



# HIV in the Asia Pacific Region: Key Populations and Interventions

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# Purpose and Scope

- The Asia Pacific Region is **underrepresented** when discussing solutions for the HIV epidemic
- There is also a lack of **quantitative studies** on the region
- To combat this, we want to see what **interventions** are effective and who they should be targeted to



# Background



**Human Immunodeficiency Virus (HIV) has no known cure or vaccine**



**Various key populations are at higher risk for infection <sup>[25]</sup>**

Risk of contact

Lowered immune response



**Alternate measures are necessary to combat the disease**

# Key Terms

Key population: a group at increased risk of HIV exposure due to their identity.

Men who have sex  
with men (MSM)

People who inject  
drugs (PWID)

Sex workers (SW)

Incarcerated people  
or prisoners (PR)

Transgender people  
(TG)



Interventions: programs or services aiming to prevent the spread of HIV.



## UN Goals

- The United Nations (UN) aims to achieve a 95-95-95 model by 2030 [4]
  - **95 percent** of HIV positive people aware of their status
  - **95 percent** of HIV positive people receiving treatment
  - **95 percent** of HIV positive people virally suppressed
- SDG 3 (Target 3.3) aims to end the HIV epidemic globally

## Why the Asia Pacific?



### Globally:

- **44** percent of new cases are among key populations (2017) <sup>[3][25]</sup>
- **39** percent decrease in new cases since 2010 (2023) <sup>[23]</sup>
- **38 million** adults living with HIV (2023) <sup>[23]</sup>
- 86-77-72 (2023) <sup>[23]</sup>



### Asia Pacific:

- **94** percent of new cases are among key populations (2021) <sup>[22]</sup>
- **13** percent decrease in new cases since 2010 (2023) <sup>[3]</sup>
- **6.6 million** adults living with HIV (2023) <sup>[23]</sup>
- 78-67-65 (2023) <sup>[23]</sup>





# Commonly suggested interventions:

## Dismantling discriminatory policies

# Data acquisition and analysis:



Data was taken from various UN data bases

UNAIDs Data Report for 2021  
SDG Gateway



HIV prevalence's were selected for PWID, SW, TG, PR, and MSM

Percentage of positive tests  
Data from testing sites and behavioral surveys



Data related to interventions tended to be those that are a part of the UN's SDGs

SDG 3- Health and Wellbeing  
SDG 4- Equality of Education



# Variables

## Education

- Indicator: Participation of women in formal and non-formal education and training in the previous 12 months aged 15-24 (PFNFET)
- SDG 4

## Accessibility to healthcare

- Indicator: Universal Health Coverage Service Coverage Index (SCI)
- SDG 3

The strength of the correlations were classified for both positive and negative as:

