

Countries with lower HIV prevalence have lower ARV coverage: UNAIDS 2014 database

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Objectives: Countries with a high prevalence of HIV (at least 5% infected) have been prioritized in PEPFAR and Global Fund testing and treatment programmes. However, 50% of HIV-infected people live in countries with lower HIV prevalence (<5% infected).

The aim was to compare uptake of HIV testing and treatment in adults and children between countries with higher or lower HIV prevalence.

Methods: The UNAIDS 2014 database includes country-level information on epidemic size, prevalence of HIV infection, antiretroviral treatment coverage, Antenatal Clinic (ANC) visits and Early Infant Diagnosis (EID). There were 52 low and middle income countries with at least 50,000 people infected with HIV included in this analysis.

Least squares linear regression was used to correlate national adult HIV prevalence with estimated rates of treatment coverage (adults, pregnant women and children), ANC, and EID. The analysis was weighted by epidemic size and controlled for GDP/capita and region (African vs non-African countries).

Results: There were 52 low or middle income countries in this analysis: 40 had a lower prevalence of HIV<5% (total 16 million HIV infections), while 12 had a prevalence of at least 5% (total 16.1 million HIV infections). The lower prevalence countries had significantly lower rates of treatment coverage in adults, pregnant women and children ($p<0.01$ for each comparison).

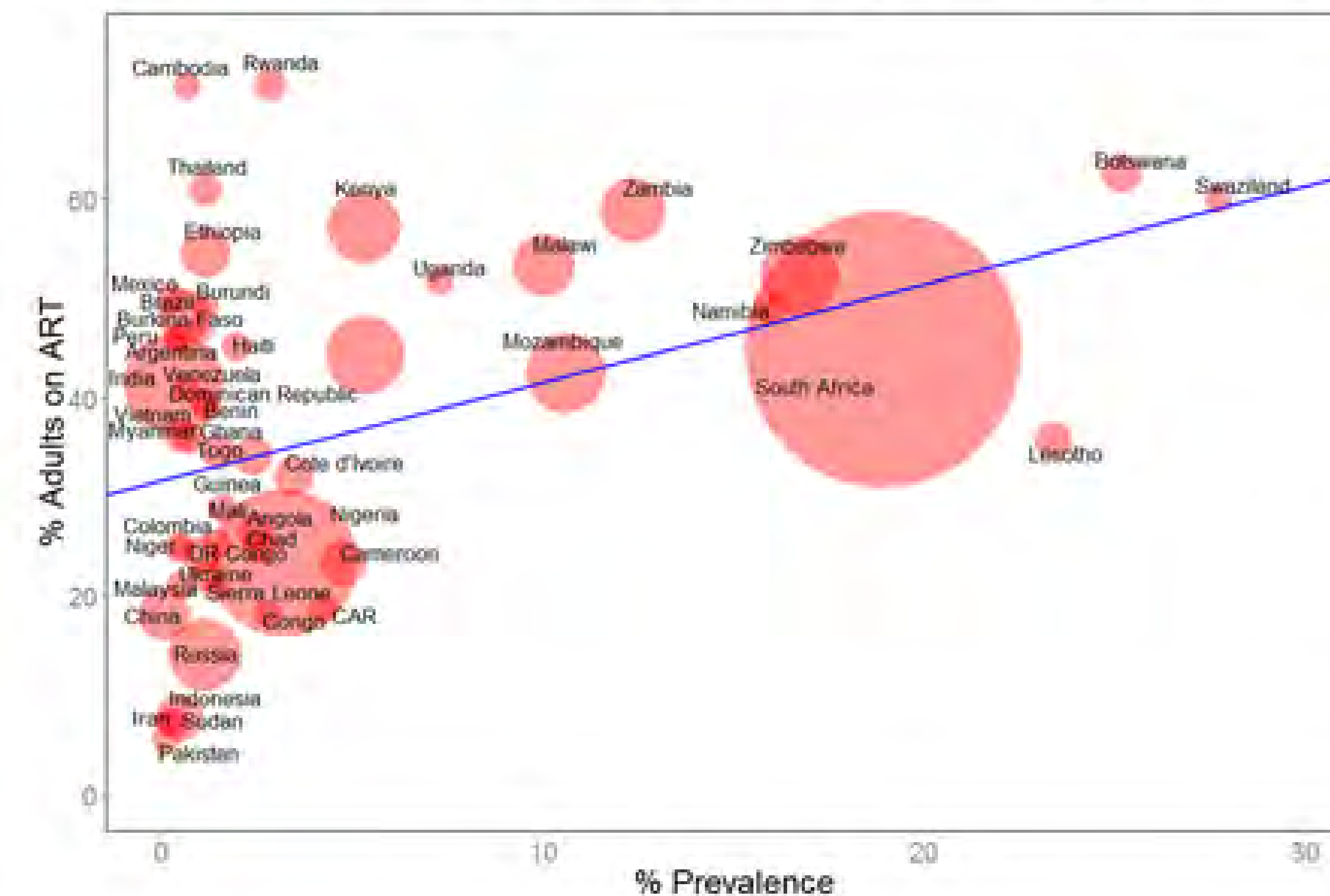
In addition, lower prevalence countries had a smaller percentage of women attending antenatal clinic visits and Early Infant Diagnosis (EID) for infants. The annual death rate for people with HIV was 4.5% in the lower prevalence countries versus 2.5% in the higher prevalence countries. The HIV transmission rate (total new infections divided by HIV epidemic size) was 6.2% in lower prevalence countries versus 5.4% in higher prevalence countries.

