatitis B and C in people who inject drugs: results of systematic reviews, Lancet 2011.  
<sup>3</sup> Myanmar IBBS & Population size estimates among PWID 2017-2018, NAP, MOHS 2019  
<sup>4</sup> Hepatitis B Screening and Vaccination Guidelines from AHRN organization

