

# Using PrEP-to-need ratio to explore intersectional inequities in pre-exposure prophylaxis provision in Wales, UK

## Fast-Track Cities 2024

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Ending HIV in Wales

Dôd a HIV i ben yng Nghymru



Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales



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Trials Research



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# Background



HIV diagnoses reduced by 45% between 2015 and 2022 in Wales (UKHSA, 2023)



PrEP launched in Wales – 2017  
(Pre-exposure prophylaxis for HIV)



Emerging inequities in PrEP provision



Wales was the first UK nation to pledge to end new transmissions of HIV by 2030



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Wales

Aim: To evaluate equity of access to PrEP using routine data in Wales, 2022

PrEP to Need  
Ratio (PnR)

N° people prescribed  
PrEP

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N° people  
diagnosed with HIV

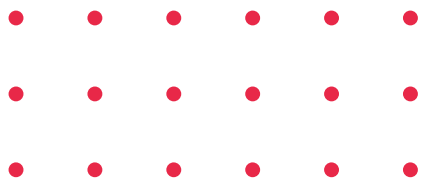
Aim: To evaluate equity of access to PrEP using routine data in Wales, 2022

Equity ratio

PnR

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PnR



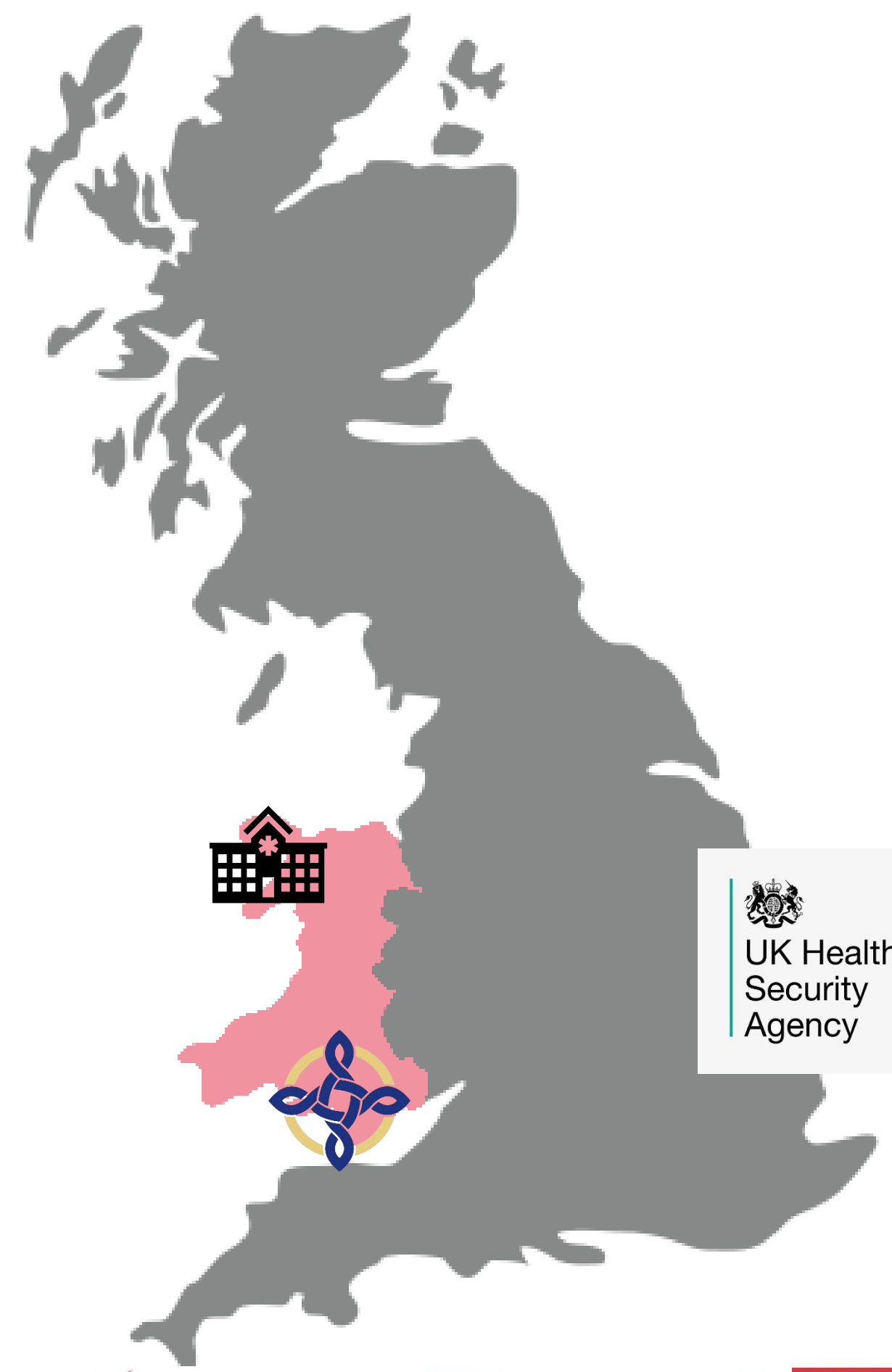
### PrEP by demograph

Age group  
Gender

Ethnicity  
Deprivation

### Data Sources

UKHSA: New HIV Diagnoses  
SWS: PrEP use data



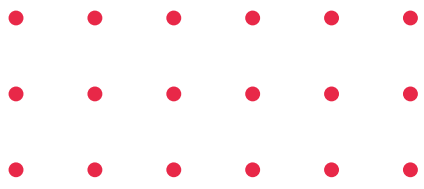
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### PrEP by demograph

