RESPOND

International Cohort Consortium of Infectious Diseases

A simple tool to evaluate the effectiveness of HIV care for settings with gaps in data availability

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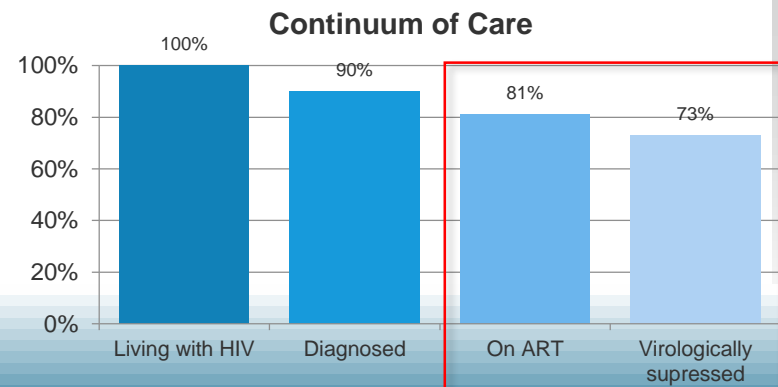
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Presenter Disclosure Information

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Background

- The continuum of care (or the 90-90-90 goals) can help identify strengths or weaknesses in the ability to diagnose and link people with HIV to care and monitor treatment programs

- Data on people on ART and with viral suppression (VS) rely on good clinical data and reporting mechanisms between national surveillance institutions and clinical cohorts that are not in place in all countries across Europe

- Many HIV clinics do not have the IT infrastructure or resources to routinely report information on all patients in care

Continuum of Care

Living with HIV	Diagnosed	On ART	Virologically supressed
100%	90%	81%	73%

Source: Raymond et al., 2014 & ECDC, 2015

Objectives

- To investigate data required to estimate the 'right-hand side' of the HIV continuum in a clinic setting by using different sampling techniques and random samples from participating clinics

- To develop a simple accessible online tool to enable clinics to calculate aggregated prevalence estimates for people on ART and with VS
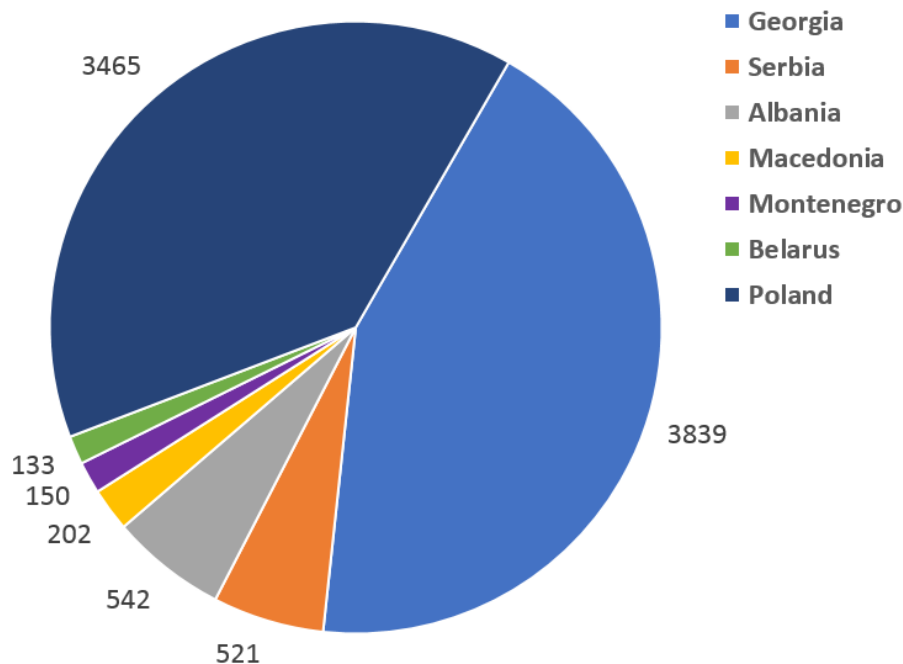
Methods

