

# 2019 HIV Sentinel Survey Report



August 2019

# Presentation Outline

- Introduction
- Methodology
- Results
- Discussion
- Conclusions
- Way forward

# Introduction

- Surveillance on HIV forms a critical component in the national response to the epidemic.
- The HIV and AIDS surveillance system in Ghana is a vital source of information for action within the National Strategic Plan 2016-2020.
- The data is useful for understanding the magnitude of the HIV and AIDS problem and for planning and monitoring the impact of interventions.

# Introduction cont.

- The HSS is a cross sectional survey targeting pregnant women attending antenatal clinics
- HSS is initiated based on the premise that prevalence of HIV among pregnant women is a good proxy indicator
- Sentinel surveillance provides samples that are consistent over time and provides a snap shot and trend of HIV data

# OBJECTIVES

## **Specific Objectives**

- Determine the HIV and syphilis prevalence among ANC and STI clients.
- Monitor the trends in HIV and syphilis prevalence among ANC and STI clients at sentinel sites.
- Provide data for the estimation and projection of HIV prevalence in the general population of Ghana.
- Provide data to inform intervention programmes.



# Methodology



# METHODS

## **Survey location**

### The 2019 HIV Sentinel Survey

- Sentinel sites increased from 40 to 55 and strategically located
  - 20 Rural Sites
  - 35 Urban Sites
- 93 antenatal clinics

## **Target Population**

- Pregnant women attending antenatal clinics.
- Male and female patients seeking treatment for Sexually Transmitted Infections

# METHODS

## Sentinel Sites

### – Fifty five (55) Antenatal Sentinel Sites

- Greater Accra and Eastern regions – Five (5) sites each
- Ashanti, Bono, and Upper East - Four (4) sites each
- Ahafo, Bono East, Central, North East, Northern, Oti, Savannah, Upper West, Volta, Western and Western North - Three (3) sites each
- Each region has at least (1) rural site

### – Two (2) STI sites

- Kumasi (Suntreso) and Accra (Adabraka ) were selected for the survey among STI Clients



# METHODS

## **Sample Size**

- 500 samples for each ANC site
- 200 for each STI site
- A site qualifies for inclusion if it attains more than 50% of the sample size i.e. 251 or more for antenatal sites and 101 or more for STI sites.

## **Sampling Period**

- Period not exceeding 12 Weeks.
- 23<sup>rd</sup> September to 13<sup>th</sup> December 2019

# Map Showing Sentinel Sites



# Sample Collection and Confidentiality

The unlinked anonymous method was used to collect the blood samples for the survey

- Personal identifiers of the sample were removed after the routine laboratory tests were done to ensure confidentiality

# Inclusion and Exclusion Criteria

## **ANC Clients**

- All ANC clients aged 15 to 49 years attending antenatal clinic for the first time during their current pregnancy within the survey period
- Antenatal clients reporting for repeated visits during the period were excluded

## **STI Clients**

- All newly diagnosed STI clients aged 15-49 years during the survey period were eligible for inclusion
- Clients on return visits were excluded

# Handling of Samples and Laboratory Testing

- Screening was done immediately or the sera stored at 2-8 degrees Centigrade for not more than 3 days
- Each sample was screened for HIV only at the site
- HIV samples were sent to PHRL for confirmation
- All Syphilis samples were sent to PHRL for both screening and confirmation
- There was a spillover on the samples from Dambai in PHRL so they could not be confirmed.

# Handling of Samples and Laboratory Testing

The World Health Organization Testing Strategy II for surveillance was used.

- **HIV**
  - Rapid Tests (First Response) - Peripheral sentinel sites
  - Immunoblot (Innolia 1&2) – supplementary testing at PHRL.
- **Syphilis**
  - Rapid Plasma Reagin (RPR)
  - Confirmation done using Treponema Pallidum Haemagglutination Assay (TPHA).
- **External Quality Assurance**
  - Two reactive samples and three non-reactive samples from each site was sent for external quality assurance testing at Noguchi Memorial Institute for Medical Research (NMIMR)

# Training Monitoring and Supervision

## Training

- A two-day national level workshop
  - For selected participants from all the participating sites
  - At the Mensvic Hotel, Accra
  - From the 12th – 13th September 2019
- **Monitoring and Supervision**
  - Continuous Monitoring by Regional and District Health Teams, National Surveillance Unit, PHRL and NACP
  - A structured monitoring checklist was used in the monitoring

# Data Management and Validation

- Data collected on each specimen was recorded in a site register and sent to the NPHRL
- Results of the confirmatory tests were recorded in the register and submitted to NACP
- Records, for which the age was not available or below 15yrs and above 49yrs, were removed from the dataset that was analyzed
- Records which did not have a confirmed HIV result were also removed from the database and thus not analyzed





# RESULTS



# Specimen Tested

- The survey was successfully conducted in all the 55 antenatal clinic sites and the 2 STI Clinic sites
- All sites met the required sample for inclusion in analysis
- 25,949 samples were collected
  - 25,925 (99.9%) samples were analyzed
  - 24 excluded (Inclusion Criteria not met)

# Number of Samples Analyzed by Region

REGION	No of Samples	Percent (%)
Ahafo	1499	5.8
Ashanti	1,999	7.7
Bono	1,997	7.7
Bono East	1,364	5.3
Central	1,445	5.6
Eastern	2,407	9.3
Greater Accra	2,498	9.6
North East	1,495	5.8
Northern	1,444	5.6
Oti	831	3.2
Savannah	1,258	4.9
Upper East	2,000	7.7
Upper West	1,301	5.0
Volta	1,389	5.4
Western	1,499	5.8
Western North	1,499	5.8
<b>Total</b>	<b>25,925</b>	<b>100</b>

# Number of Samples Analyzed by Site Location(Urban /Rural)

LOCATION	No of Samples	Percent (%)
Urban	16,470	63.5
Rural	9,455	36.5
Total	25,925	100

## Number of Samples Analyzed by Age Group And Location

AGE GROUP	RURAL	URBAN	TOTAL	Percent (%)
15-19	1,332	1,385	2,717	10.5
20-24	2,375	3,497	5,872	22.6
25-29	2,511	4,805	7,316	28.2
30-34	1,860	4,041	5,901	22.8
35-39	1,038	2,165	3,203	12.4
40-44	290	521	811	3.1
45-49	49	56	105	0.4
Total	9,455	16,470	25,925	100.0
15-24	3,707	4,882	8,589	33.1

# External Quality Assurance (QA) Results

Total Positive Screened	True Positive	False Positive
167	167(100%)	0(0%)
Total Negative Screened	True Negative	False Negative
110	110(100%)	0(0%)



# HIV PREVALENCE

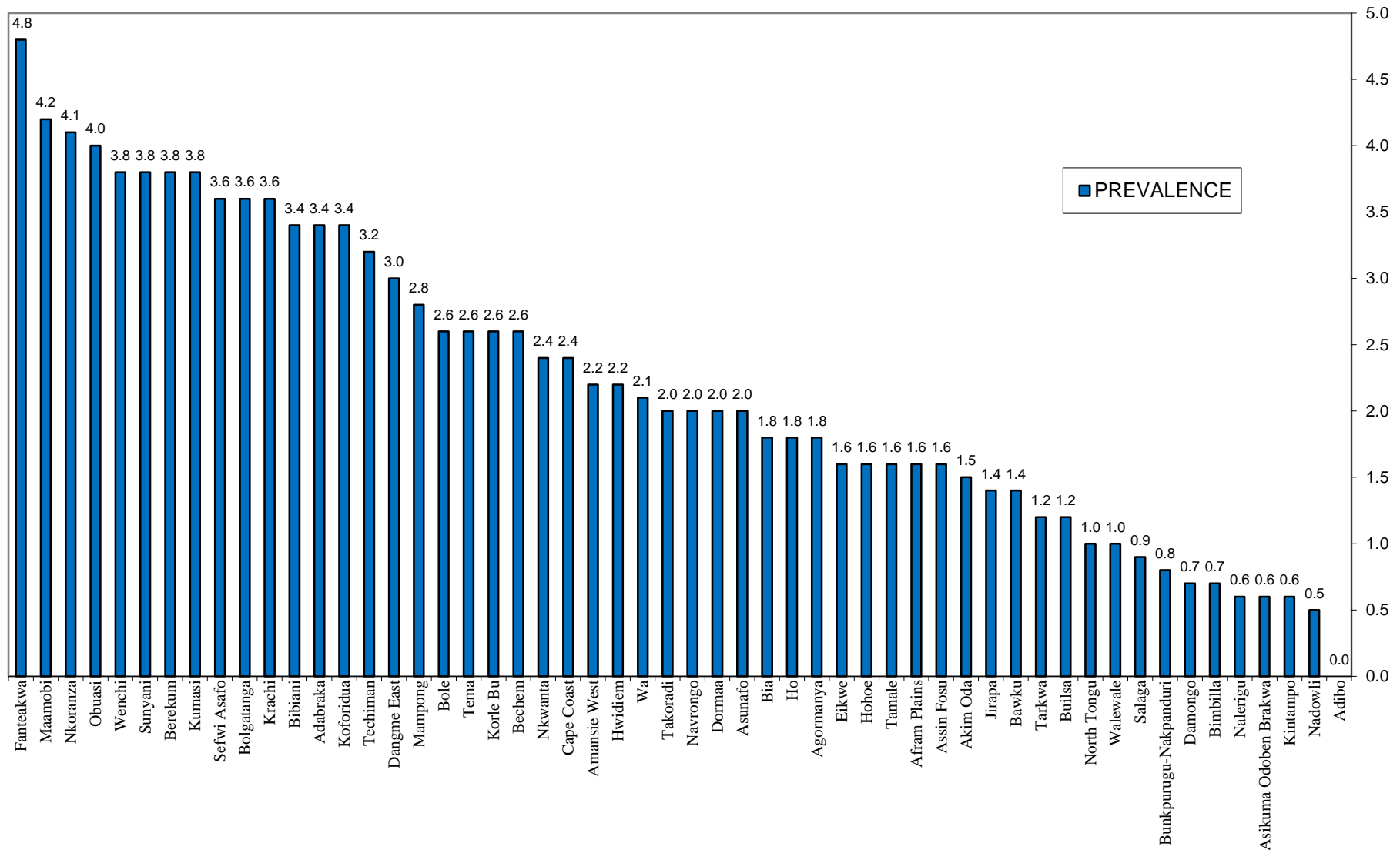


# Site Prevalence

- HIV prevalence in 2019 ranged from 0.0% in Adibo (rural) to 4.8% in Fanteakwa (rural).