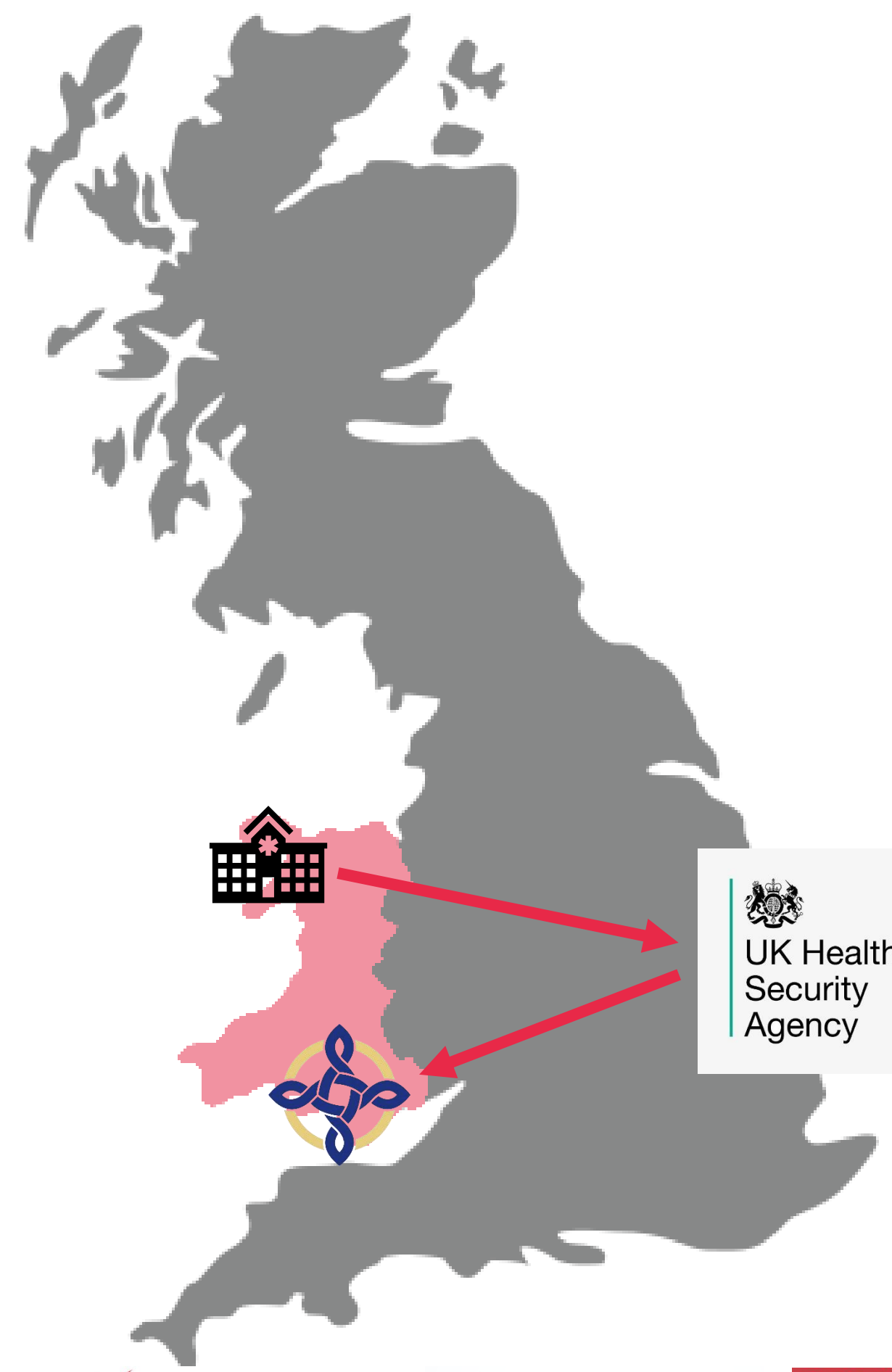
Age group  
Gender

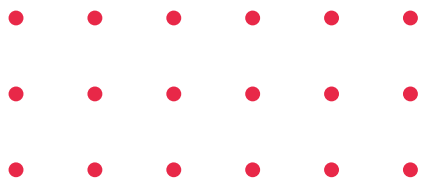
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## PrEP by demograph

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