Conclusions: In this analysis, countries with adult HIV prevalence <5% had significantly lower ARV treatment coverage in adults, pregnant women and children, and lower rates of Antenatal Clinic Visits and Early Infant Detection testing.

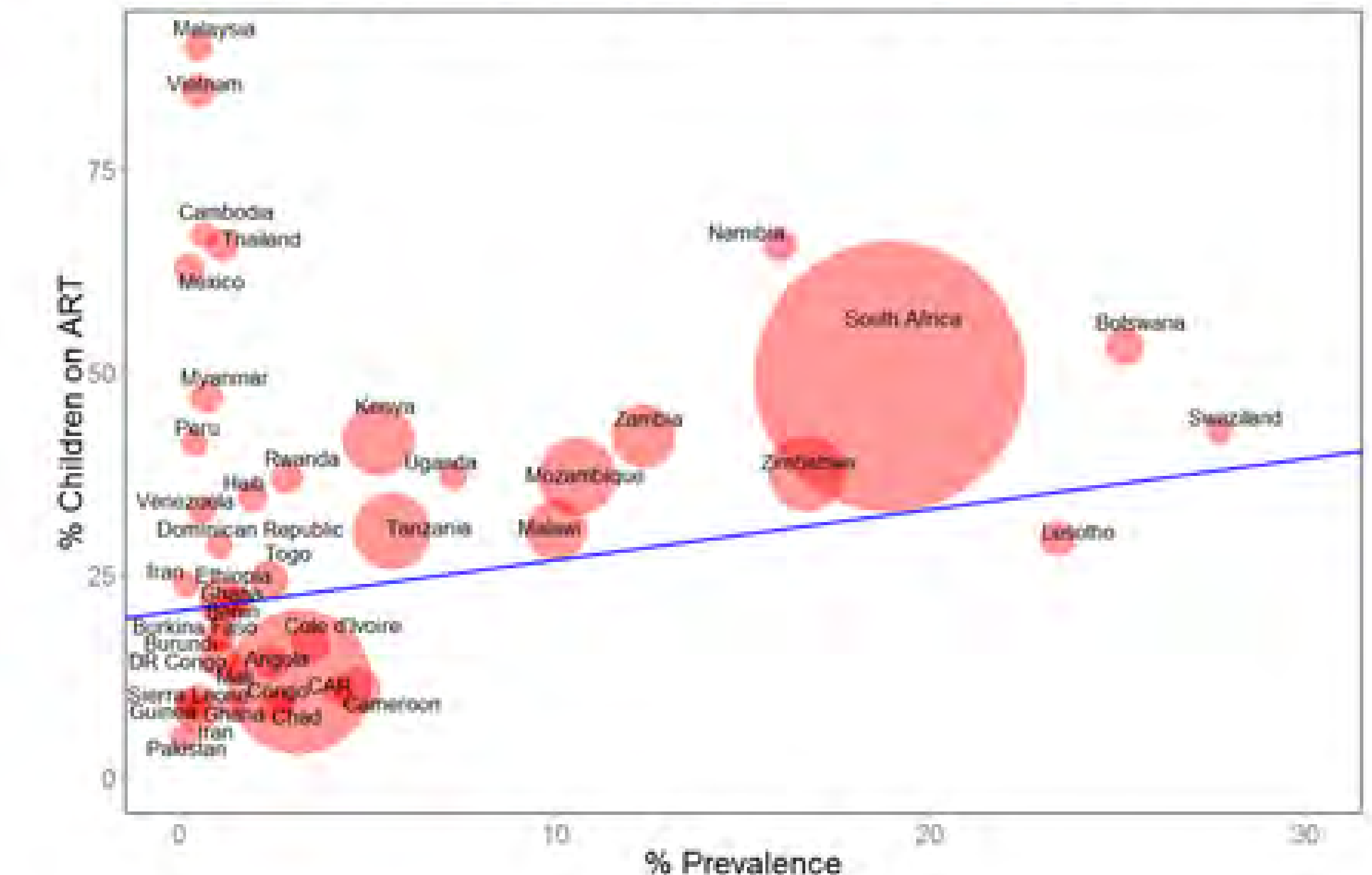
A subset of countries with an adult HIV prevalence <5% already have high rates of HIV testing and treatment coverage (e.g. Thailand, Rwanda, Vietnam, Dominican Republic).