# HIV Prevalence By Site-2019



# **2019 Median HIV Prevalence**

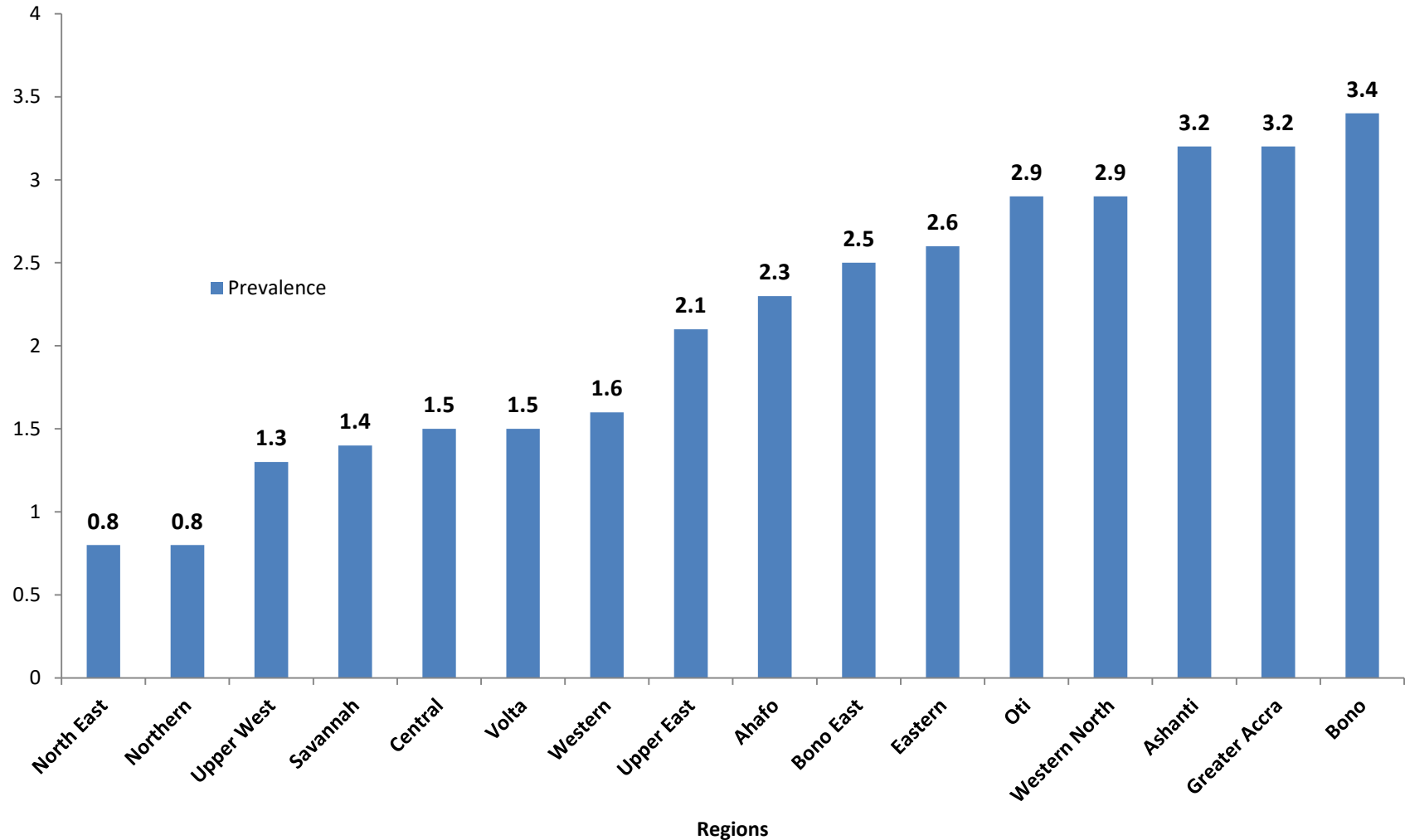
**The Median ANC**

**HIV prevalence for 2019**

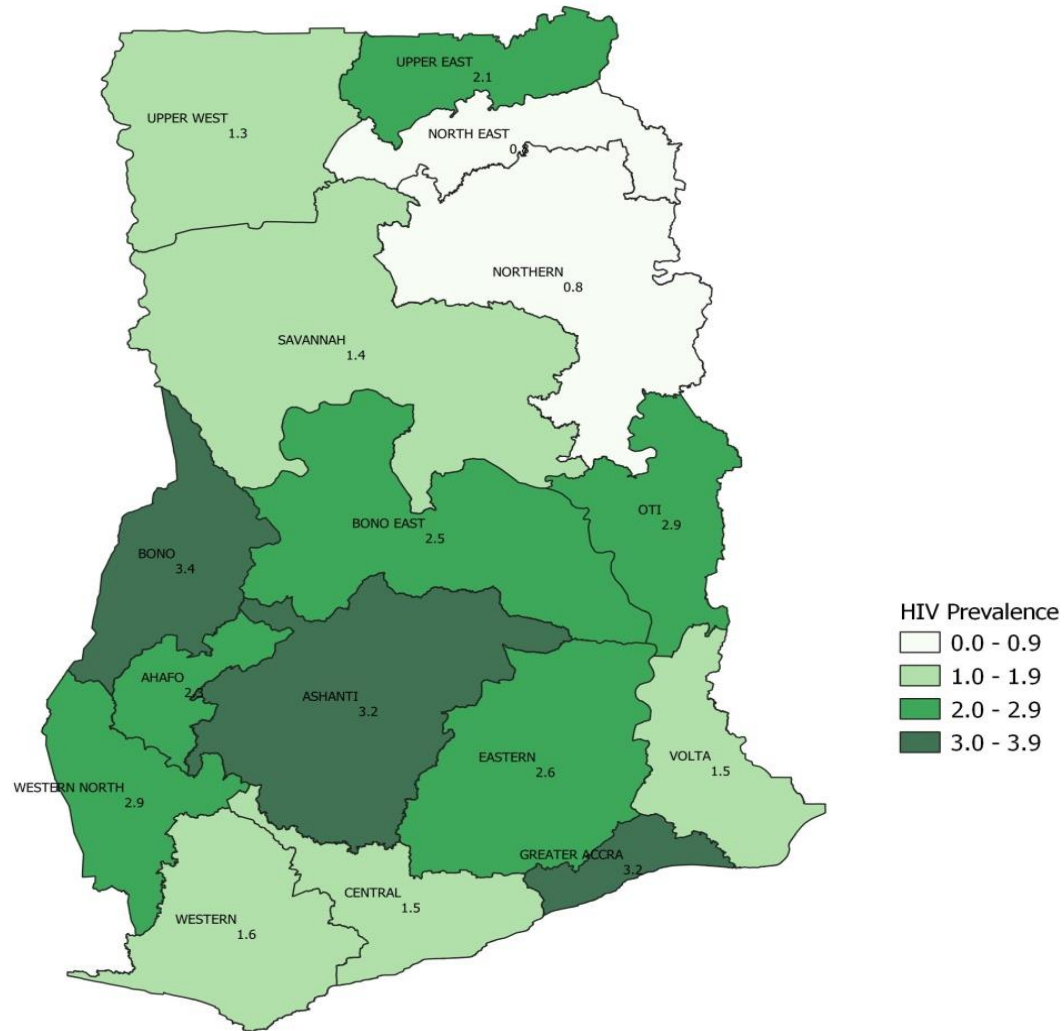
**is 2.0%**

**(Confidence limits: 1.83 - 2.17)**

# 2019 HIV prevalence