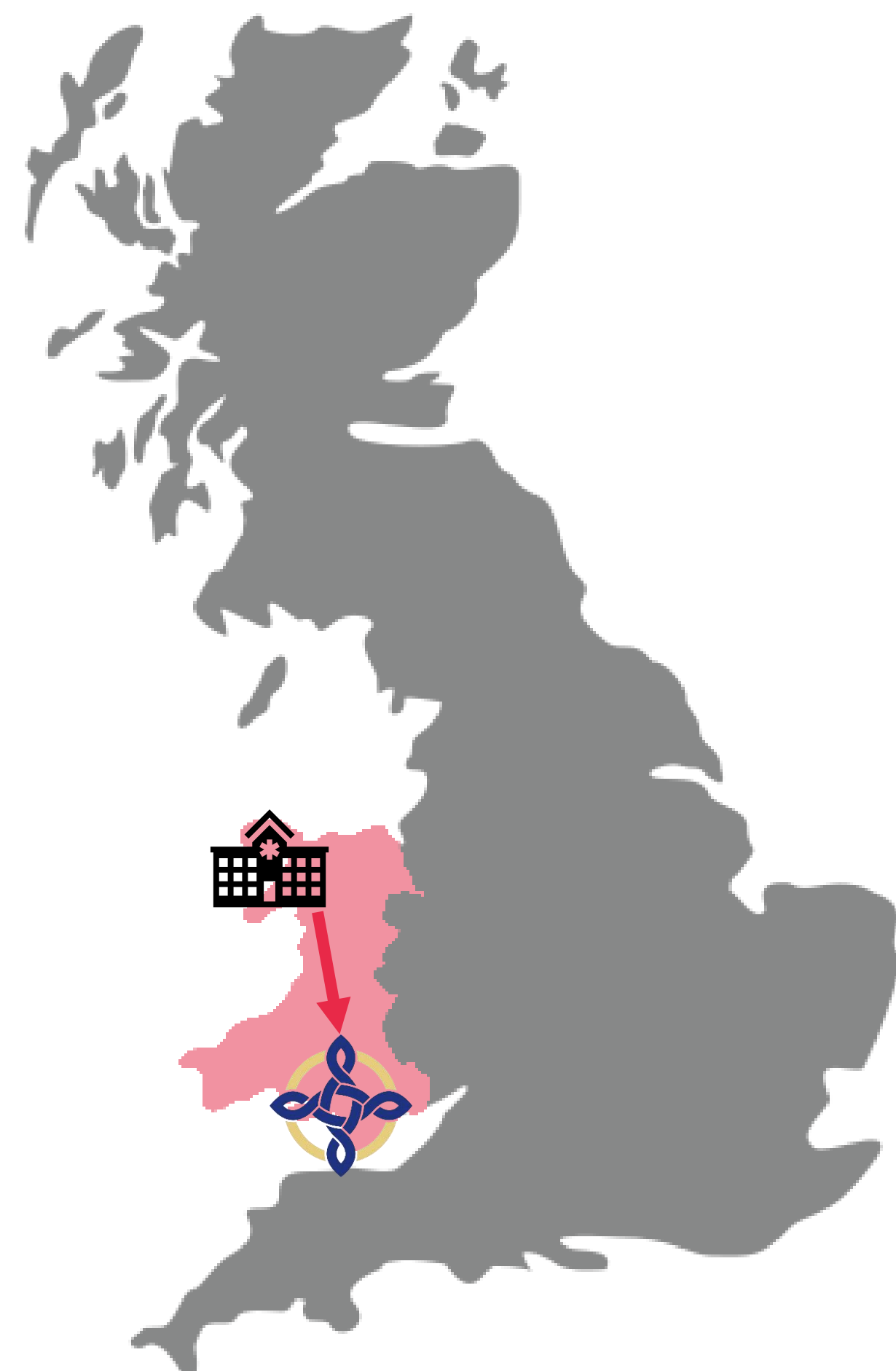
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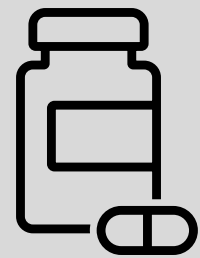
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# Results