- Data collected on all with HIV seen ≥1 during 2017 at 7 clinics participating in RESPOND

- The % on ART and VS (VL<200 copies/ml [<500 copies/ml in Belarus]) calculated using the total number under care in the clinic as the denominator

- Persons with missing VL assumed to be not VS

Note

*Analyses focus on '**clinic specific 2nd 90**' - % seen in clinic who are still under FU and on ART (excluding drop-outs included in UNAIDS 90-90-90).*

Results

Clinics participating in study : N=8852

Legend:
- Georgia
- Serbia
- Albania
- Macedonia
- Montenegro
- Belarus
- Poland

Values shown: 3465, 3839, 133, 150, 202, 542, 521

All	N=8852	N	%
Age	<=30	1255	14.2
	30-40	3046	34.4
	>40	4550	51.4
	Missing	1	0.0
Last CD4	<=500	3833	43.3
	>500	4900	55.4
	Missing	119	1.3
Gender / risk	MSM	3157	35.7
	M heterosexual	1470	16.6
	F heterosexual	1544	17.4
	M IDU	1648	18.6
	F IDU	197	2.2
	M Other	669	7.6
	F Other	165	1.9
Years since HIV+	<=1	1180	13.3
	1-3	1922	21.7
	>3	5719	64.6
	Unknown	31	0.4

- 93.8% on ART (95% CI 93.3–94.2)
- 76.7% were VS* (95% CI 75.8–77.6%)