However, many other countries with HIV prevalence <5% need to further prioritize HIV testing and antiretroviral treatment for adults, pregnant women and children (e.g. Russia, China, Nigeria, Indonesia, Pakistan).

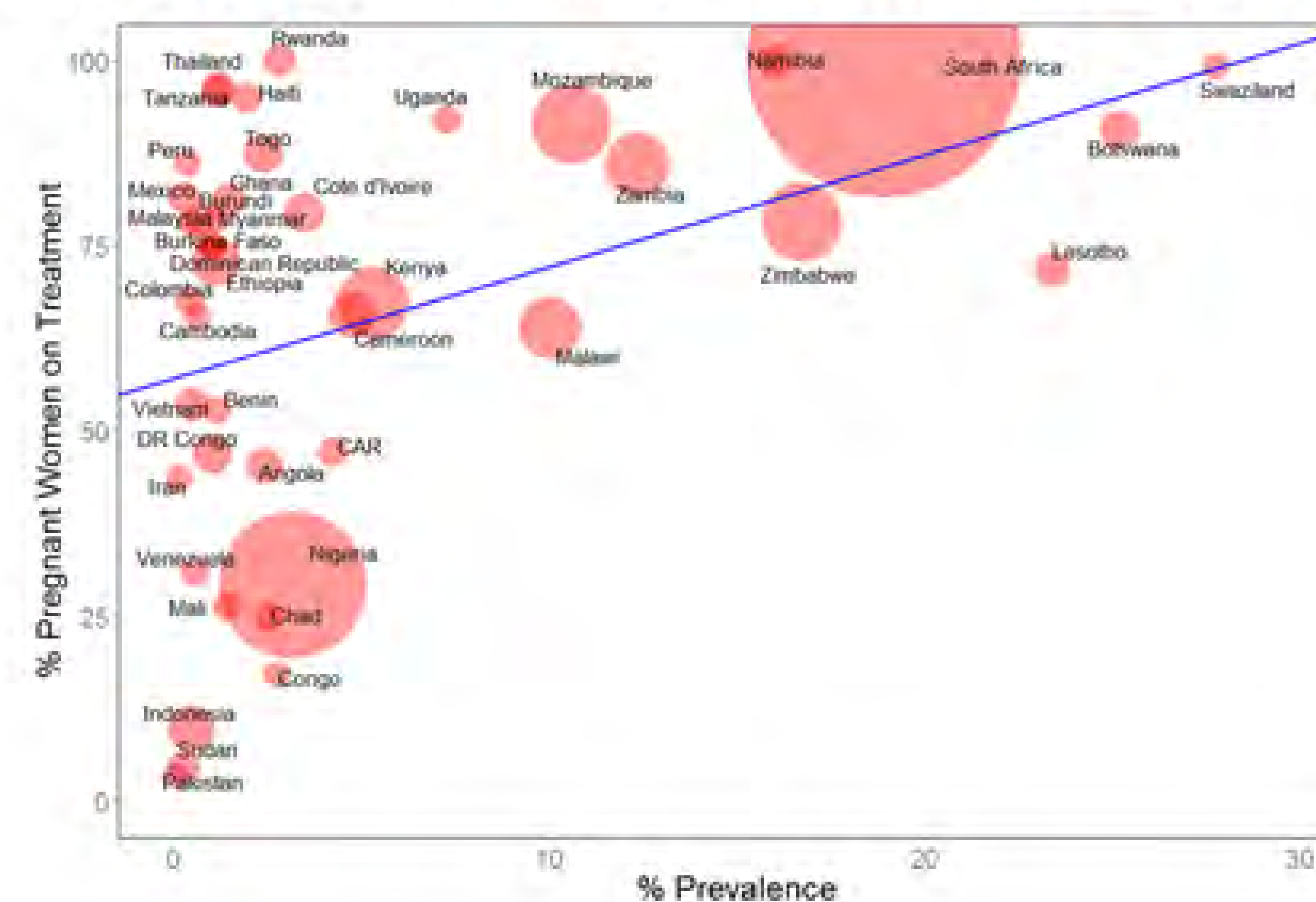
Percentage of adults on ARV treatment versus HIV prevalence