by Region

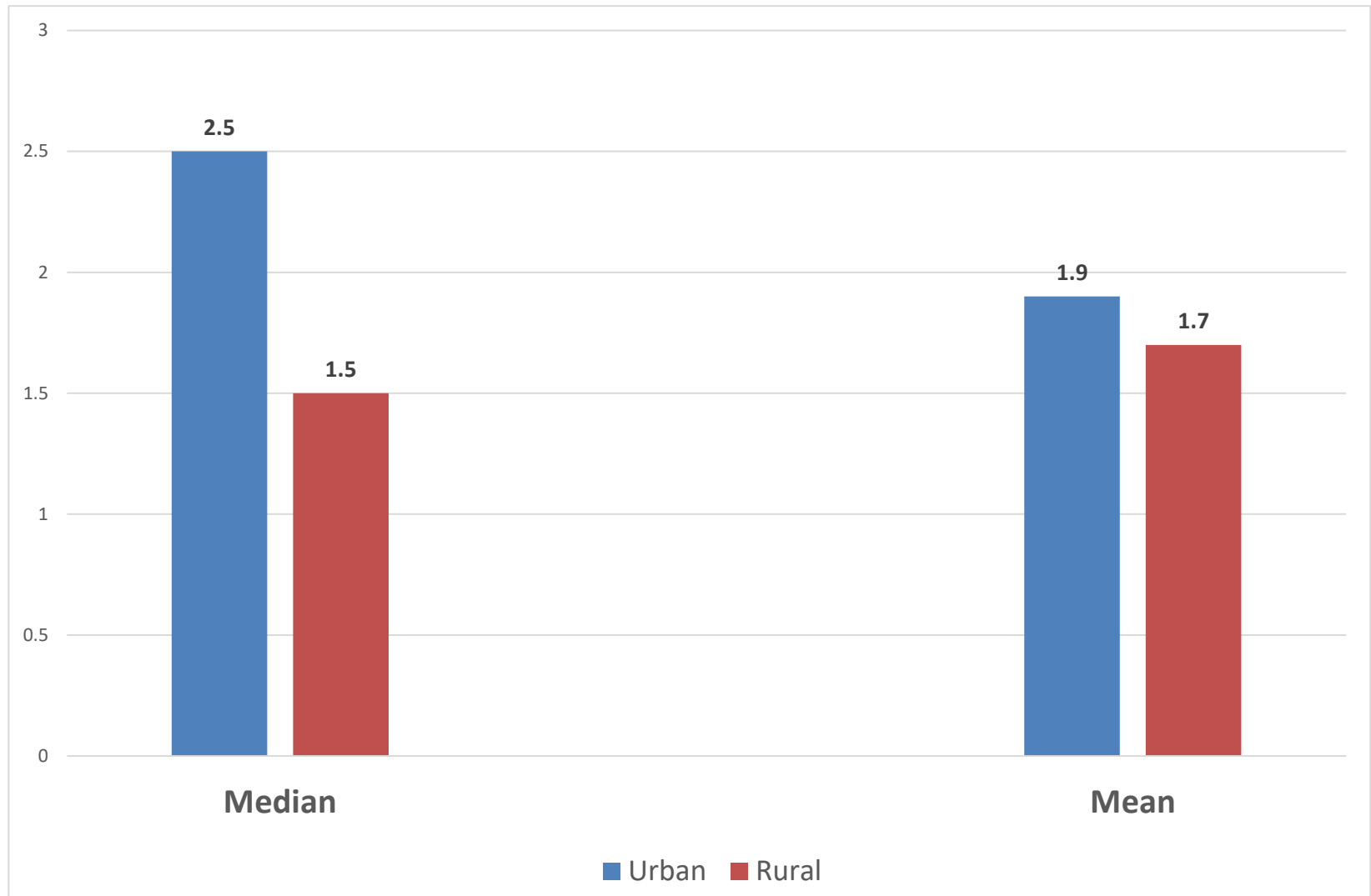


# 2019 HIV prevalence by Region

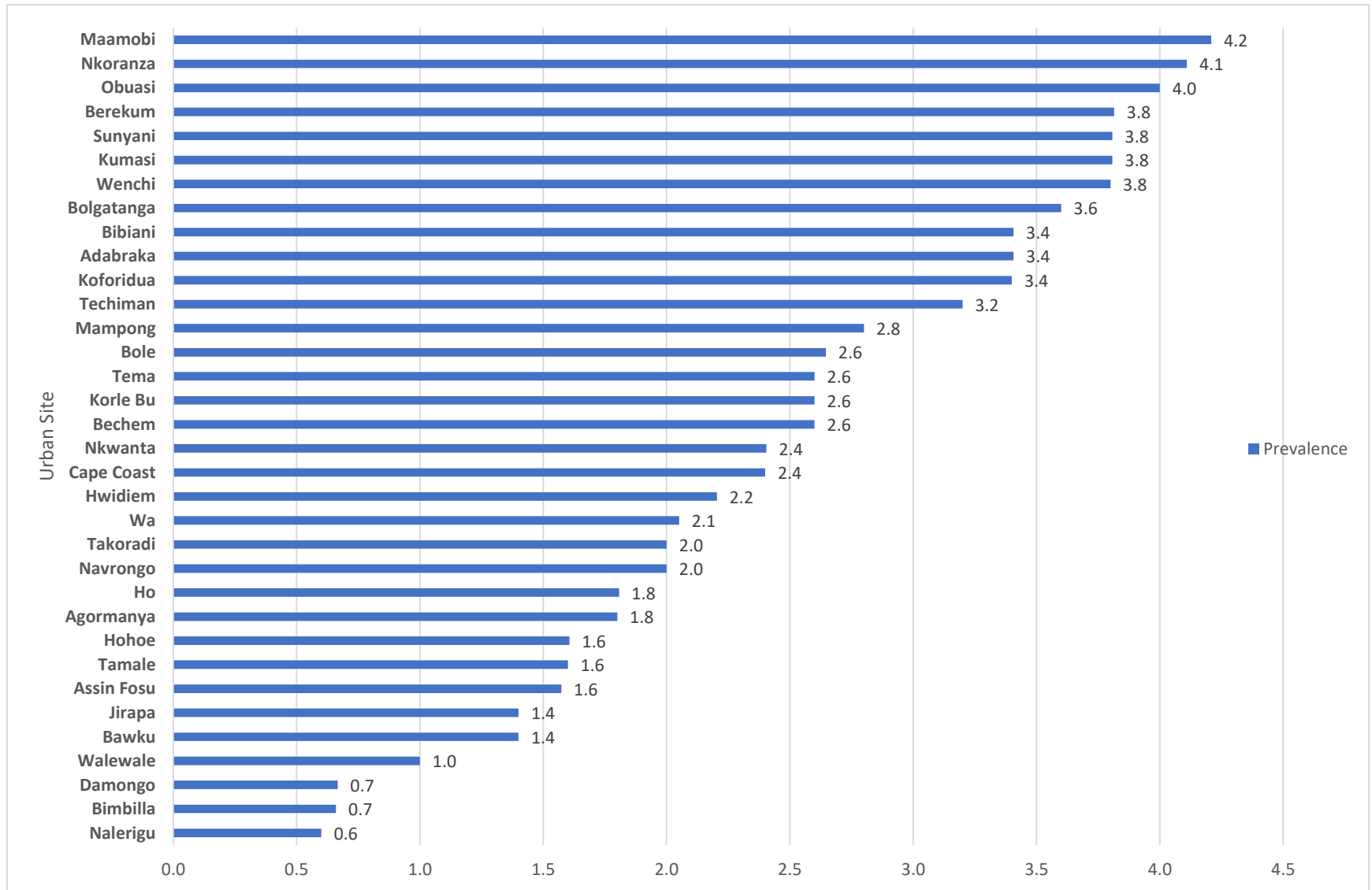


SOURCE:  
National AIDS/STI CONTROL  
PROGRAMME

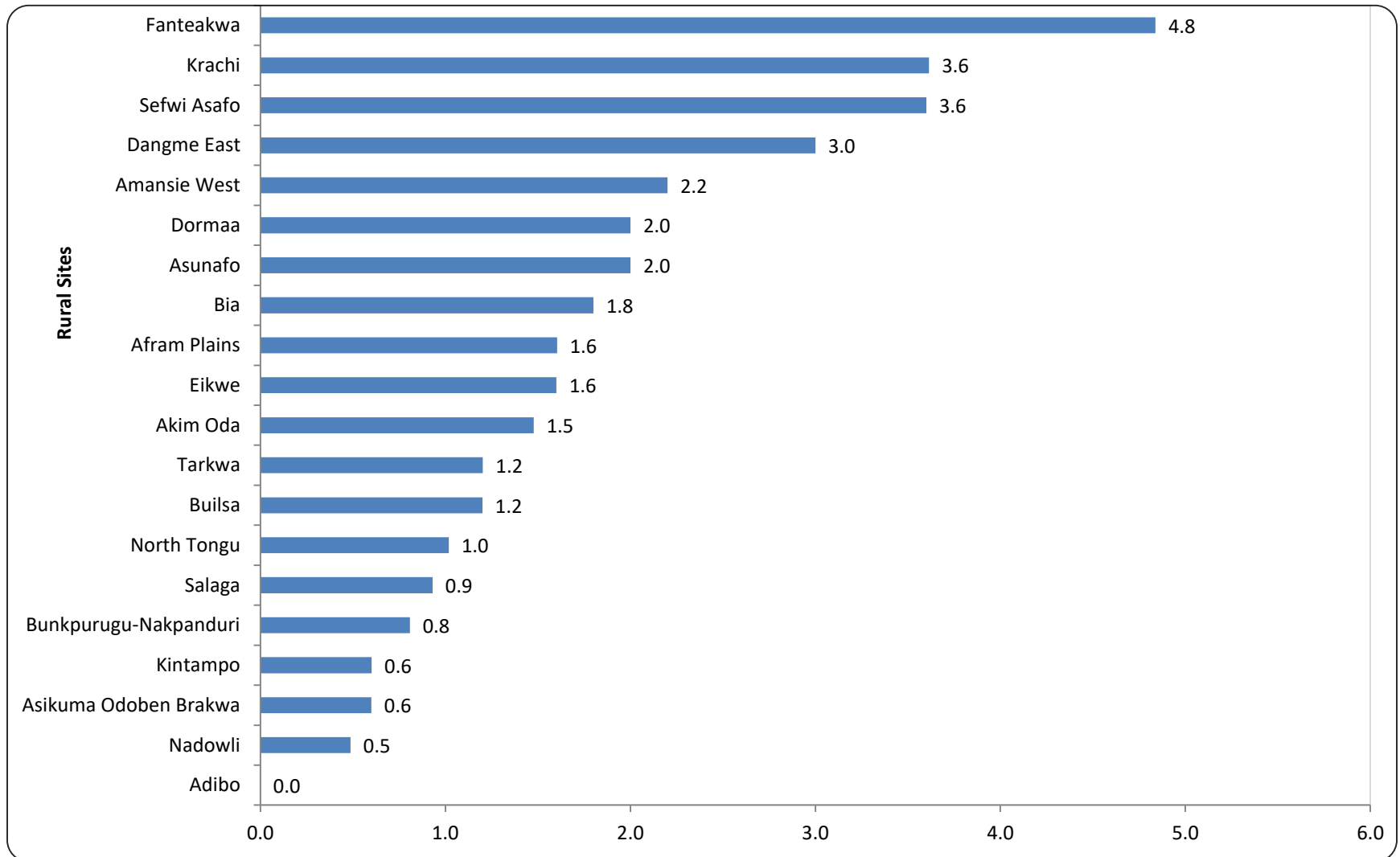
# HIV Prevalence By Area(Rural/Urban) -2019



