RESPONDing to Contemporary Challenges for People Living with HIV: *An Evolving Cohort Collaboration*

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The RESPOND Consortium

Formed in 2017, RESPOND includes more than 39,000 people with HIV:

- Collaboration between 17 well-established European and Australian HIV-1 cohorts and community-based representatives.
- Population size enables research that individual cohorts cannot undertake.
- Modular and flexible data collection, including demographics, lifestyle, cardiometabolic, and HIV-specific factors, such as antiretroviral therapy (ART) and discontinuation, and AIDS-defining diseases.
- Data undergoes extensive data quality processes.
- All incident serious non-AIDS clinical events are reported in study-specific case report forms that undergo central validation by a trained medical doctor (Figure B).

Evolving since 2017

- The median age has risen from 48 (IQR; 40–56) to 51 (42–59; Table), and the percentage of people over 60 has increased from 17% to 22%.
- Women living with HIV constitute 25% of the cohort, and Black people 12%
- Diabetes, hypertension, and dyslipidemia have become more prevalent over time and currently affect 4%, 19% and 45%, respectively, of the population.
- The percentage of people at very high estimated 10-year risk of cardiovascular disease increased from 44% to 52%.
- Cumulative exposure to integrase inhibitors has more than doubled to around 100,000 person-years of follow-up (PYFU), and exposure to tenofovir alafenamide has increased to 58,000 PYFU(Figure A).
- Malignancies, fractures and cardiovascular disease are the most commonly reported clinical events (Figure B).

Scientific Agenda

The consortium research is anchored around:

- Systematic uptake and pharmacovigilance of modern antiretroviral treatment, including long-acting formulations.
- Trends, impact and severity of non-AIDS comorbidities and mortality.
- Outcome, treatment and complications of tuberculosis and viral hepatitis co-infections.
- Gender/sex disparities and specific challenges related to women with HIV.
- Use of Pre-exposure prophylaxis (PrEP) and potential resistance development.
- Public health initiatives and supportive measures to determine the continuum of care.

Summary:

RESPOND is an expanding, diverse cohort study with a thorough data collection on demographics, clinical characteristics, HIV-specific factors, ART and validated endpoints, which plays a key role in addressing challenges related to co-infections, non-AIDS comorbidities and outcomes of antiretroviral treatment for ageing and increasingly co-morbid population with HIV.