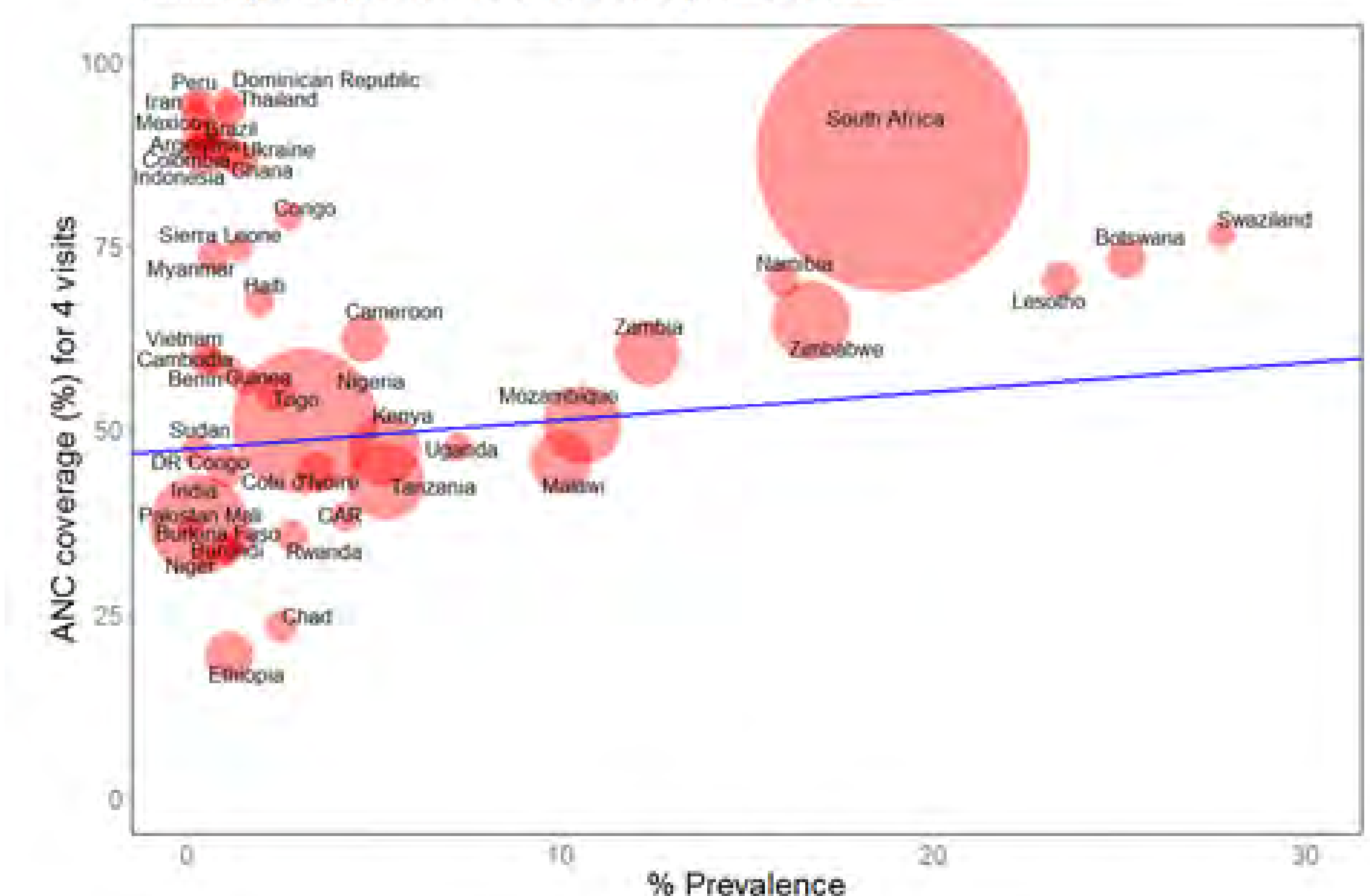
Percentage of children on ARV treatment vs HIV prevalence