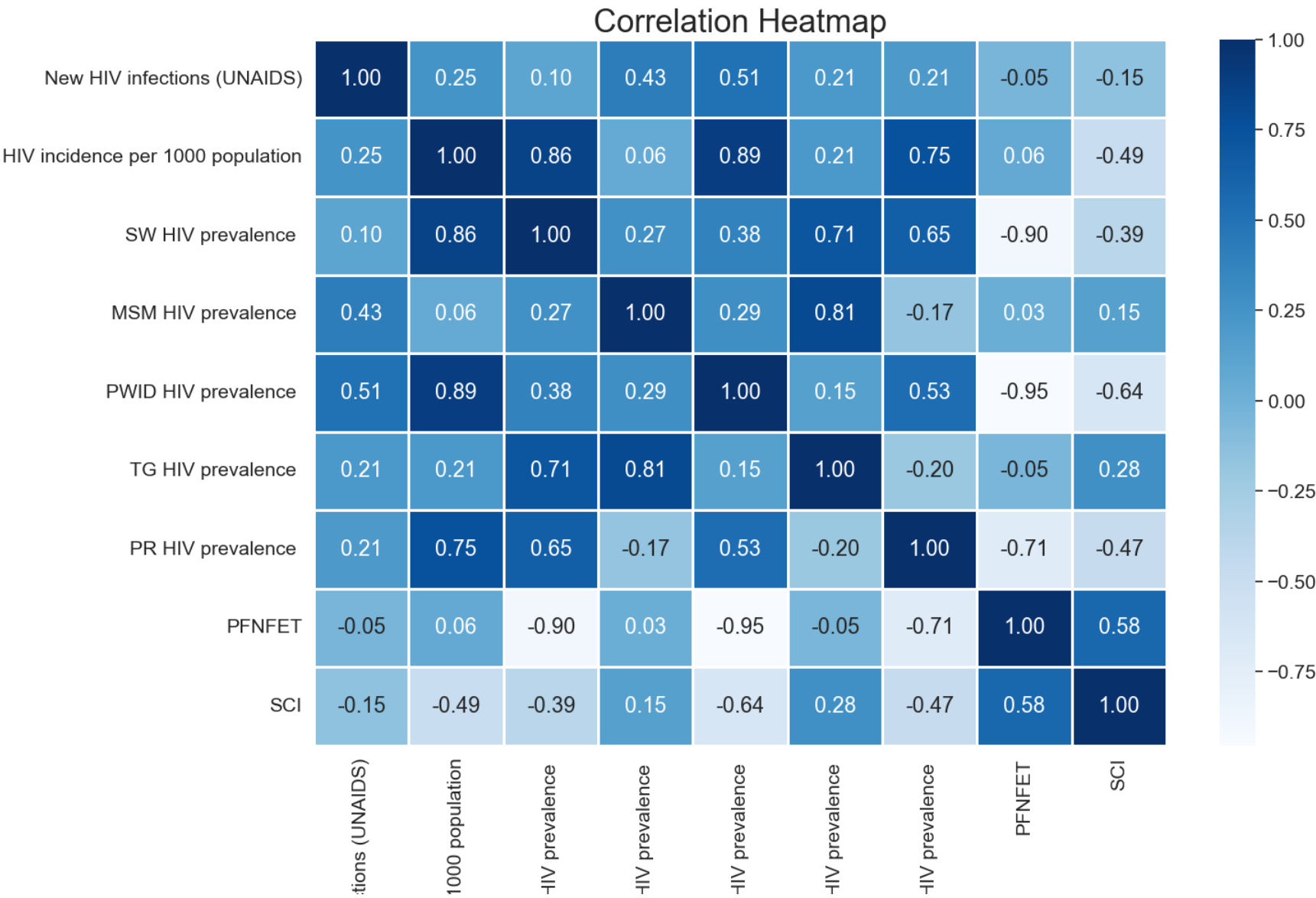
$0 \leq r < 0.2$ : very weak

$0.2 \leq r < 0.4$ : weak

$0.4 \leq r < 0.6$ : moderate

$0.6 \leq r < 0.8$ : strong

$0.8 \leq r < 1$ : very strong



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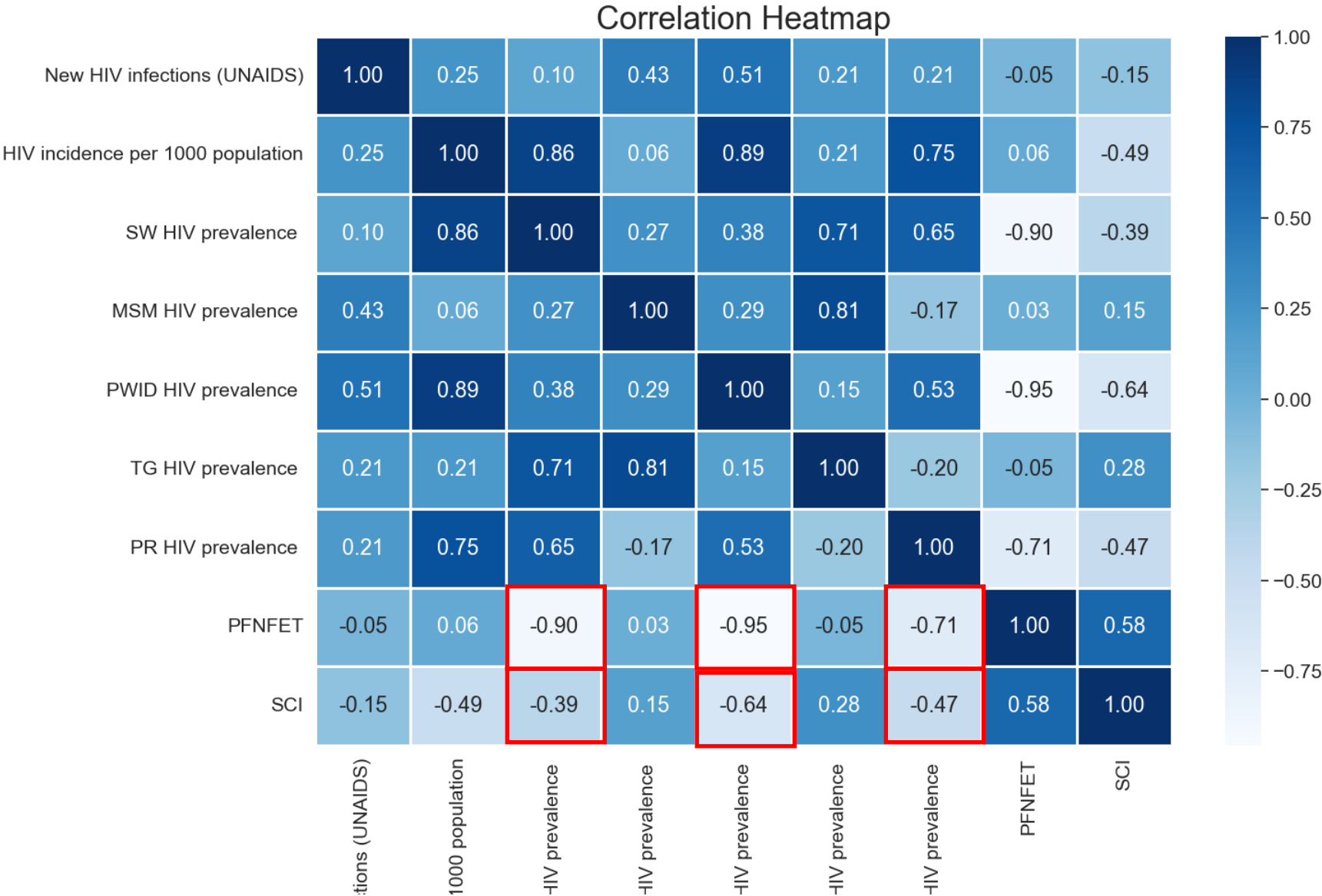
$0 \leq r < 0.2$ : very weak