In Wales, 2022:



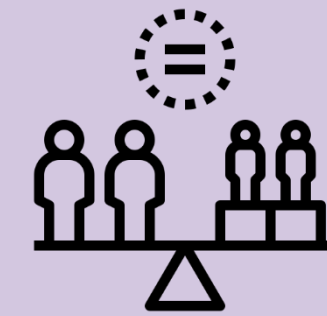
**2155**

People prescribed  
PrEP



**101**

People newly  
diagnosed with HIV



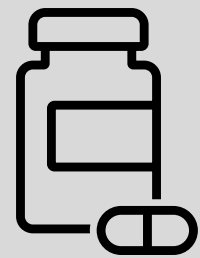
**21.3**

PrEP to need ratio  
(PnR)



# Results

In Wales, 2022:

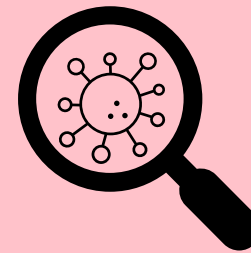


**2155**

People prescribed  
PrEP

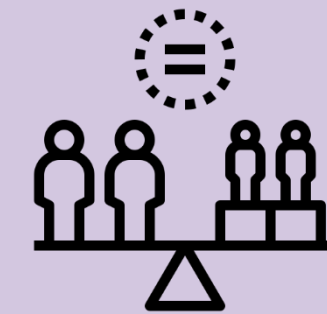
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**101**

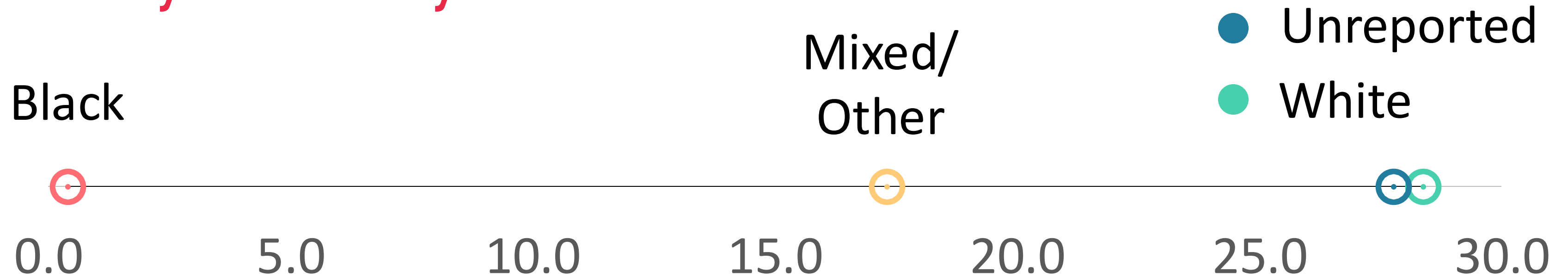
People newly  
diagnosed with HIV



**21.3**

PrEP to need ratio  
(PnR)