*people without VL data were assumed to be unsuppressed

Continuum of care 2017 (at last visit)
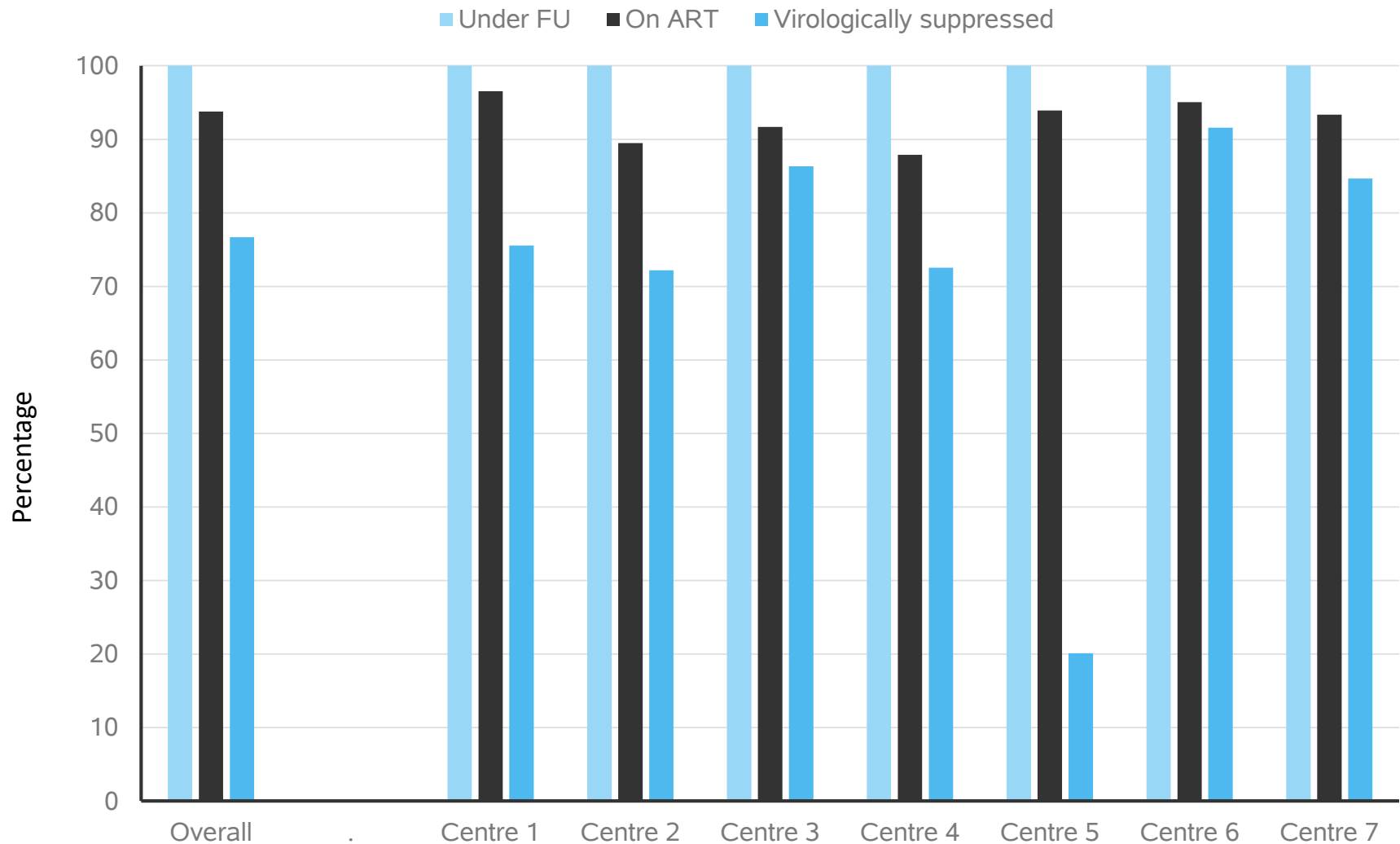
Continuum of Care - showing missing VL
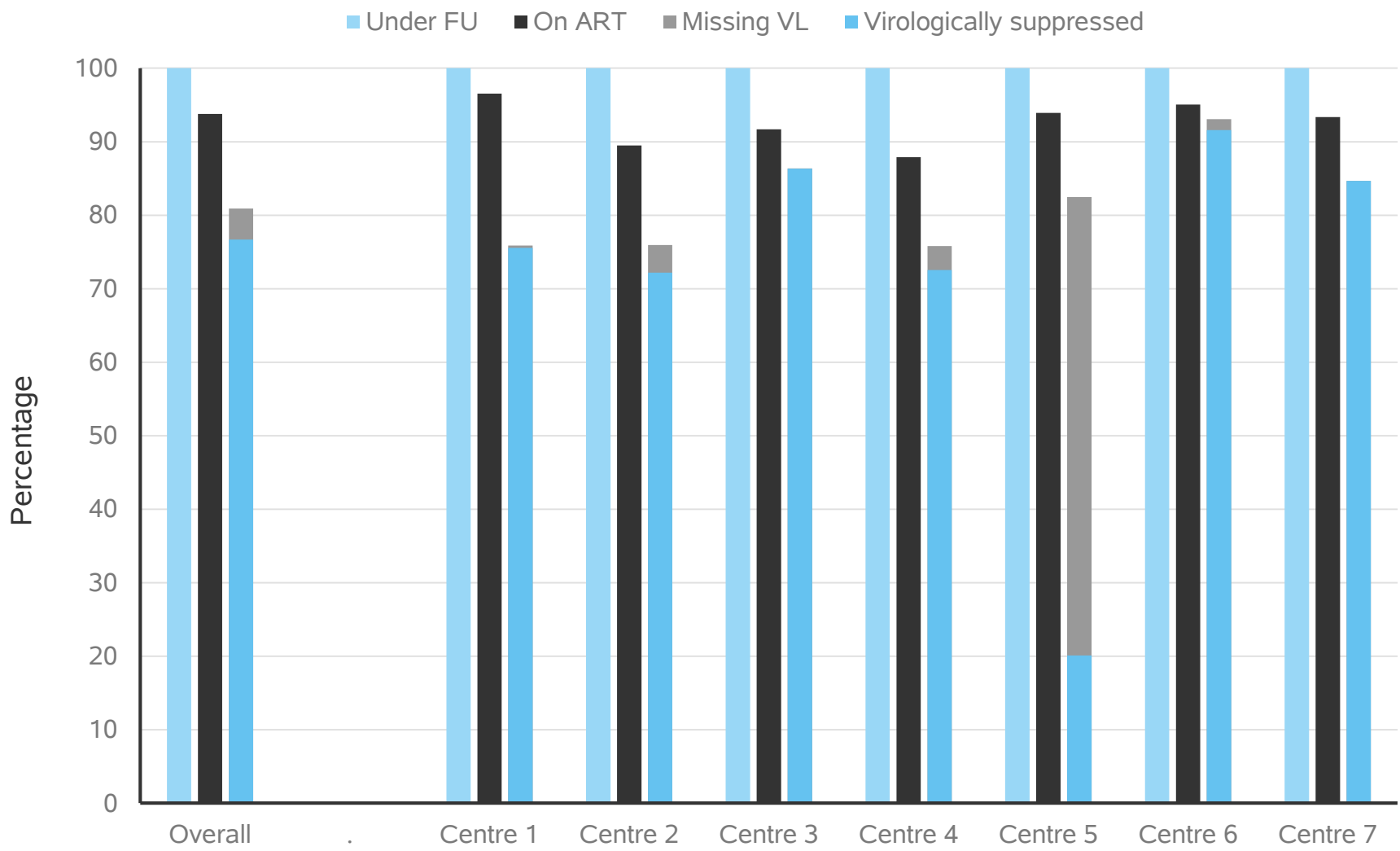
- Most clinics have limited resources and many individuals under follow-up