$0.2 \leq r < 0.4$ : weak

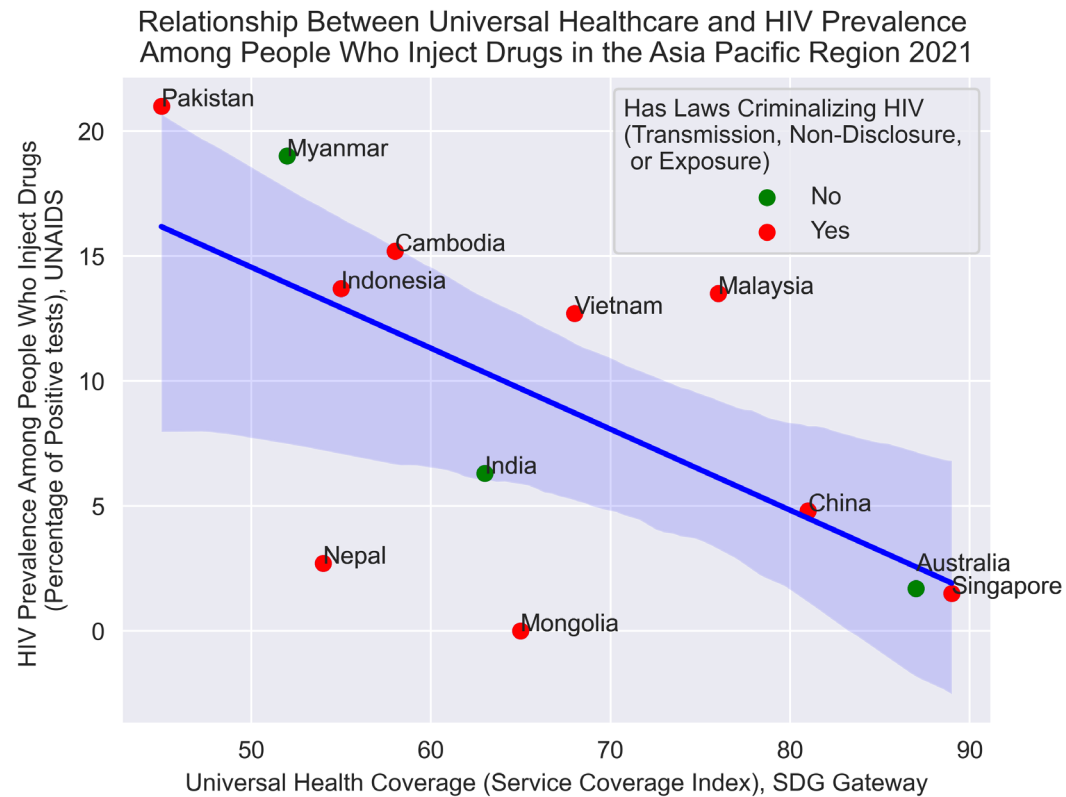
$0.4 \leq r < 0.6$ : moderate

$0.6 \leq r < 0.8$ : strong

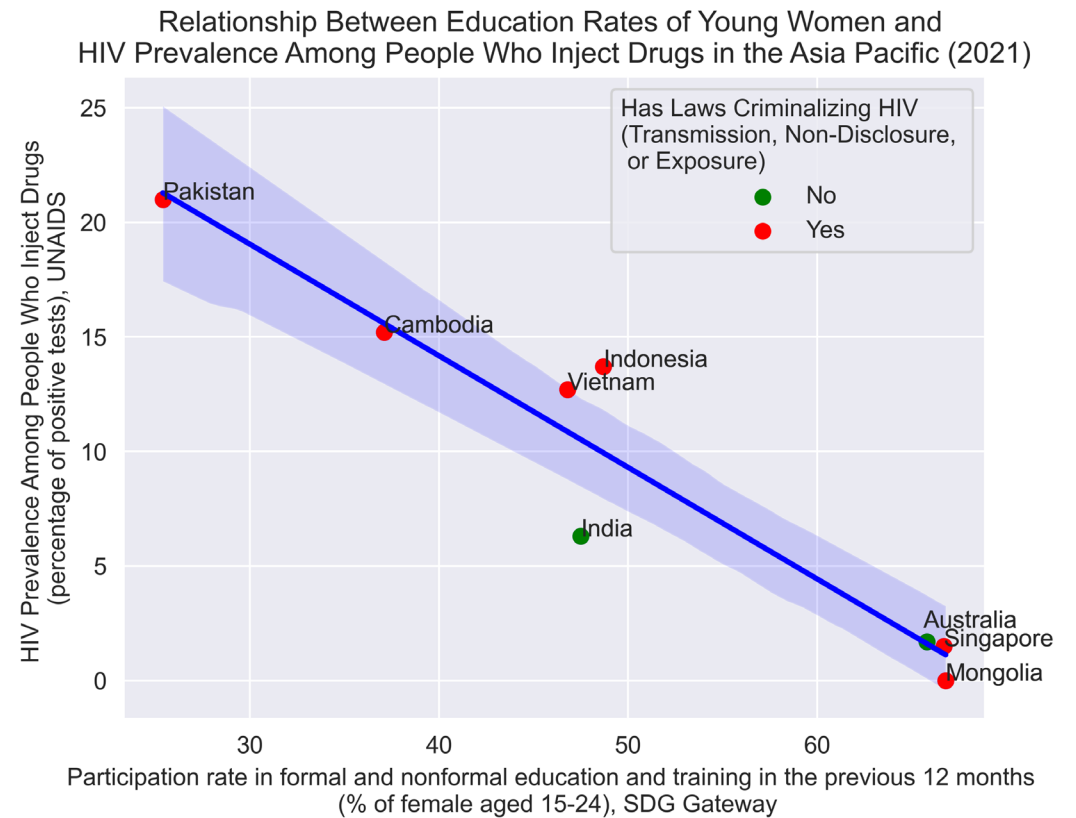
$0.8 \leq r < 1$ : very strong



# HIV Prevalence Among *PWID*



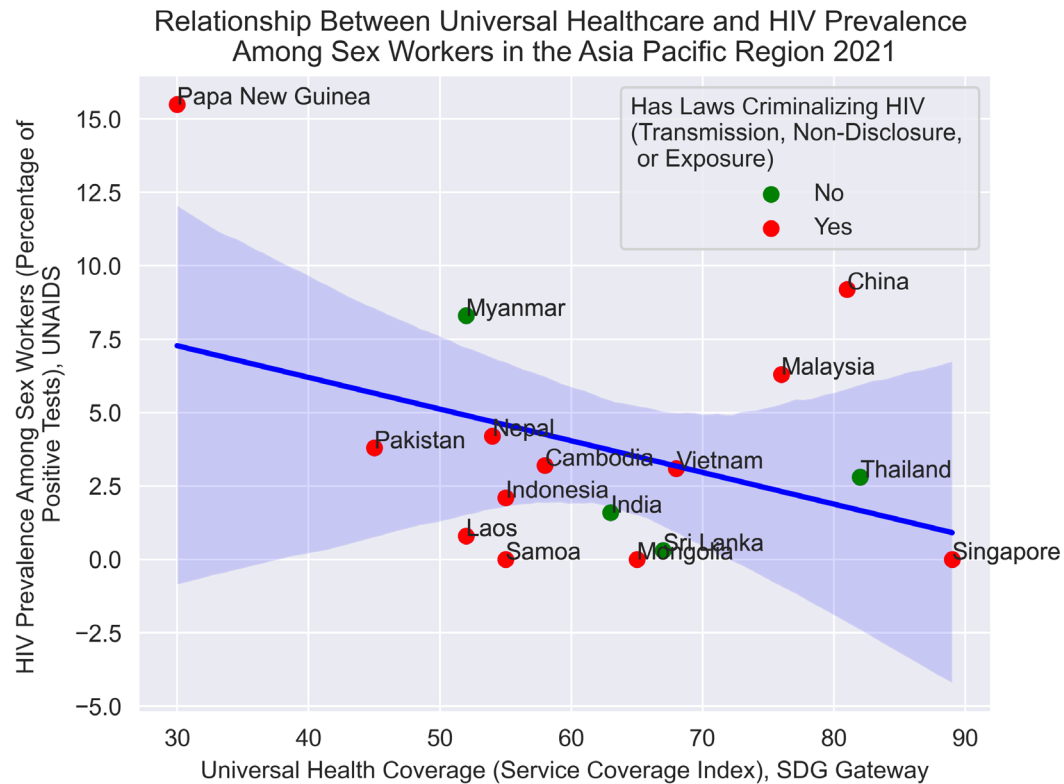
SERVICE COVERAGE



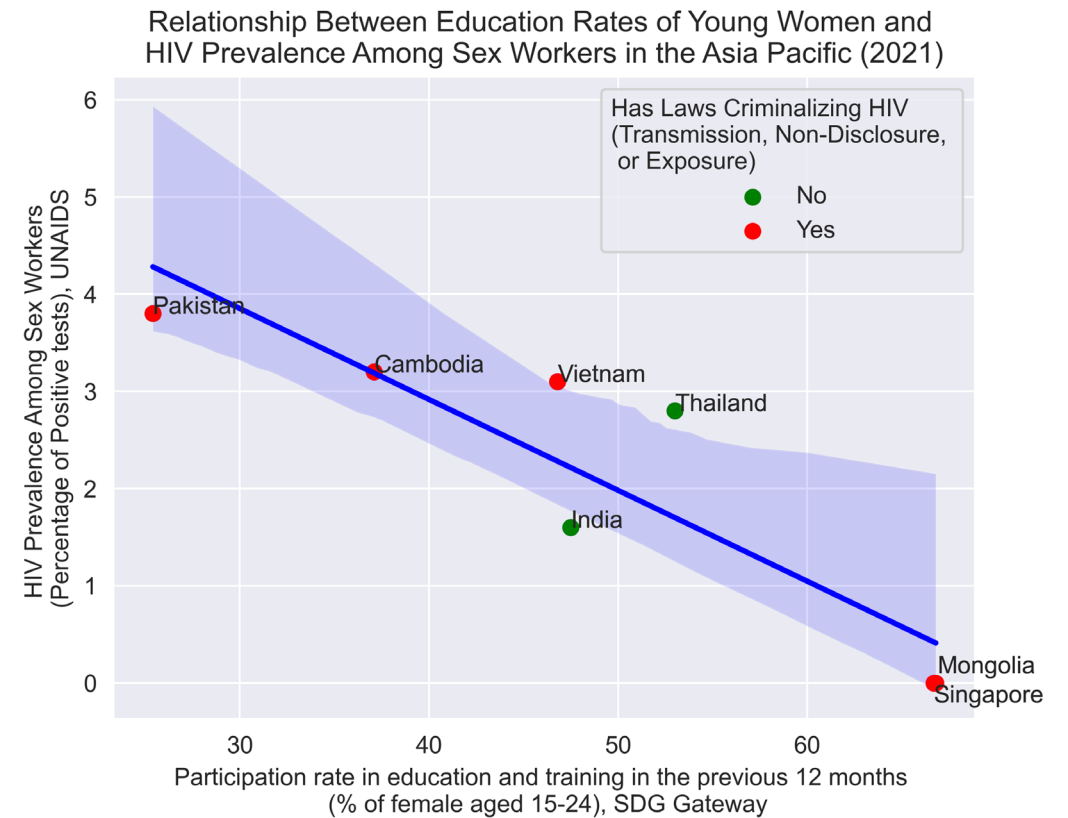
WOMEN'S EDUCATION



# HIV Prevalence Among *SW*

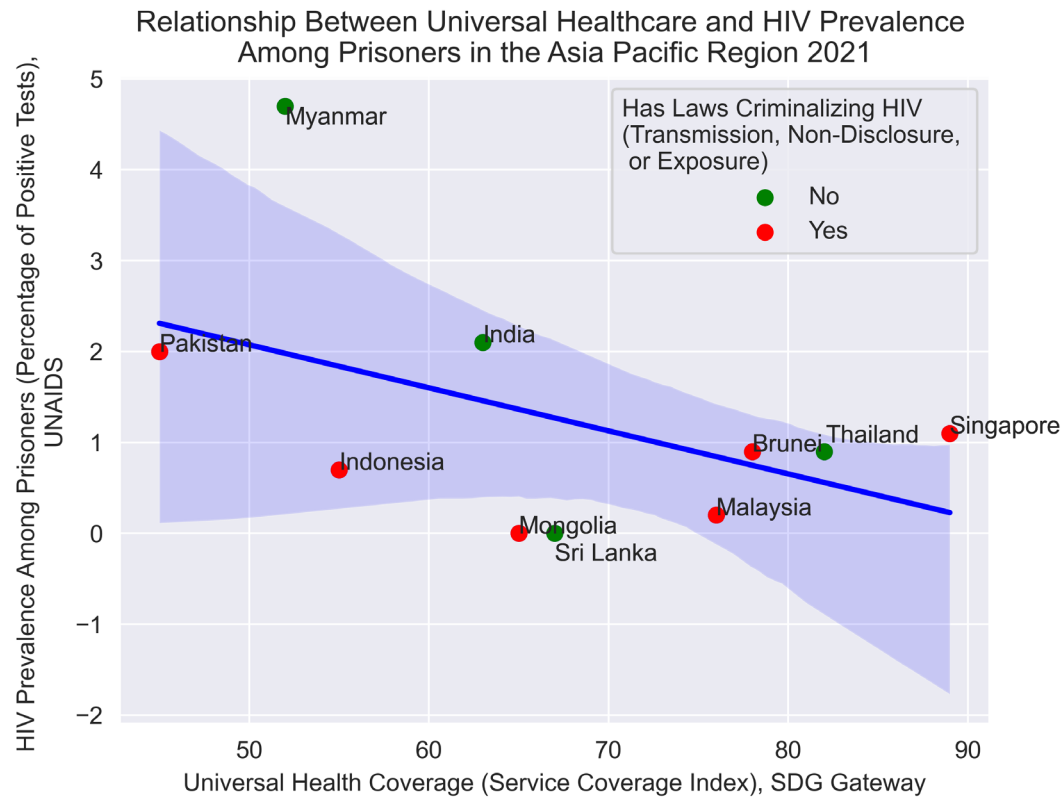


SERVICE COVERAGE

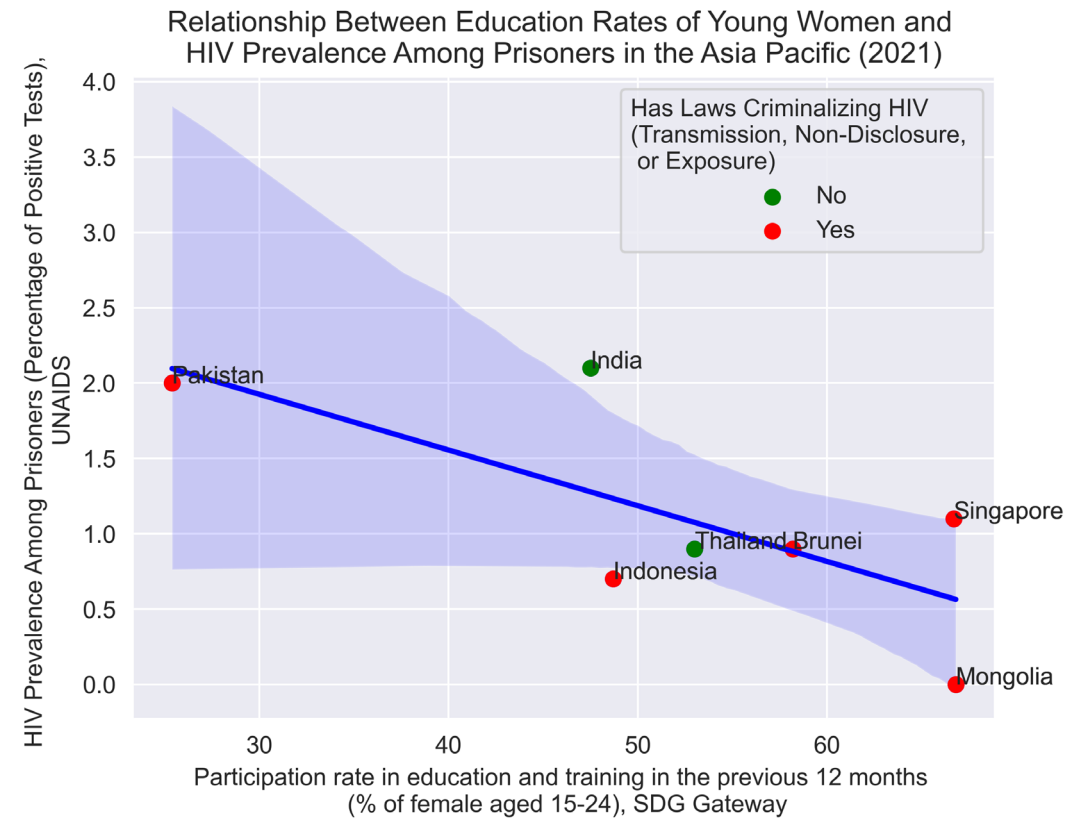


WOMEN'S EDUCATION

# HIV Prevalence Among *PR*



SERVICE COVERAGE



WOMEN'S EDUCATION

# Key Takeaways

- Multiple countries reported a **zero percent prevalence rate** for certain populations (Unlikely)
  - Most of these countries had criminalizing policies relating to the transmission of HIV
- **Data is limited** (especially in the Asia Pacific Region)
- **Women's education** seemed to be the most effective, especially with populations that are heavily female (ie: SW, PWID)