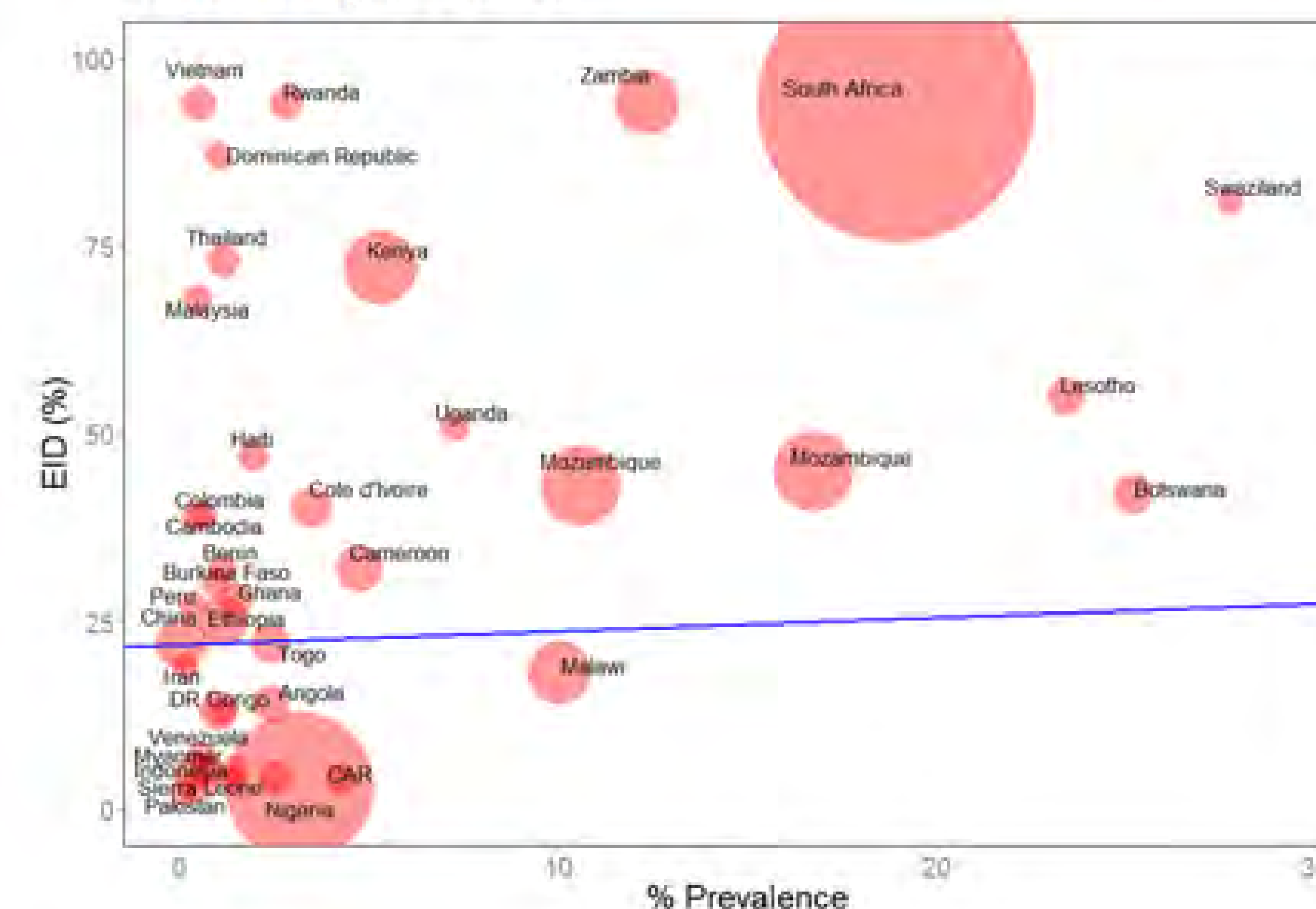
Percentage of pregnant women on ARV treatment vs HIV prevalence



Percentage of pregnant women having at least 4 Antenatal Clinic (ANC) visits versus HIV prevalence



Percentage of infants given Early Infant Diagnosis (EID) test versus HIV prevalence



Treatment coverage in lower versus higher prevalence countries

	Lower prevalence (<5% HIV+ in adults)	Higher prevalence (≥5% HIV+ in adults)
Countries	40	12
Total HIV Epidemic size	16.0 million	16.1 million
Adult HIV prevalence	1.6%	14.6%
% Adults on ART	31.7%	48.3%
% Children on ART	22.4%	42.6%
% Pregnant women on ART	46.7%	89.1%
% Pregnant women with ≥4 ANC	55.3%	68.1%
% Infants given EID test	20.1%	72.3%
Annual Death rate, HIV	4.5%	2.5%
Annual HIV transmission rate	6.2%	5.4%