- Practically not realistic to input complete clinic population into online tool to get continuum (approx. 10-15 mins per individual)

- Interested in required sample size needed from clinic to reliably estimate continuum for whole of clinic population

# Continuum of care 2017 (at last visit)
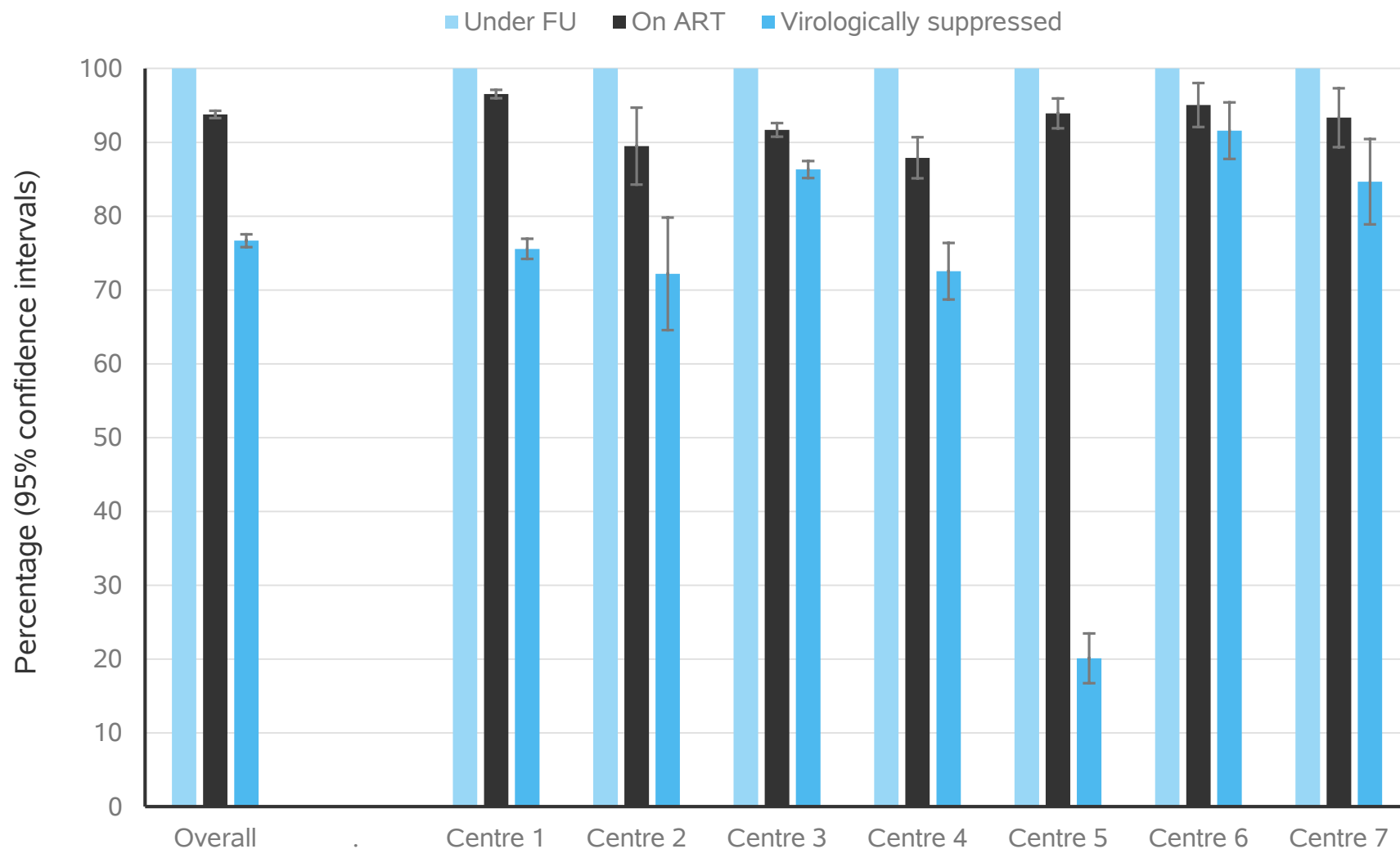
Sampling methods:
How to choose a sample?

