

# **RECAP**

## **HIV DRUG RESISTANCE SURVEILLANCE**



# Transmitted HIVDR Surveillance Inclusion criteria

- Epidemiologic criteria
  - age <25
  - No previous pregnancies
- For countries performing CD4 testing
  - CD4>500 and age <25 yrs, OR
  - CD4>500, regardless of age
- If available, laboratory assays (MAA or LAg), if available, to identify recent infections (regardless of age)



# How to sample?

## Integration in:

### 1) **HIV sentinel surveillance**

- If multiple HIV sentinel surveillance options (ANC, VCT, key populations) select the one that can give you more eligible individuals based on criteria described before
- Duration= same as for sentinel surveillance
- Sites= same as for sentinel surveillance

### 2) **Centralized HIV confirmatory test** (if small selection bias)



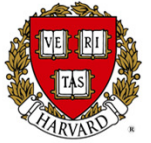
## **If new survey for HIVDR**

- Max duration 12 months
- Sites (ANC, or VCT) should be chosen to be nationally representative using the sampling approach described yesterday for pre-treatment survey
- The use of pre-treatment population attending health center is discouraged – higher risk to include sick people with chronic infection or previous exposure to drugs



- Estimate the sample size that you will likely achieve and decide upfront if results are meaningful for your programme





# I. Surveillance of TDR

		<b>Observed Prevalence of Drug Resistance 95% Wilson Confidence Interval</b>	
		<b>3%<sup>A</sup></b>	<b>10%<sup>B</sup></b>
<b>Survey Sample Size</b>	<b>n=25</b>	(0.4%,18.1%)	(3.2%,27.5%)
	<b>n=50</b>	(0.7%,12.0%)	(4.3%,21.4%)
	<b>n=100</b>	(1.0%,8.5%)	(5.5%,17.4%)
	<b>n=150</b>	(1.2%,7.1%)	(6.2%,15.8%)
	<b>n=200</b>	<b>(1.4%,6.4%)</b>	<b>(6.6%,14.9%)</b>
	<b>n=250</b>	(1.5%,5.9%)	(6.9%,14.3%)
	<b>n=300</b>	(1.6%,5.6%)	(7.1%,13.9%)

**A:** Estimated TDR Prevalence from 2012 WHO HIVDR Report

**B:** Example of a higher observed TDR Prevalence from 2012 WHO HIVDR Report

# Pre-treatment

## Goal:

- Produce a **nationally representative estimate** of the prevalence of HIVDR in the population initiating treatment

## Inclusion criteria

- Consecutive individuals initiating first line ART at the selected sites
  - Includes individuals who may have had prior exposure to antiretrovirals



# How to select sites?

- List all your sites
- List # pts initiating ART at each site
- Use Probability Proportional to Size (PPS) Sampling method to select 10-20 representative sites
- With PPS, bigger sites are more likely to be selected
- Each site will contribute the same number of specimens
- Overall sample size= 420 (if 10 sites) to 300 (if 20 sites)
- Confidence Interval Width  $\pm 4\%$ , HIVDR Prevalence 10%





# And for small countries?

- Finite Population Correction

Sampling Method	Number of clinics	Patients per clinic	Total # patients
Without Finite Population Correction	10	42	420
With Finite Population Correction	7	22	154

- e.g. country that only has 15 clinics, select 7 sites, and overall sample is 154
- E.g. if a country has 5 clinics, all starters in a quarter



# Summary

- Region with important resources and strong capacity
- Heterogeneity in study design, sampling, definition hamper proper interpretation and comparability of data
- With the exception of one survey, regional data on HIVDR not included in the Global Report because of lack of minimum requirements of comparability



# Proposition

- Transmitted HIVDR surveillance
- Pre-treatment HIVDR surveillance
- Acquired HIVDR surveillance
  
- Follow a common regional approach to implement national representative HIVDR surveillance – to allow comparability over time and across regions
  
- Minimum criteria of comparability in line with WHO proposal
  - Inclusion criteria
  - Sampling strategy



- Following a representative sampling with agreed inclusion criteria enhance PH utility of data and regional and global relevance
- Proposition: Next time you plan to implement a HIVDR survey, countries are encouraged to liase in advance with PAHO/WHO to ensure standardization.