Table: Clinical characteristics and demographics in RESPOND by October 2023

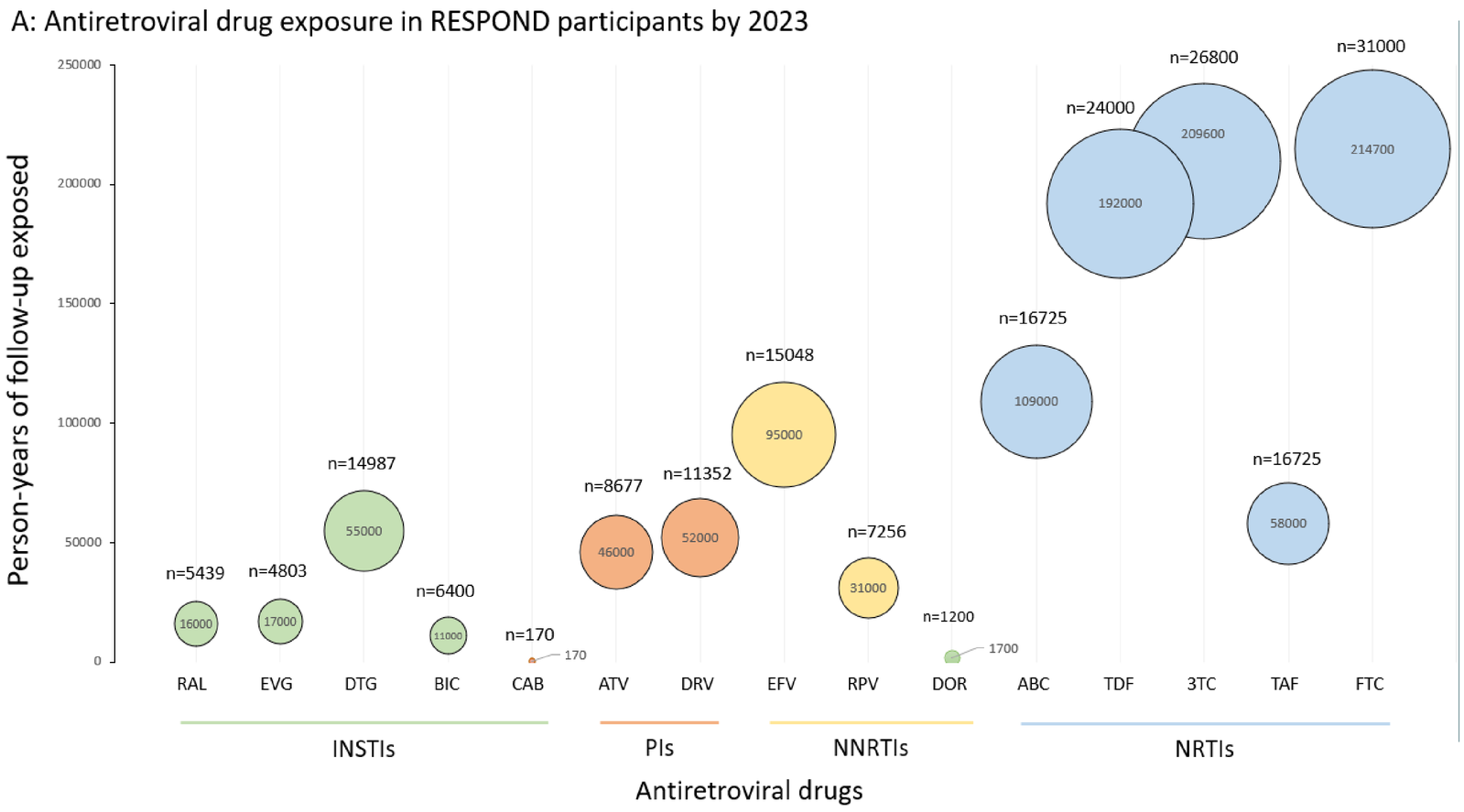
	n	(%)
Gender/sex		
Male	29522	(75.2)
Female	9666	(24.6)
Transgender	69	(0.2)
Race/ethnicity		
White	28116	(71.6)
Black	4639	(11.8)
Other	2098	(5.3)
Geographical region		
Western Europe	17475	(44.5)
Southern Europe	7355	(18.7)
Northern Europe (incl Australia)	9199	(23.4)
Eastern Europe	5228	(13.3)
Viral load		
< 200 Copies/mL	34932	(89.0)
Calendar year of positive HIV test		
≤2011	28259	(72.0)
Hepatitis B antigen status		
Positive	2228	(5.7)
Hepatitis C status		
Positive	8790	(22.4)
	Median	**[IQR]**
Age		
Years	51	[42-59]
CD4		
Cells/mm^3	648	[459 – 860]

Criteria for Joining RESPOND

A set of criteria must be met to be included in the collaboration:

- Contribute data from ≥1000 unselected people with HIV.
- Have a designated clinical lead and IT manager.
- Store data on participants in a standardised format.
- Update follow-up data in RESPOND on an annual basis.
- Maintain ≥ 80% completeness for all key data variables.
- Provide adequate information on key clinical events.

Figure: Antiretroviral drug exposure and clinical events reported in RESPOND



Abbr.: RAL: raltegravir; EVG: elvitegravir; DTG: dolutegravir; BIC: bictegravir; CAB: Cabotegravir; ATV: atazanavir; DRV: darunavir; EFV: efavirenz; RPV: rilpivirine; DOR: doravirine; ABC: abacavir; TDF: tenofovir disoproxil fumarate; 3TC: lamivudine; TAF: tenofovir alafenamide; FTC: emtricitabine; INSTIs: integrase inhibitors; PIs: protease inhibitors; NNRTIs: non-nucleotide reverse transcriptase inhibitors; NRTIs: nucleotide reverse transcriptase inhibitors

Bubble size reflects person-years of follow-up exposed to the specific drug by October 2023, only shown for contemporary drugs
n above bubbles refer to individuals exposed to the specific drug by October 2023, only shown for contemporary drugs
Clinical events refer to the number of events reported to RESPOND by October 2023
Cardiovascular disease includes myocardial infarction, invasive cardiovascular procedures and strokes.

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The RESPOND Study Group: https://www.chip.dk/Studies/RESPOND/Study-Group RESPOND Scientific Interest Groups: https://chip.dk/Research/Studies/RESPOND/SIGs