- There is a lack of nuance surrounding **gender identity** (no specifications are given)
  - Especially important for key populations



# Future work

1

Compare with  
other years

2

Add more  
interventions to  
compare

3

See if this is  
consistent with  
other regions

4

Analyze on a  
global scale



# Sources (1)

- [1] About HIV. url: <https://www.cdc.gov/hiv/about/index.html> (visited on 03/11/2025).
- [2] Jun Yong Choi, Midnight Poonkasetwattana, and Nittaya Phanuphak. “Overcoming challenges across the HIV care continuum in the Asia-Pacific region: expert recommendations”. In: BMJ Global Health 8.7 (July 2023), e012722. issn: 2059-7908. doi: 10.1136/bmjgh-2023-012722. url: <http://dx.doi.org/10.1136/bmjgh-2023-012722>.
- [3] Ending AIDS: Progress Towards the 90-90-90 Targets. 2017.
- [4] Ensure healthy lives and promote well-being for all at all ages. url: [https://sdgs.un.org/goals/goal3#targets\\_and\\_indicators](https://sdgs.un.org/goals/goal3#targets_and_indicators) (visited on 02/23/2025).
- [5] Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. url: [https://sdgs.un.org/goals/goal4#targets\\_and\\_indicators](https://sdgs.un.org/goals/goal4#targets_and_indicators) (visited on 02/23/2025).
- [6] Luisa Frescura et al. “Achieving the 95 95 95 targets for all: A pathway to ending AIDS”. In: PLOS ONE 17.8 (Aug. 4, 2022), e0272405. issn: 1932-6203. doi:10.1371/journal.pone.0272405. url: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9352102/> (visited on 03/13/2025).
- [7] Kimberly Green et al. “Ending AIDS in the Asia–Pacific region by 2030: are we on track? Policy, epidemiological and intervention insights”. In: Sexual Health 18.1 (2021), p. 1. issn: 1448-5028. doi: 10.1071/sh20226. url: <http://dx.doi.org/10.1071/SH20226>.