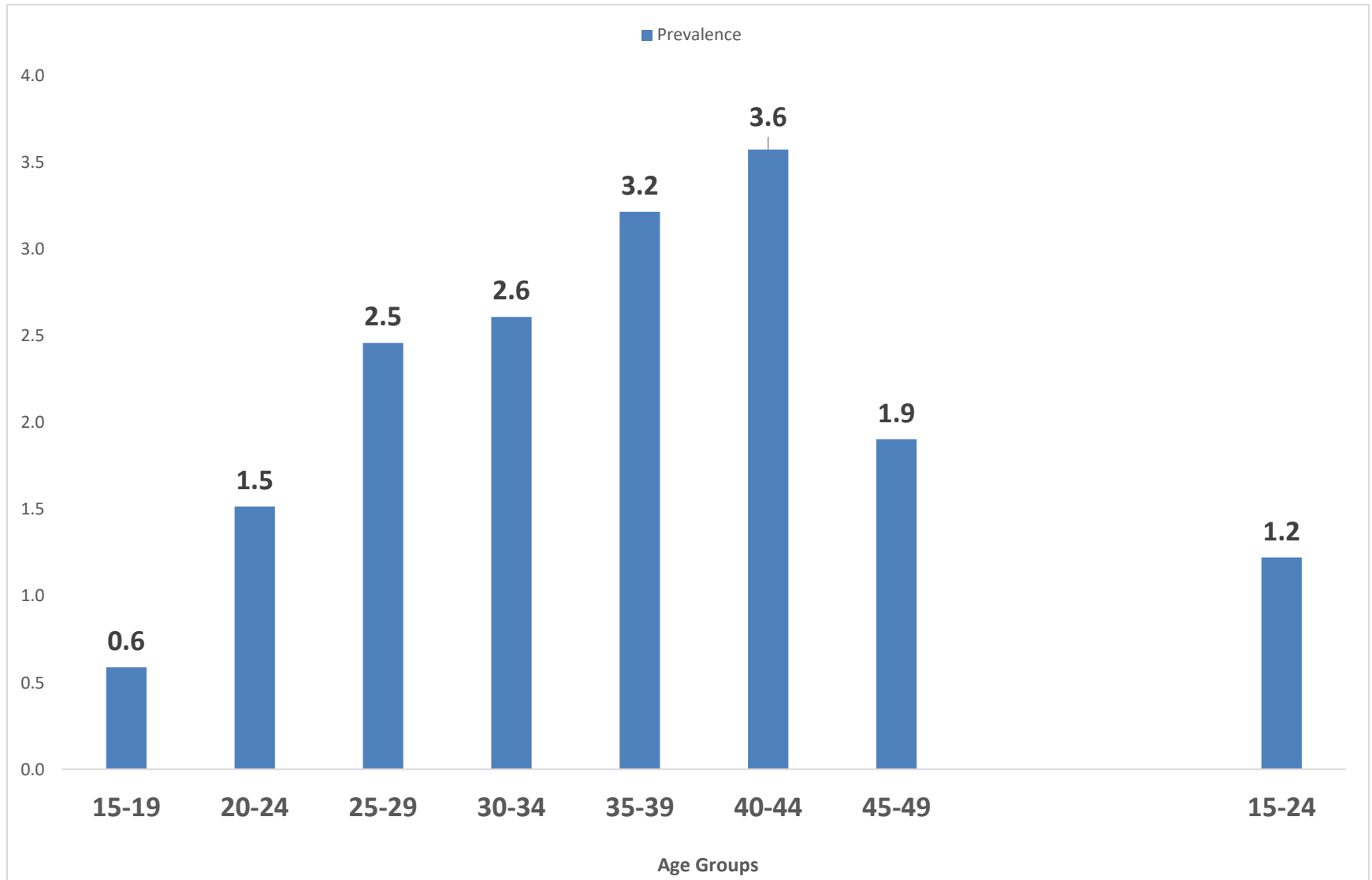
# HIV Prevalence By Urban Sites - 2019



# HIV Prevalence By Rural Sites - 2019

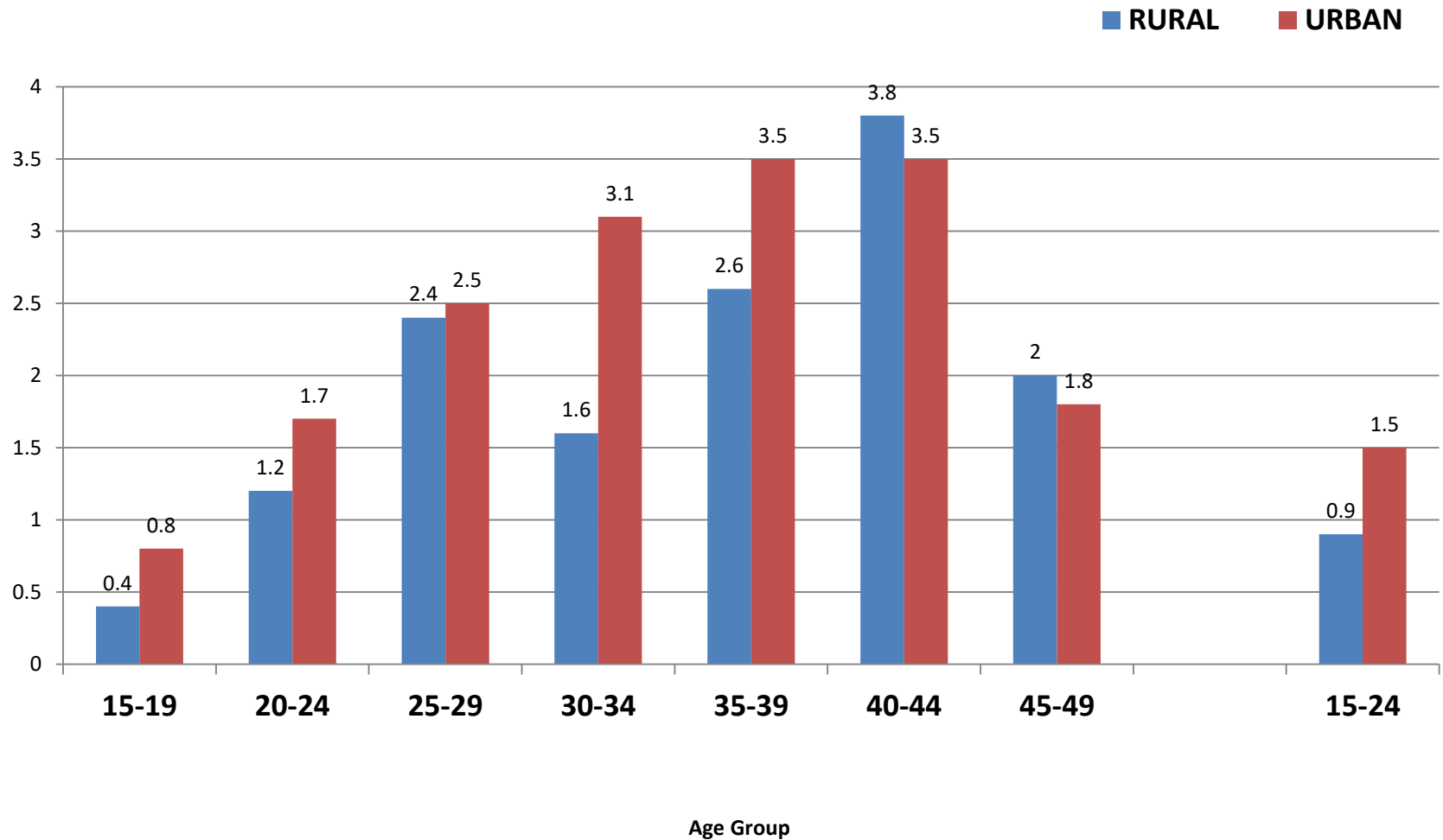


# HIV Prevalence By Age Group - 2019

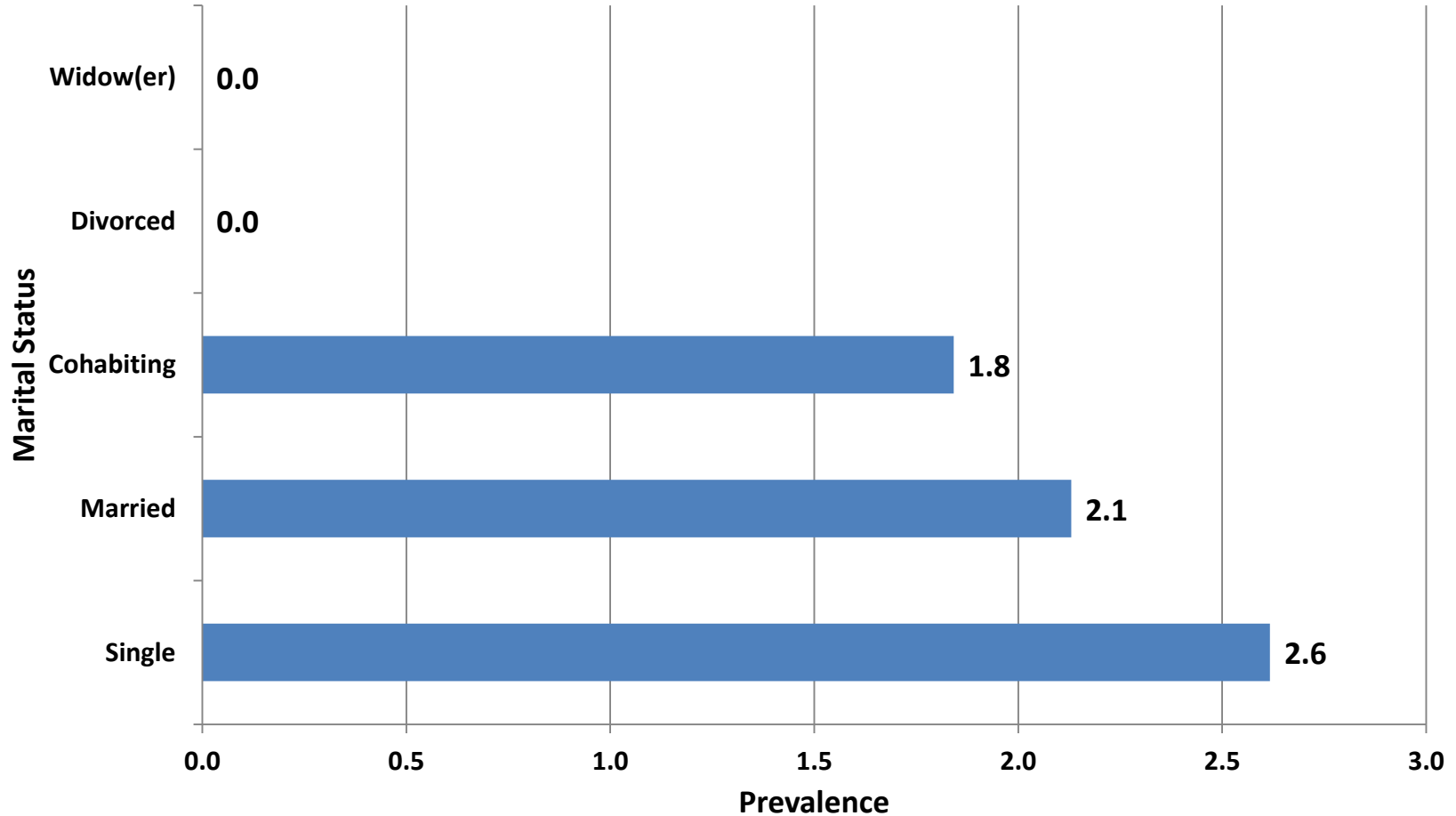




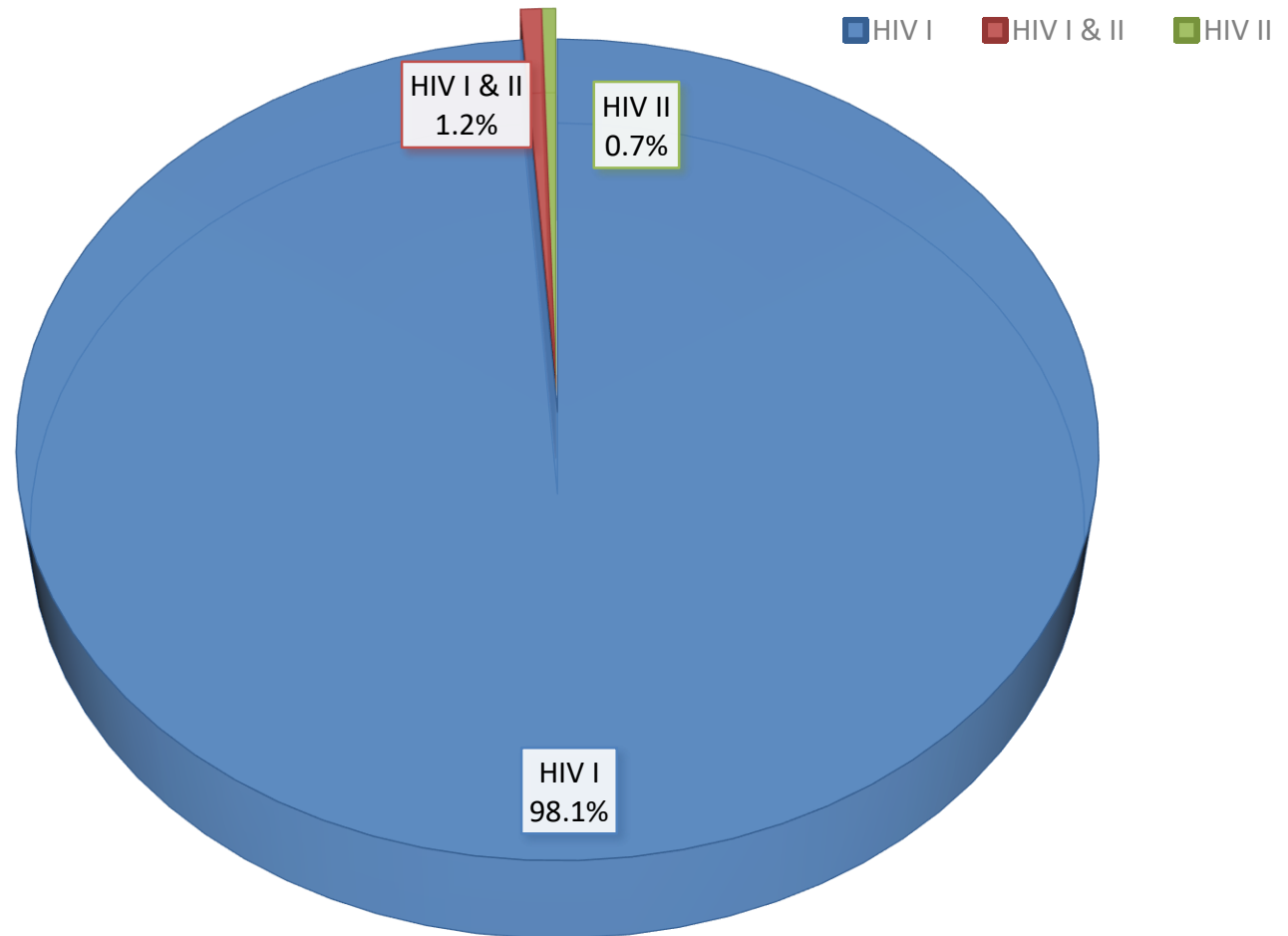
# Rural/Urban Age Group Prevalence - 2019