# PnR by Ethnicity



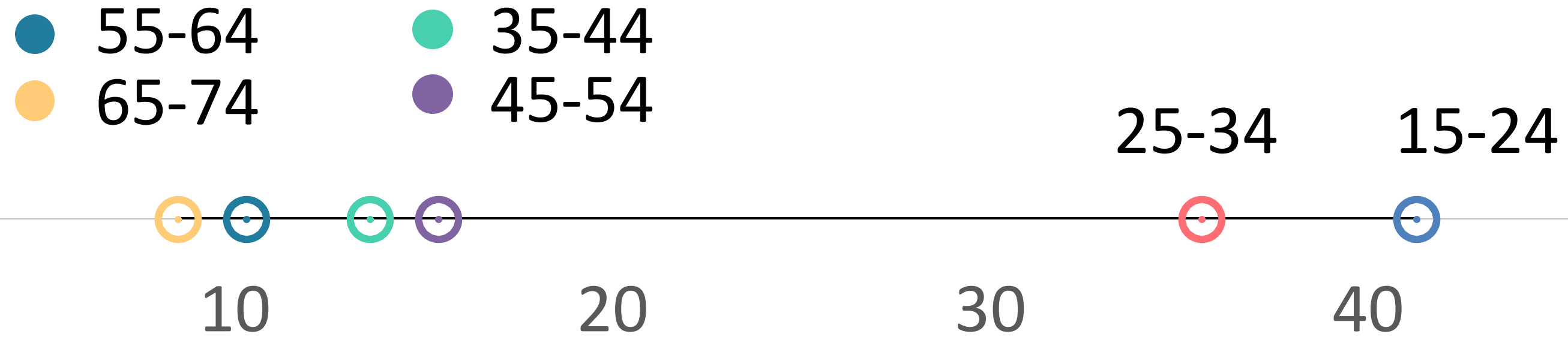
Ethnicity	PrEP Users N (%)	New HIV Diagnoses D (%)	PnR (N/D)	Equity ratio (PnR*/PnR)
Asian	41 (1.9%)	0 (0.0%)	-	-
Black	12 (0.6%)	29 (28.7%)	0.4	68.59
White	1561 (72.4%)	55 (54.5%)	28.4*	NA
Mixed/ Other	69 (3.2%)	4 (4.0%)	17.3	1.65
Unreported	472 (21.9%)	17 (16.8%)	27.8	1.02

# PnR by Gender



Gender	PrEP Users N(%)	New HIV Diagnoses D(%)	PnR (N/D)	Equity ratio (PnR*/PnR)
Female (including trans women)	32 (1.5%)	39 (38.6%)	0.8	39
Male (including trans men)	2112 (98.0%)	66 (65.3%)	32.0*	NA
Unknown/Other	11 (0.5%)	4 (4.0%)	2.8	11.64

# PnR by Age



Age	PrEP Users N (%)	New HIV Diagnoses D (%)	PnR (N/D)	Equity ratio (PnR*/PnR)
15-24	372 (17.3%)	9 (8.9%)	41.3*	NA
25-34	818 (38.0%)	23 (22.8%)	35.6	1.16
35-44	490 (22.7%)	36 (35.6%)	13.6	3.04
45-54	261 (12.1%)	17 (16.8%)	15.4	2.69
55-64	175 (8.1%)	17 (16.8%)	10.3	4.02
65-74	34 (1.6%)	4 (4.0%)	8.5	4.86
75+	5 (0.2%)	0 (0.0%)	-	-

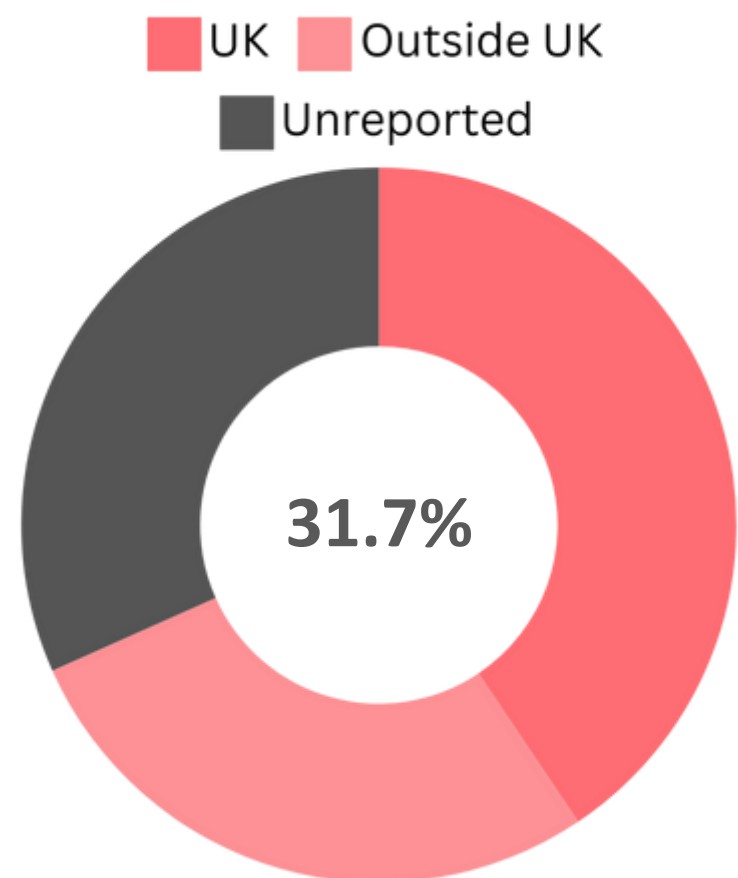
# PnR by Welsh Index of Multiple Deprivation (WIMD) Quartiles