Possible methods:

1. Different samples (ie 5% random sample, born in January)

2. Bootstrapping techniques[1] using 500 or 1000 repetitions to identify 2.5 and 97.5 percentiles for the percentage on ART/VS

3. Application of WHO HIV drug resistance (HIVDR) Early Warning Indicators (EWI) – sampling[2]

[1]Bootstrapping is a resampling technique used to obtain estimates of summary statistics using random sampling with replacement
[2]WHO consolidated guidelines on person-centred HIV patient monitoring and vase surveillance annex 2.4.6

1. Different samples in one center
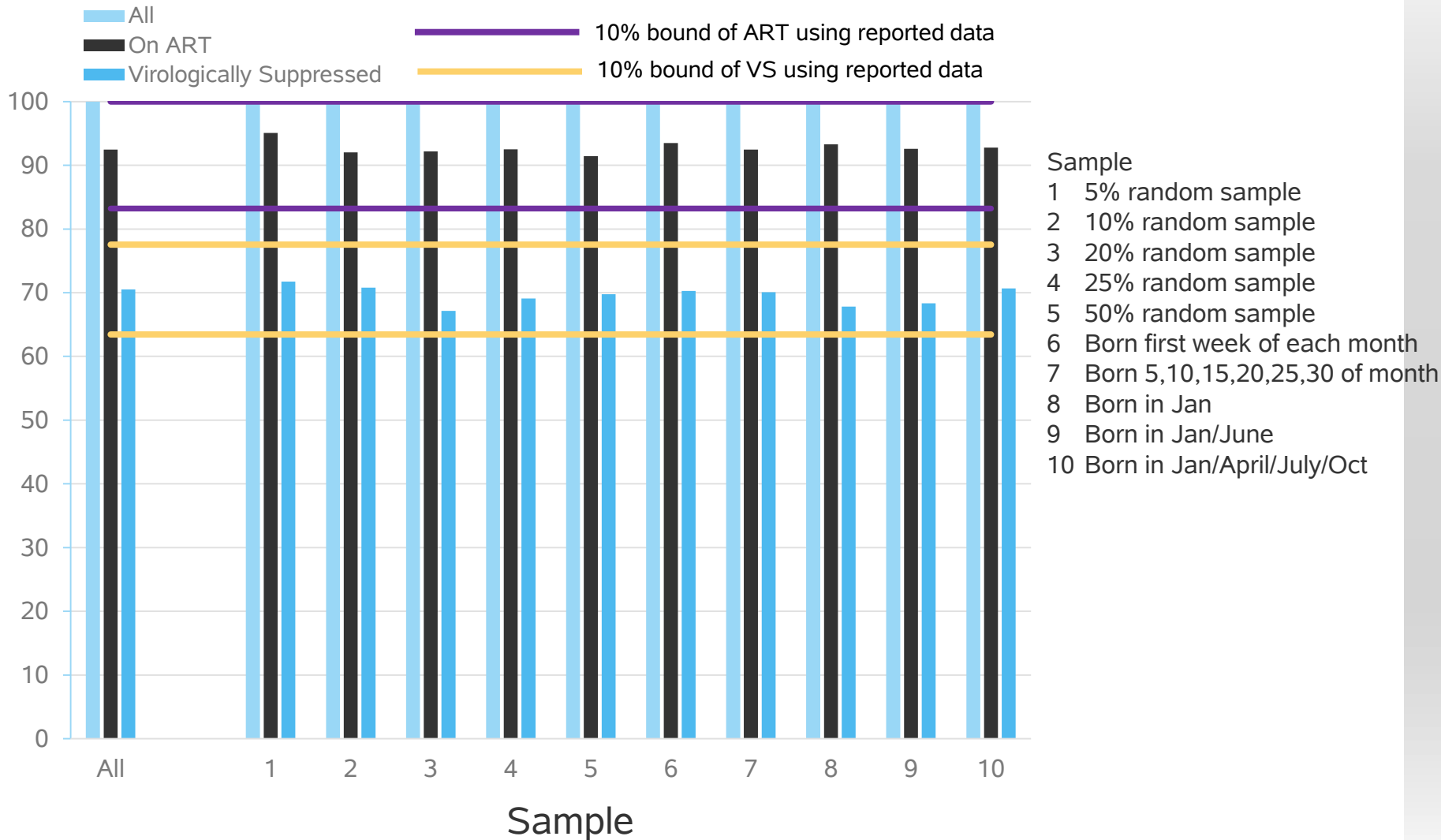
2. Bootstrapping
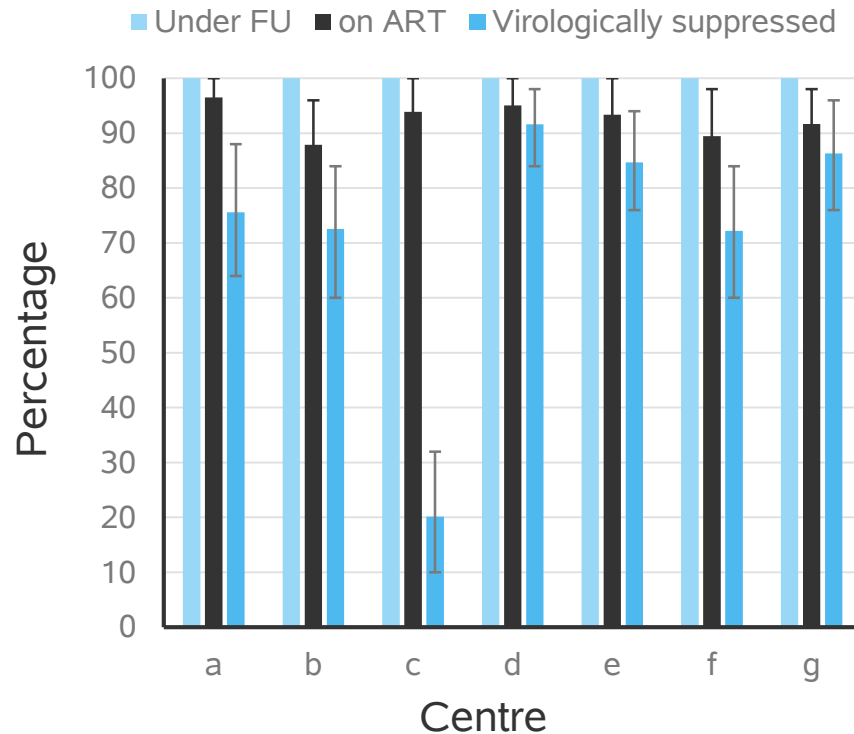
A: sample size 50; 1,000 repetitions
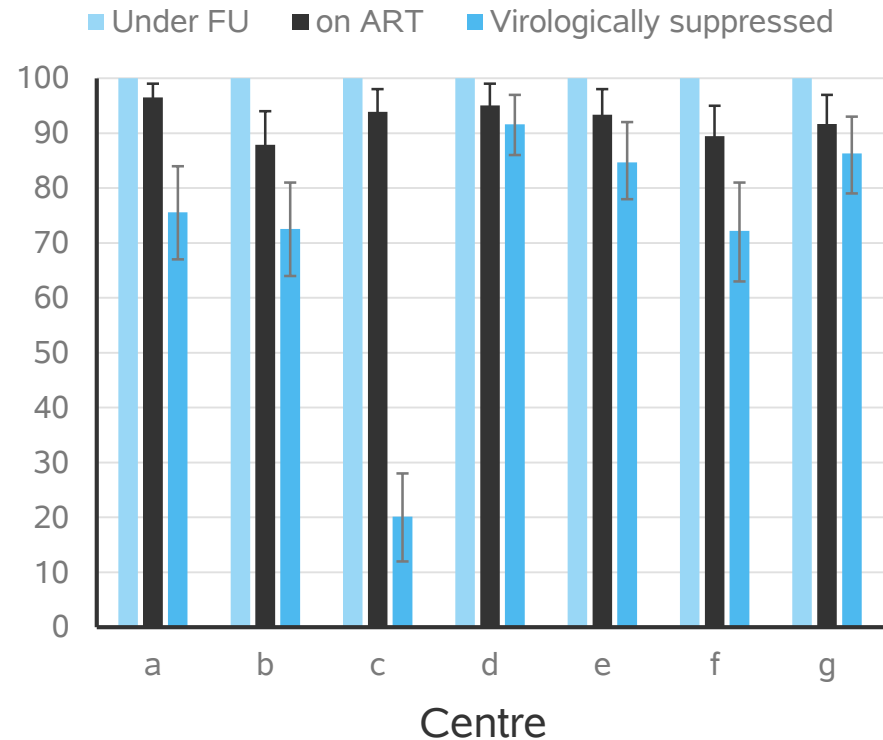
B: sample size 100; 1,000 repetitions