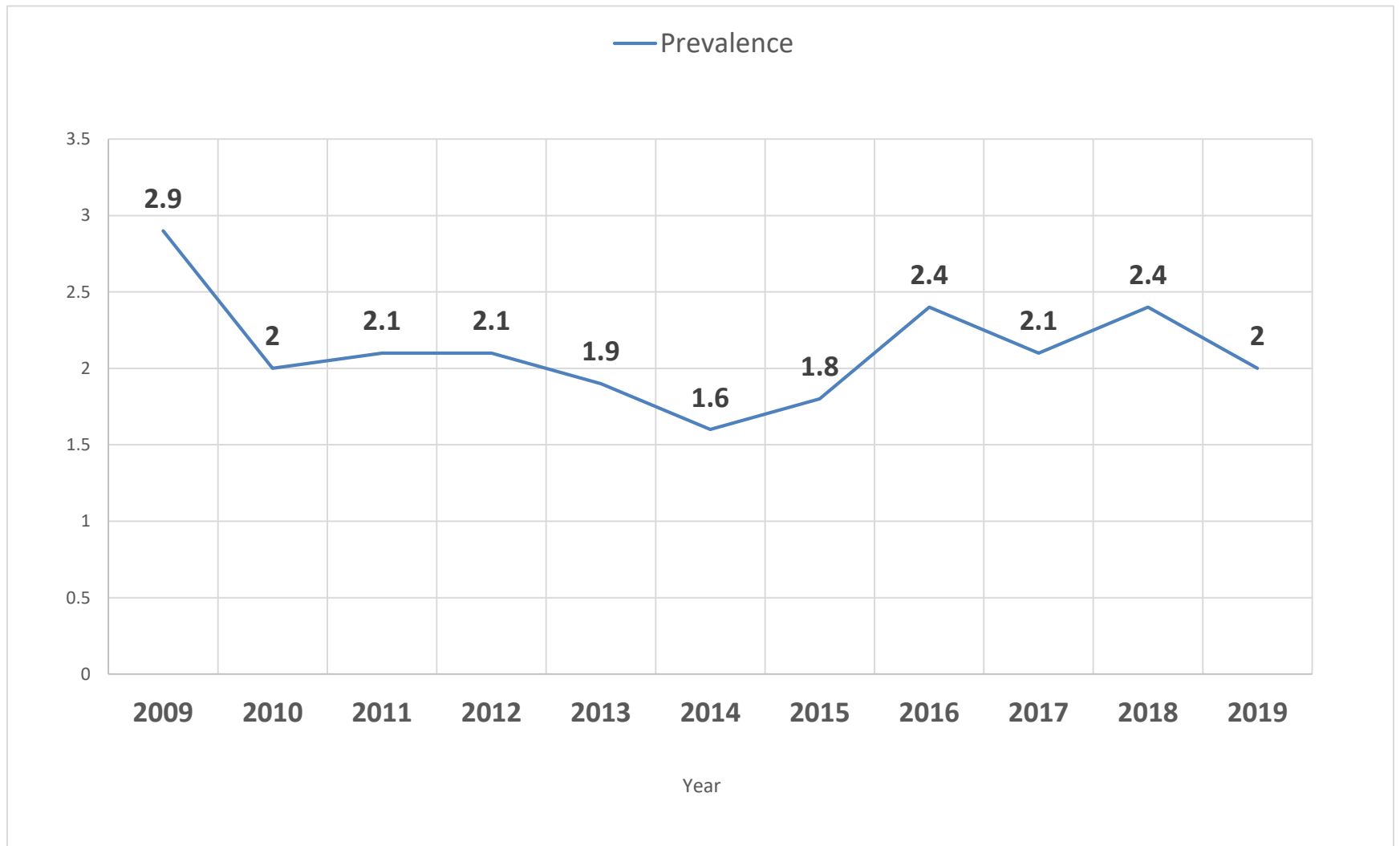
# HIV Prevalence By Marital Status - 2019



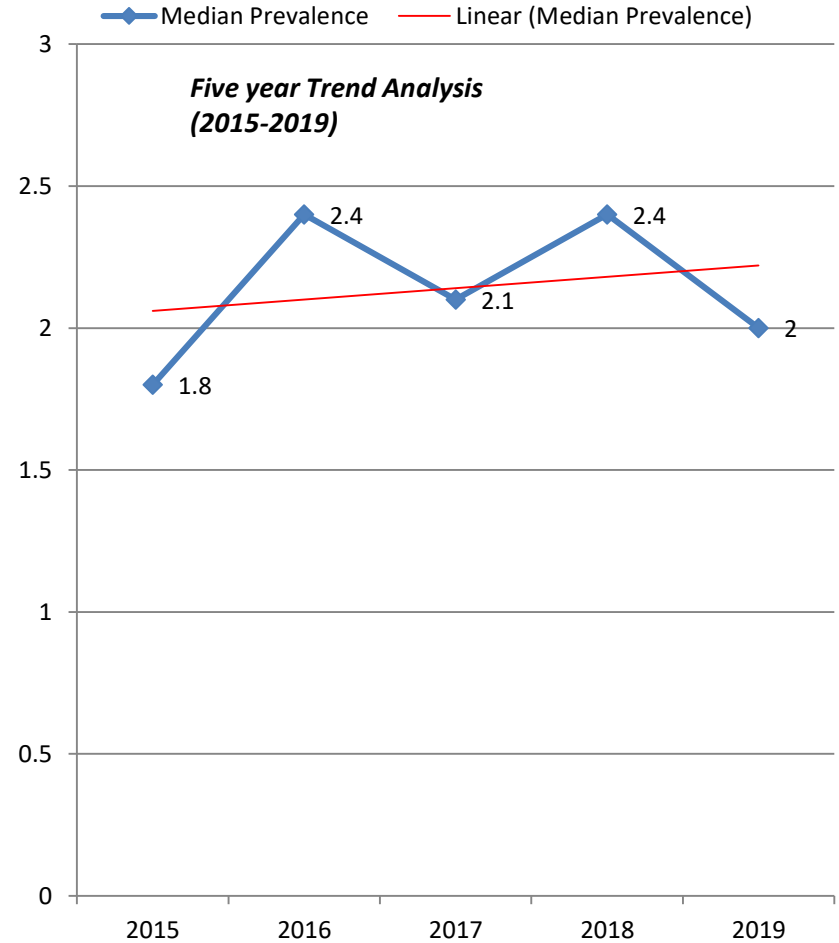
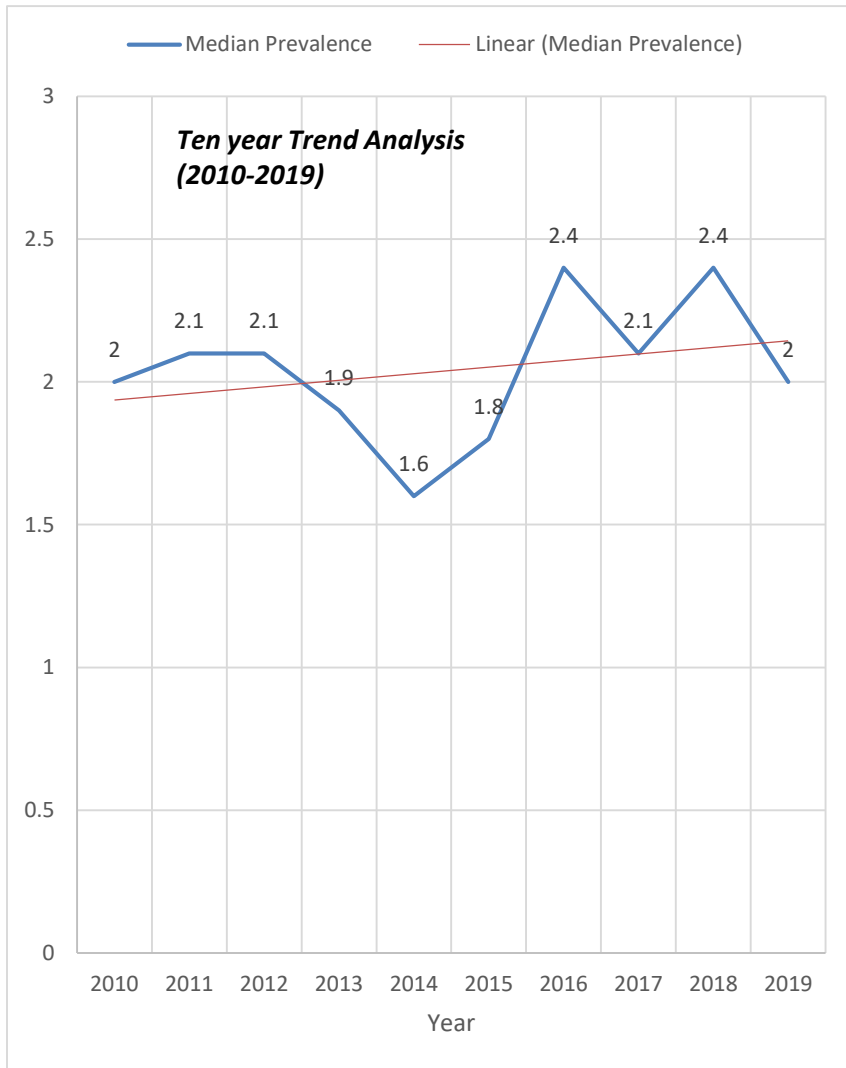
# HIV Prevalence by Type 2019