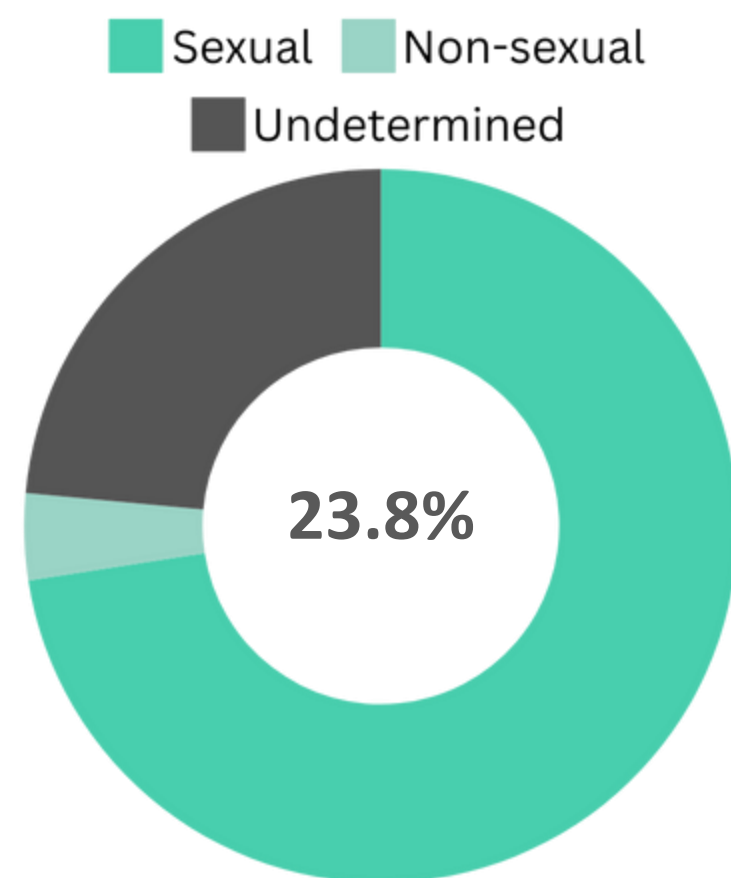
WIMD by quartile	PrEP Users N (%)	New HIV Diagnoses D (%)	PnR (N/D)	Equity ratio (PnR*/PnR)
1 (most deprived)	595 (27.6%)	24 (23.8%)	24.8	1.16
2	537 (24.9%)	24 (23.8%)	21.5	1.34
3	489 (22.7%)	16 (15.8%)	28.8*	NA
4 (least deprived)	412 (19.1%)	17 (16.8%)	24.2	1.19
Unknown/NA	122 (5.7%)	18 (17.8%)	6.8	4.24