2.5 and 97.5 percentiles from boostrapping samples

3. Random sampling

- Sample sizes calculated to achieve 95% confidence intervals of ±7% for clinic specific results assuming 81% on ART and VS[1]

Annual number of patients in clinic	Number to be sampled	Estimated hours work (10-15 mins per patient)
1500-9000	115-120	20 - 30
450-1500	100-115	16.7 - 28.75
200	75	12.5 - 18.75
100	55	9.2 - 13.75
50	35	5.8 - 8.75

Functions of the tool

1. Calculator to define required sample size based on precision, clinic size and estimated % on ART/VS

2. Importance of and directions for ensuring random selection of patients

3. Data entry form with core data items[1]

4. Output: user friendly aggregate data presenting % on ART and VS – in excel, pdf, ppt etc

[1]At last visit : on ART, VL, gender, HIV exposure, CD4, (race)

Conclusions

- 7 clinics in RESPOND provided data for testing 'proof of concept' and constructing the RHS of the continuum

- Different sampling techniques investigated for impact on estimates of the clinic continuum

- We propose random sample based on statistical formula[1] with sample required dependent on clinic size and precision of required estimate

- Development and validation of tool as next stage

[1]WHO consolidated guidelines on person-centred HIV patient monitoring and vase surveillance annex 2.4.6

Usability

The online tool will support clinics to estimate clinic specific % on ART and VS for:

- Quality control/benchmarking (self-applied auditing tool)

- Support surveillance data in countries with fragmented data on VS (reporting purposes)

If interested in taking part in the development, testing and use of the tool, please contact:
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RE SPOND
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