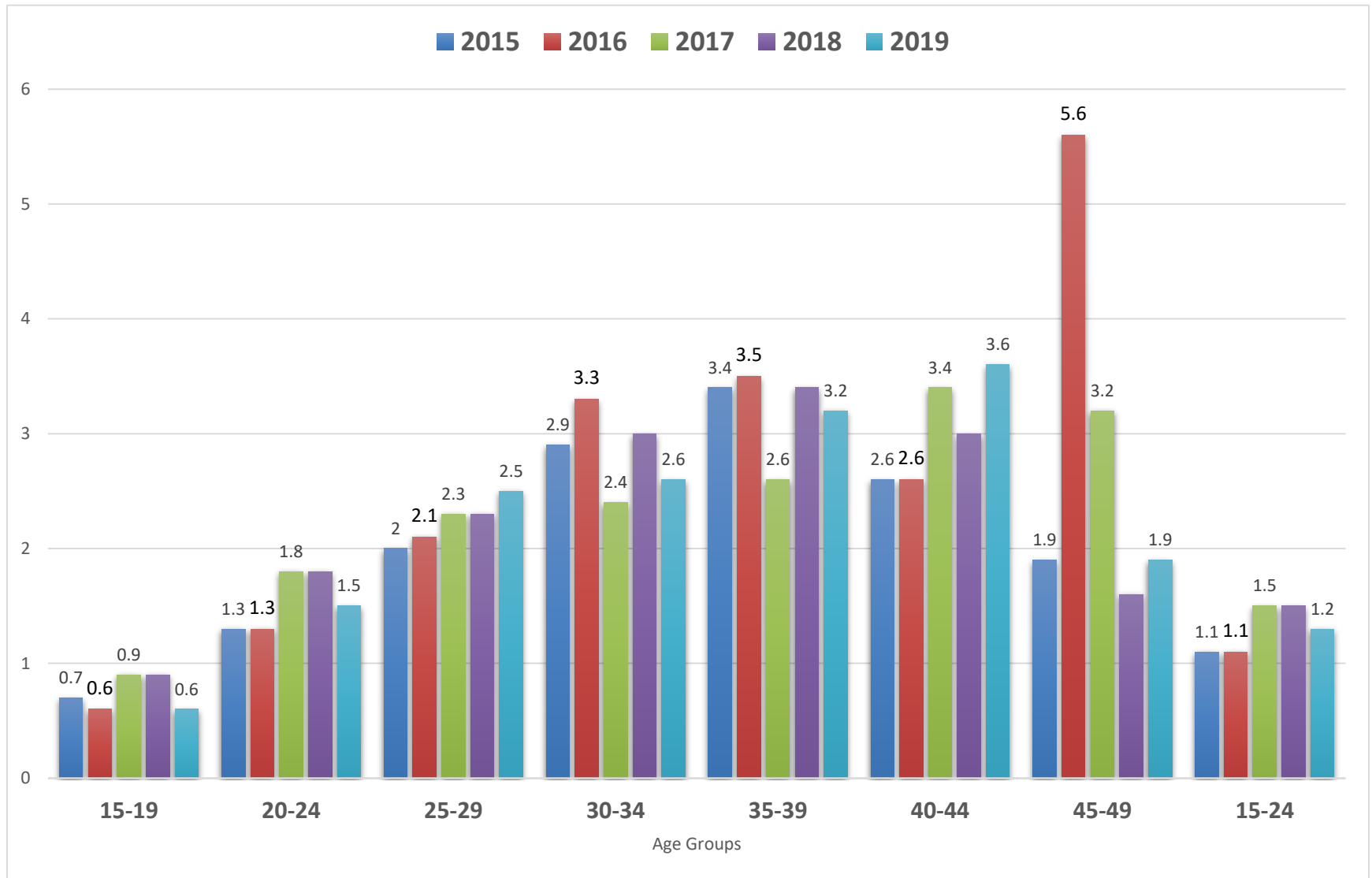
# Median HIV Prevalence 2009- 2019



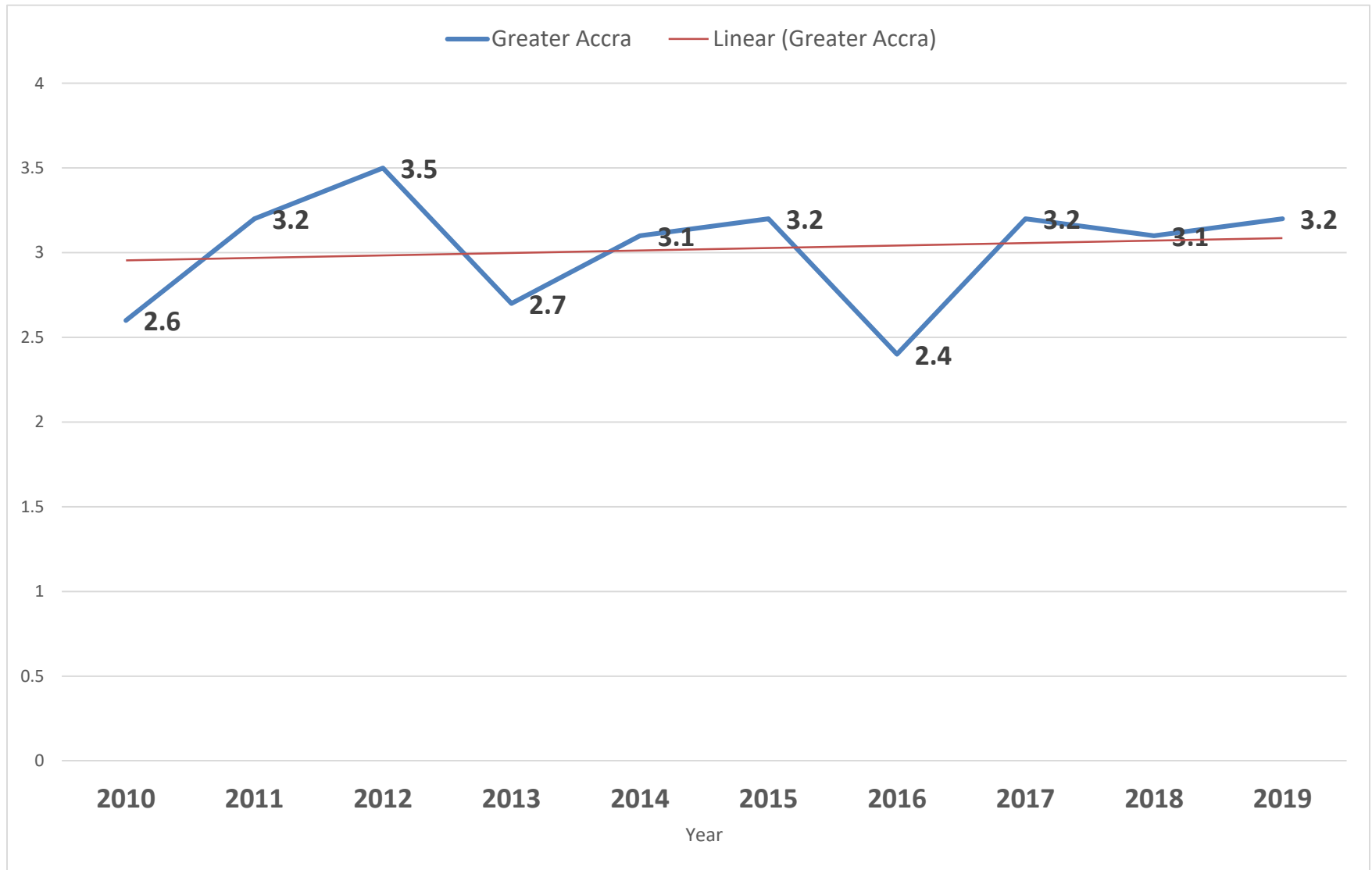
# National Trend Analysis of Median HIV Prevalence



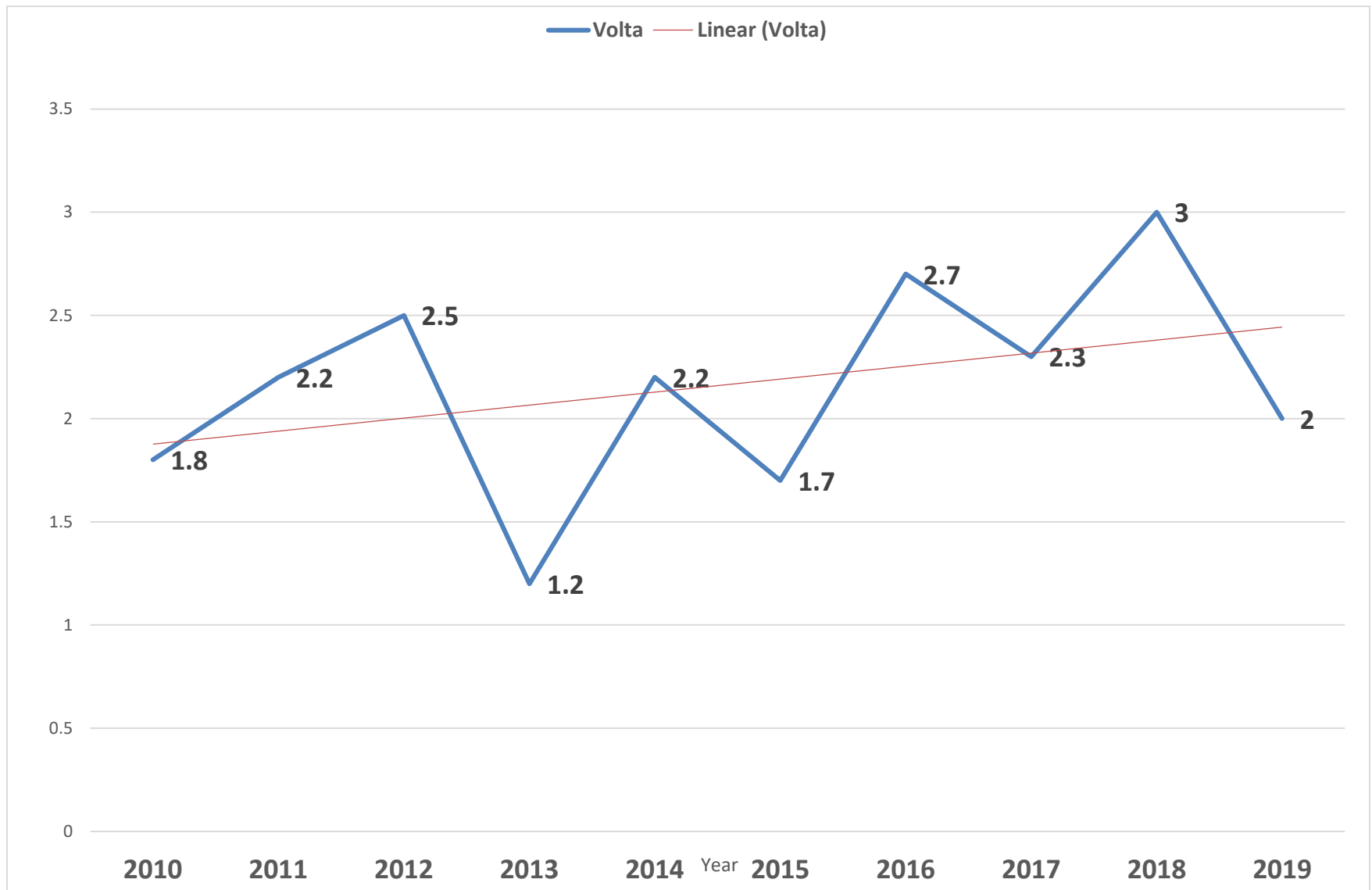
# Mean HIV Prevalence By Age group and Year 2015 - 2019