- [8] Caroline Haddad. “Gender and HIV prevention education: Effort in the Asia-Pacific Region”. In: UNESCO Asia and Pacific Regional Bureau for Education (2007).
- [9] HIV prevalence among key populations. <https://indicatorregistry.unaids.org/indicator/hiv-prevalence-among-key-populations-e>.
- [10] Pande Putu Januraga et al. “The cascade of HIV care among key populations in Indonesia: a prospective cohort study”. In: The Lancet HIV 5.10 (Oct. 2018) ,e560–e568. issn: 23523018. doi: 10.1016/S2352-3018(18)30148-6. url: <https://linkinghub.elsevier.com/retrieve/pii/S2352301818301486> (visited on 01/24/2025).
- [11] Matthew Jukes, Stephanie Simmons, and Donald Bundy. “Education and vulnerability: the role of schools in protecting young women and girls from HIV in southern Africa”. In: AIDS 22.Suppl 4 (Dec. 2008), S41–S56. issn: 0269-9370. doi: 10.1097/01.aids.0000341776.71253.04. url: <http://dx.doi.org/10.1097/01.aids.0000341776.71253.04>.
- [12] Ansley Lemons-Lyn et al. “Optimizing HIV Services for Key Populations in Public-Sector Clinics in Myanmar”. In: Journal of the International Association of Providers of AIDS Care (JIAPAC) 20 (Jan. 2021). issn: 2325-9582. doi: 10.1177/23259582211055933. url: <http://dx.doi.org/10.1177/23259582211055933>.
- [13] Many key populations avoid health services. url: [https://www.unaids.org/en/resources/presscentre/featurestories/2022/february/20220221\\_key-populations-health-services](https://www.unaids.org/en/resources/presscentre/featurestories/2022/february/20220221_key-populations-health-services) (visited on 03/05/2025).
- [14] Eamonn Murphy et al. “What will it take to end AIDS in Asia and the Pacific region by 2030?” In: Sexual Health 18.1 (2021), p. 41. issn: 1448-5028. doi: 10.1071/SH20204. url: <http://www.publish.csiro.au/?paper=SH20204> (visited on 01/24/2025).