# Sensitivity analyses

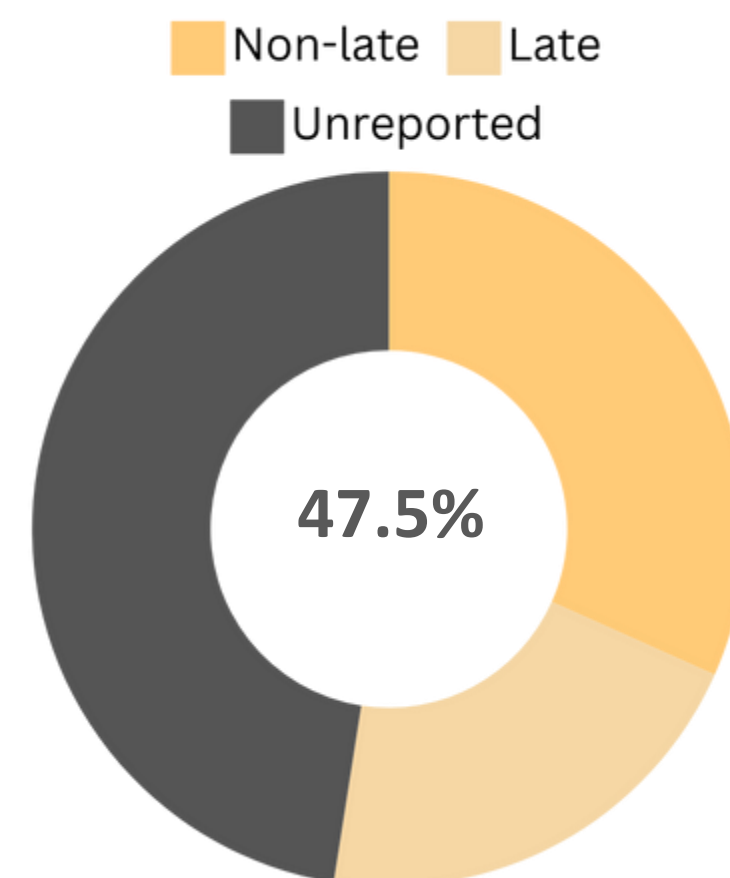
## Strengthening the denominator



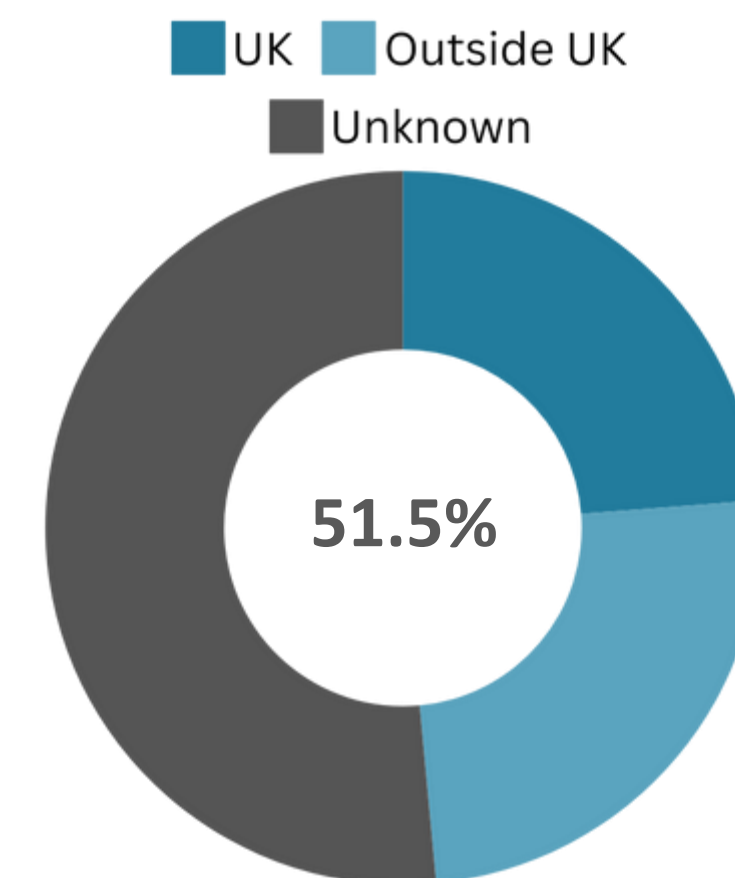
REGION OF BIRTH



PROBABLE EXPOSURE

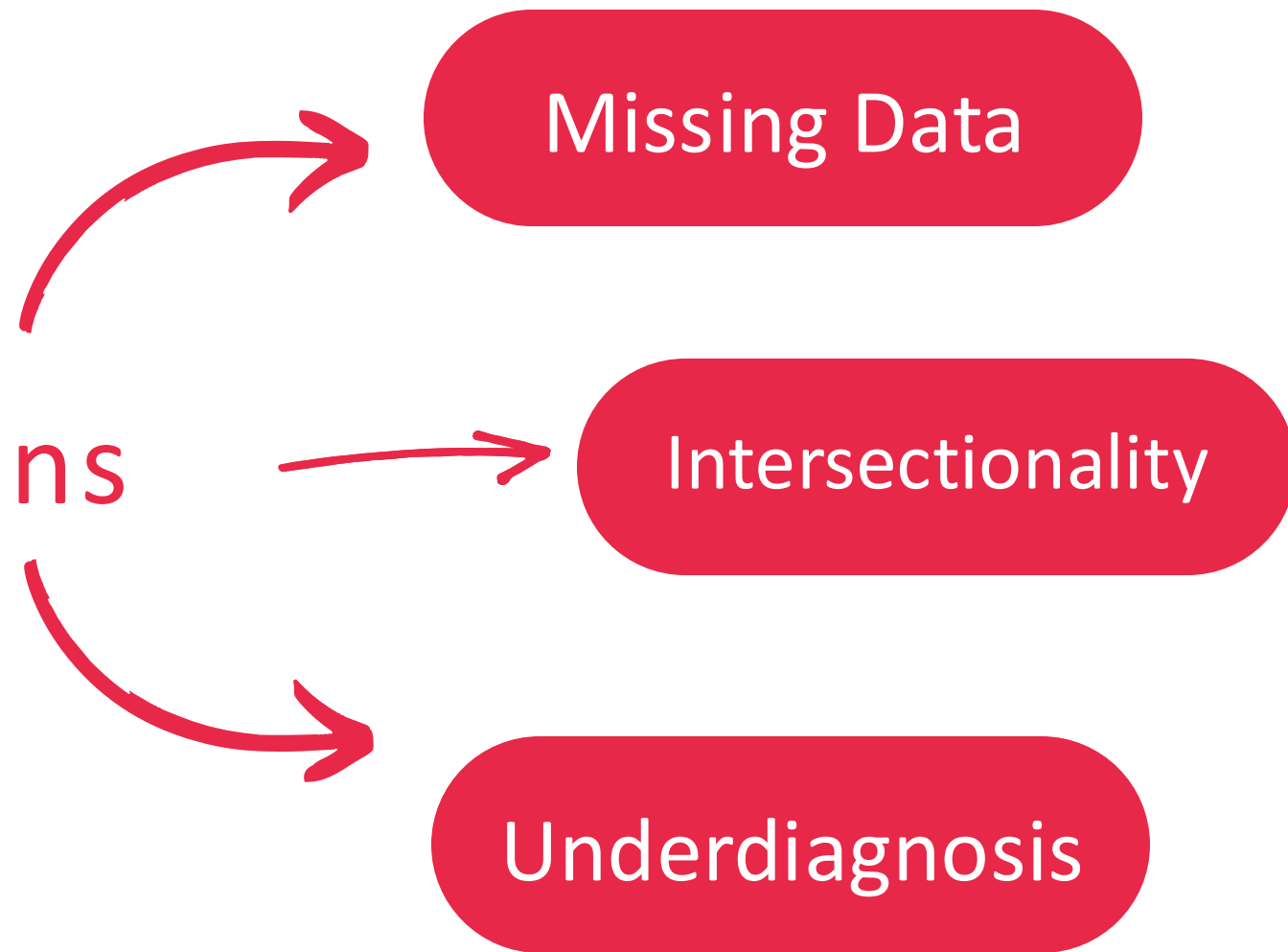


LATE PRESENTATION



ACQUISITION COUNTRY

# Limitations



# Implications

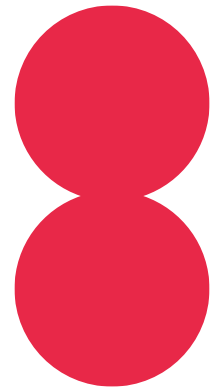
## Identified equity gaps

Similar equity patterns – USA & England  
(Siegler et al, 2018) (Coukan et al, 2024)

# Next Steps

## Estimated PrEP need

Test and Post users  
Sexual health clinic users



# QUESTIONS?

- 1 UK Health Security Agency. HIV new diagnoses, AIDS, deaths and people in care, country and region tables, United Kingdom. Version 1: 2023.
- 2 Siegler AJ, Mouhanna F, Giler RM, Weiss K, Pembleton E, Guest J, Jones J, Castel A, Yeung H, Kramer M, McCallister S.  
The prevalence of pre-exposure prophylaxis use and the pre-exposure prophylaxis-to-need ratio in the fourth quarter of 2017, United States. *Annals of epidemiology*. 2018 Dec
- 3 Coukan F, Sullivan A, Mitchell H, Jaffer S, Williams A, Saunders J, Atchison C, Ward H.  
Impact of national commissioning of pre-exposure prophylaxis (PrEP) on equity of access in England: a PrEP-to-need ratio investigation. *Sexually Transmitted Infections*. 2024 May



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