# Greater Accra Regional Trend Analysis of Median HIV Prevalence

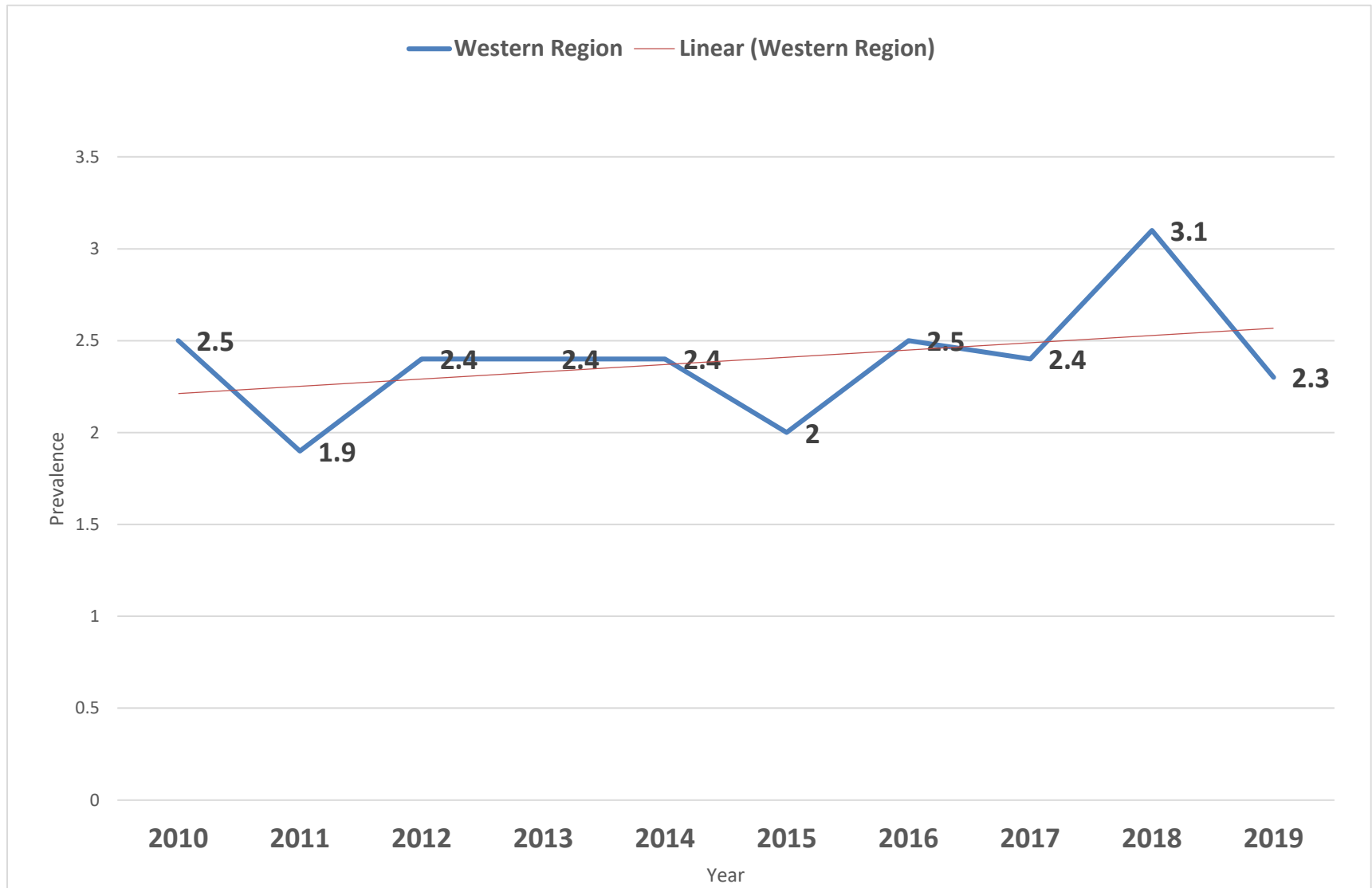


# ***Volta Regional Trend Analysis of Median HIV Prevalence***

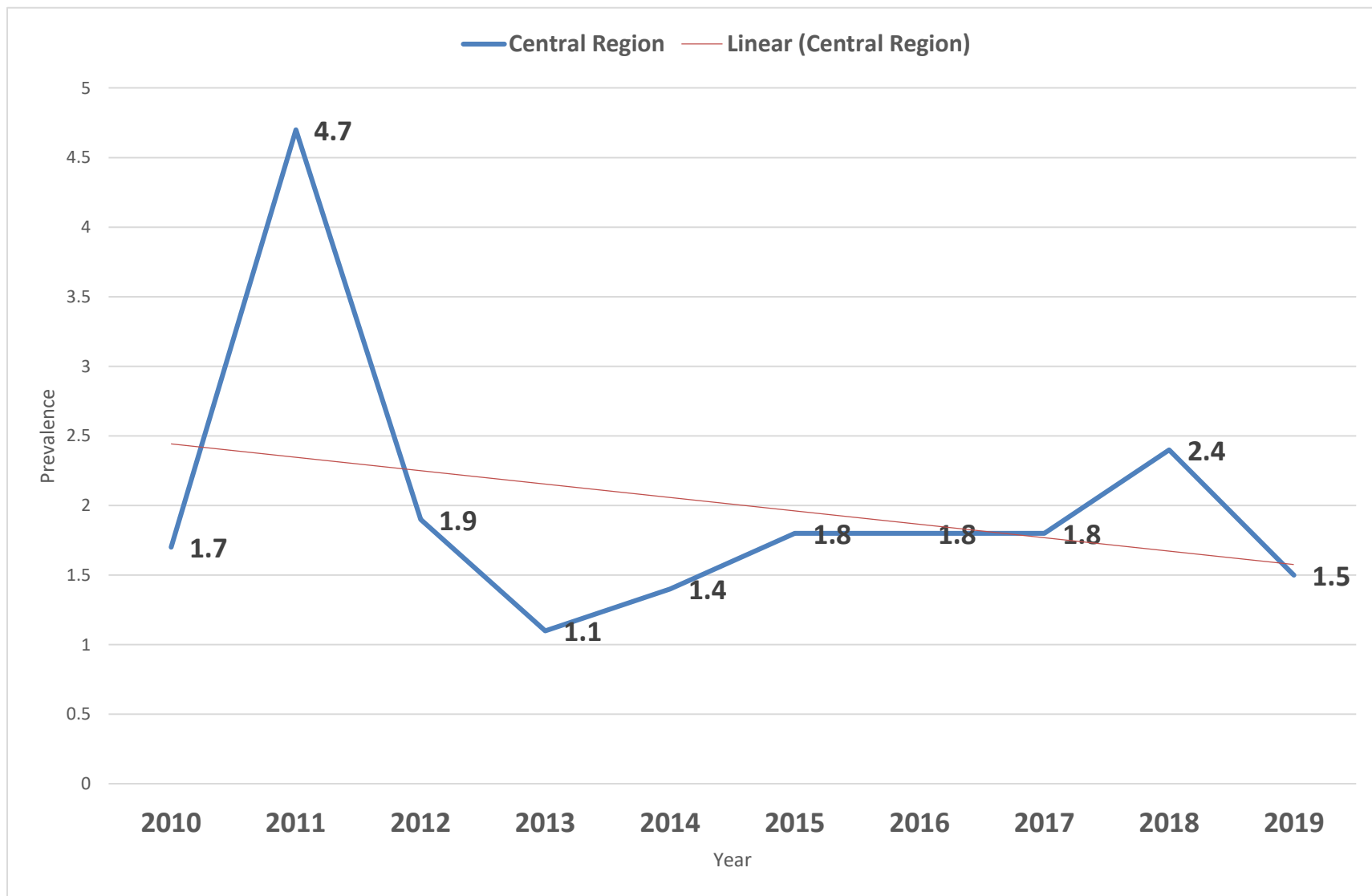




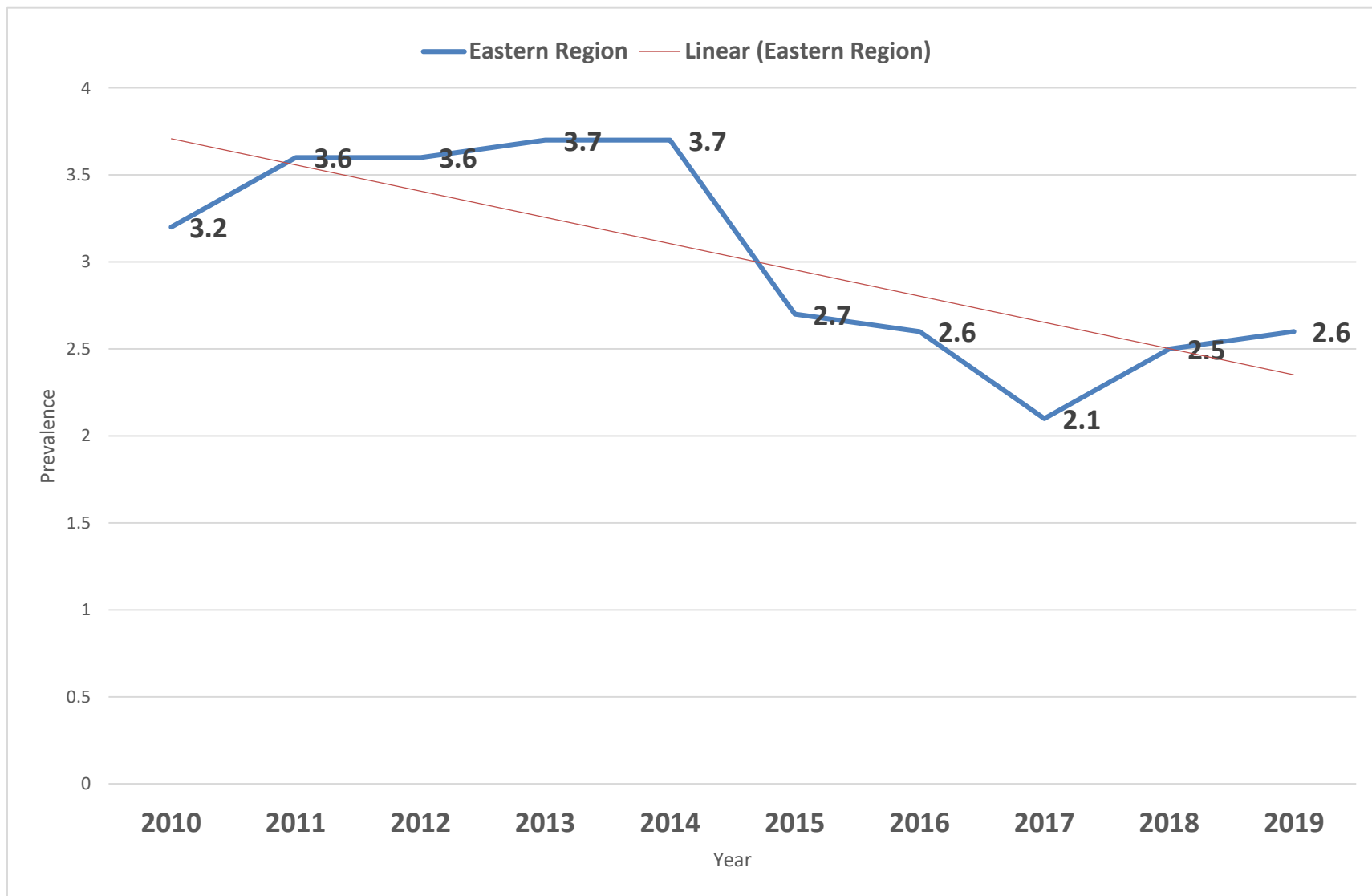
# Western Regional Trend Analysis of Median HIV Prevalence