## Sources (2)

- [15] numpy.polyfit. <https://numpy.org/doc/stable/reference/generated/numpy.polyfit.html>.
- [16] Jonathan Aseye Nutakor et al. “A multiplicative effect of Education and Wealth associated with HIV-related knowledge and attitudes among Ghanaian women”. In: BMC Public Health 23.1 (July 2023). issn: 1471-2458. doi: 10.1186/s12889-023-16311-5. url: <http://dx.doi.org/10.1186/s12889-023-16311-5>.
- [17] Bettina T. Schunter et al. “Lessons Learned From a Review of Interventions for Adolescent and Young Key Populations in Asia Pacific and Opportunities for Programming”. In: JAIDS Journal of Acquired Immune Deficiency Syndromes 66 (Supplement 2 July 1, 2014), S186–S192. issn: 1525-4135. doi: 10.1097/QAI.000000000000185. url: <https://journals.lww.com/00126334-201407011-00006> (visited on 01/24/2025).
- [18] SDG Gateway Asia Pacific. <https://dataexplorer.unescap.org/>.
- [19] Status of HIV Programmes in Indonesia. url: <https://www.unaids.org/en/keywords/asia-pacific> (visited on 03/13/2025).
- [20] UHC service coverage index (3.8.1). url: <https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4834> (visited on 03/05/2025).
- [21] UNAIDS Asia Pacific Data Hub. <https://unaids-ap.org/resources/aids-data-hub/>.
- [22] UNAIDS Data 2021. [https://www.unaids.org/sites/default/files/media\\_asset/JC3032\\_AIDS\\_Data\\_book\\_2021\\_En.pdf](https://www.unaids.org/sites/default/files/media_asset/JC3032_AIDS_Data_book_2021_En.pdf).
- [23] UNAIDS Key Population Atlas. <https://www.unaids.org/en/topic/key-populations>.
- [24] Ravipa Vannakit et al. “Fast-tracking the end of HIV in the Asia Pacific region: domestic funding of key population-led and civil society organisations”. In: The Lancet HIV 7.5 (May 2020), e366–e372. issn: 23523018. doi: 10.1016/S2352-3018(20)30077-1. url: <https://linkinghub.elsevier.com/retrieve/pii/S2352301820300771> (visited on 01/24/2025).
- [25] R Cameron Wolf et al. “Building the evidence base to optimize the impact of key population programming across the HIV cascade”. In: Journal of the International AIDS Society 21.S5 (2018), e25146. doi: <https://doi.org/10.1002/jia2.25146>. eprint: <https://onlinelibrary.wiley.com/doi/pdf/10.1002/jia2.25146>. url: <https://onlinelibrary.wiley.com/doi/abs/10.1002/jia2.25146>
- [26] Fan Yang et al. “Key populations and power: people-centred social innovation in Asian HIV services”. In: The Lancet HIV 7.1 (Jan. 2020), e69–e74. issn: 23523018. doi: 10.1016/S2352-3018(19)30347-9. url: <https://linkinghub.elsevier.com/retrieve/pii/S2352301819303479> (visited on 01/24/2025).



Thank You

Questions?