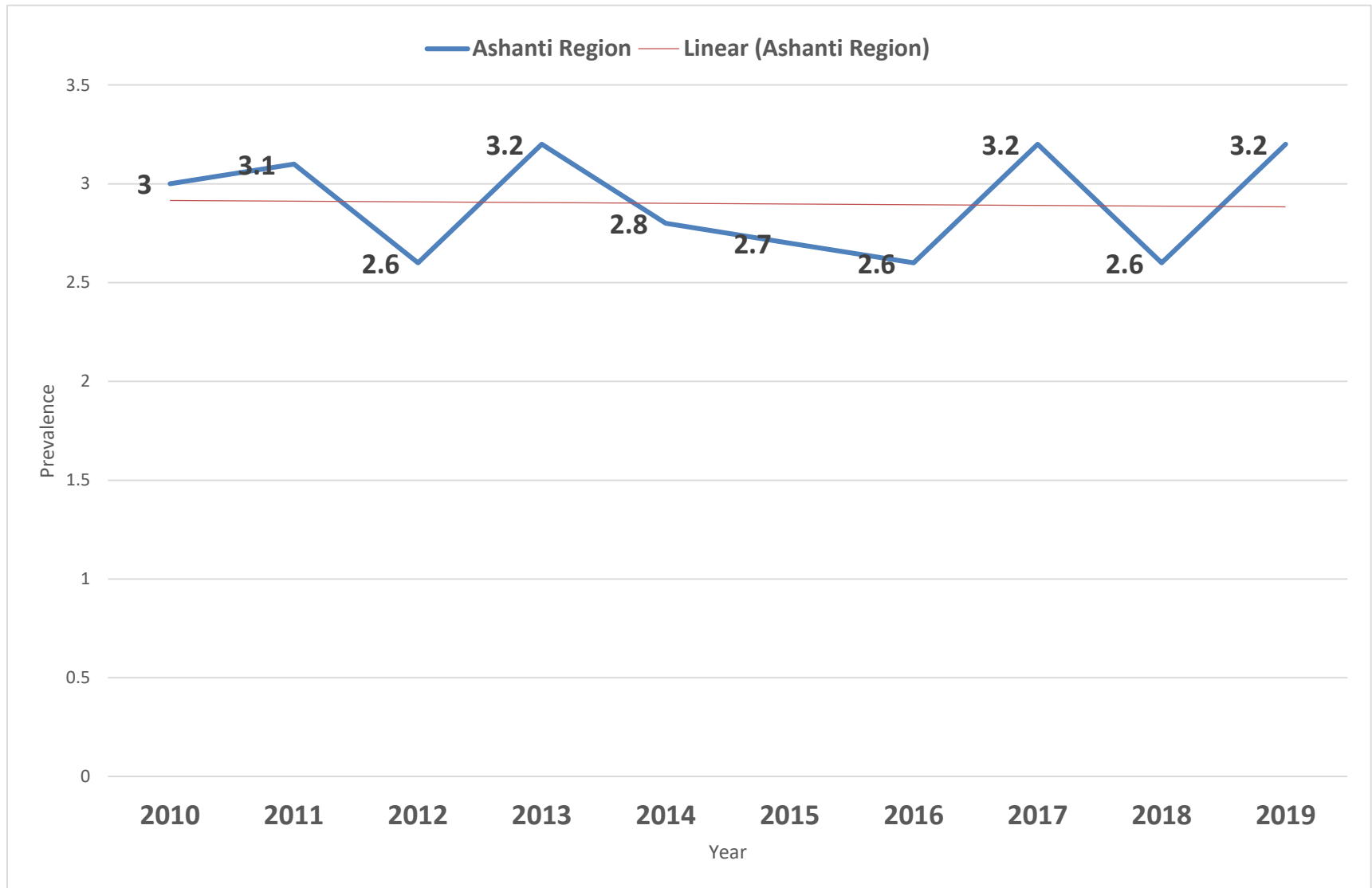
# Central Regional Trend Analysis of Median HIV Prevalence



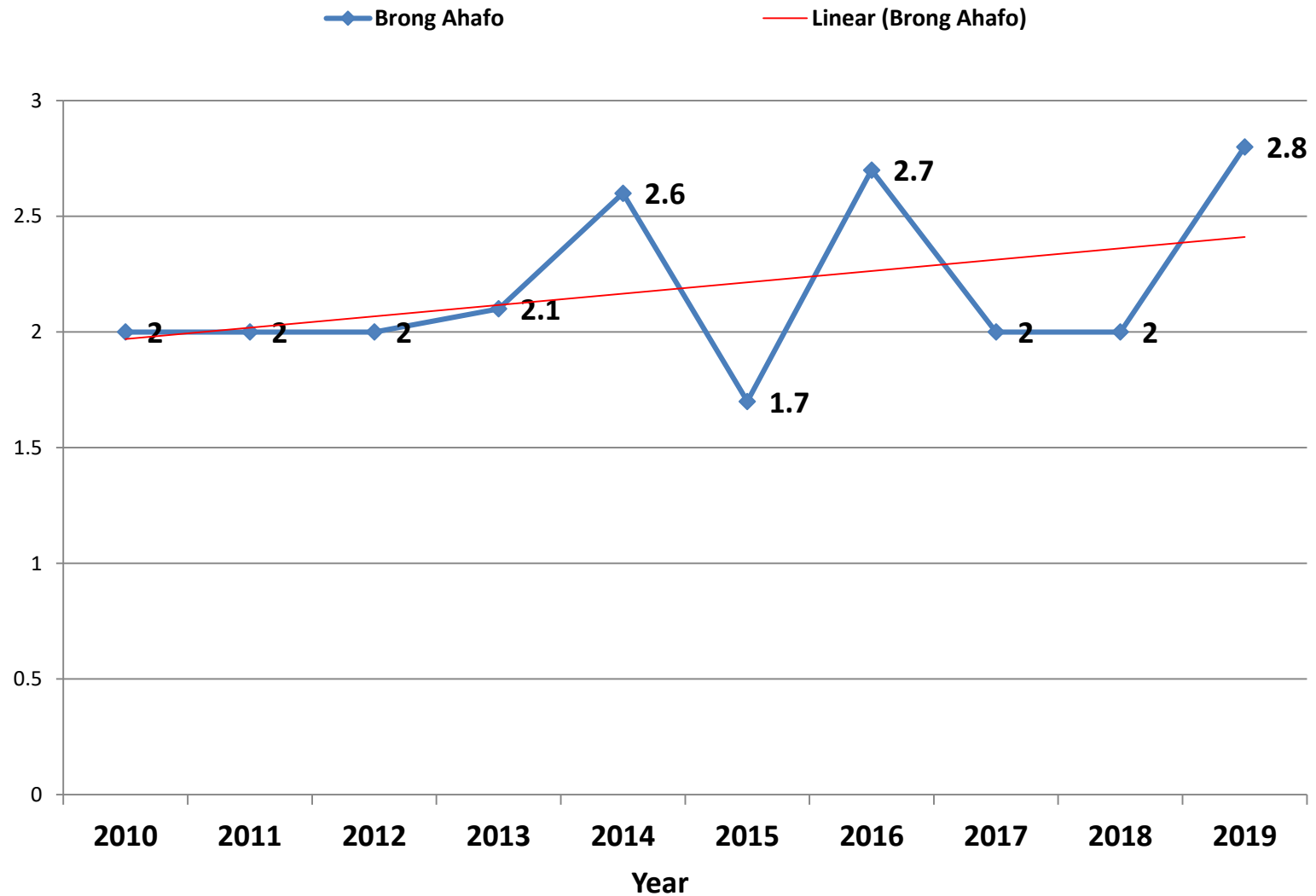
# ***Eastern Regional Trend Analysis of Median HIV Prevalence***



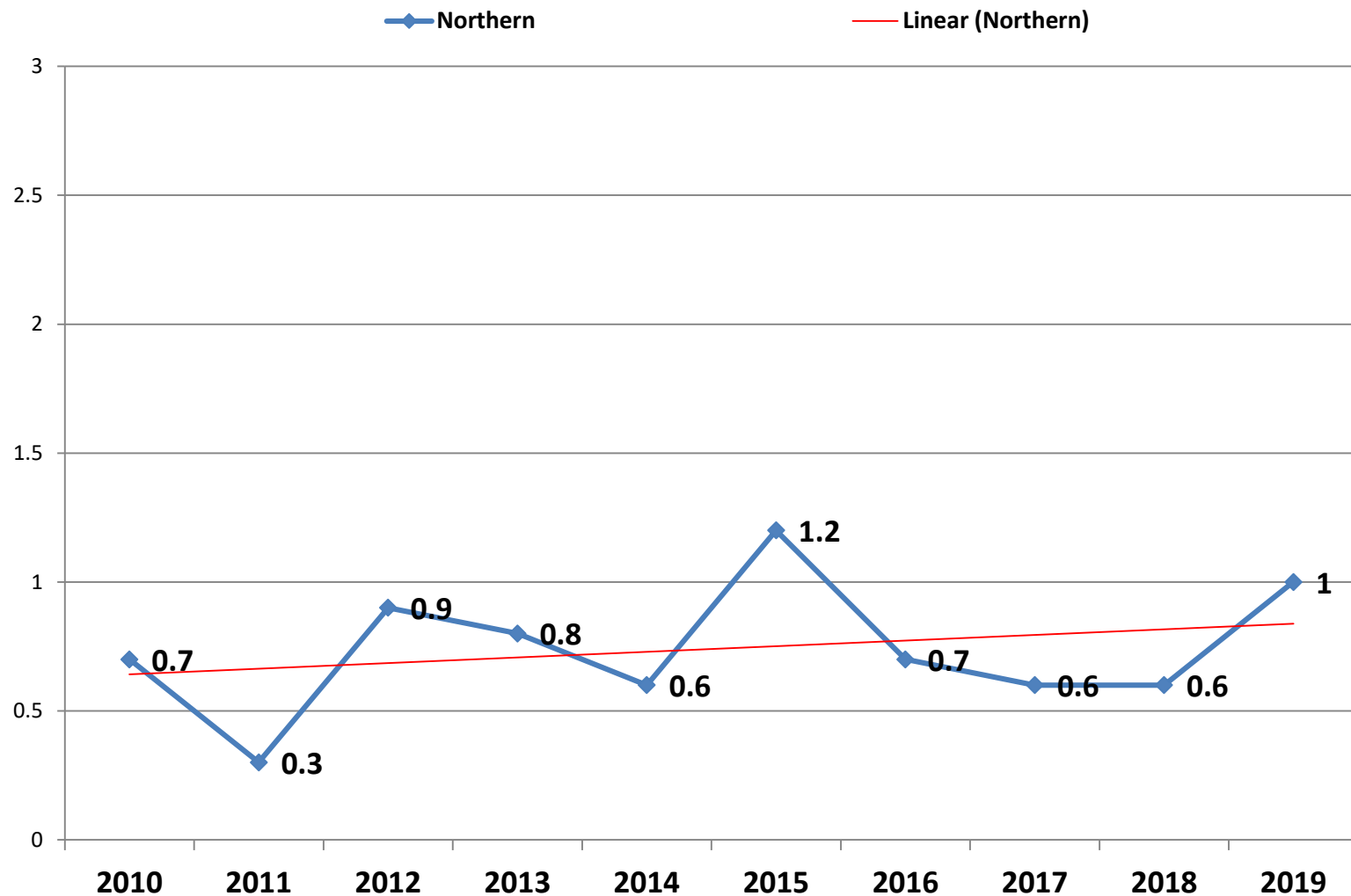
# Ashanti Regional Trend Analysis of Median HIV Prevalence



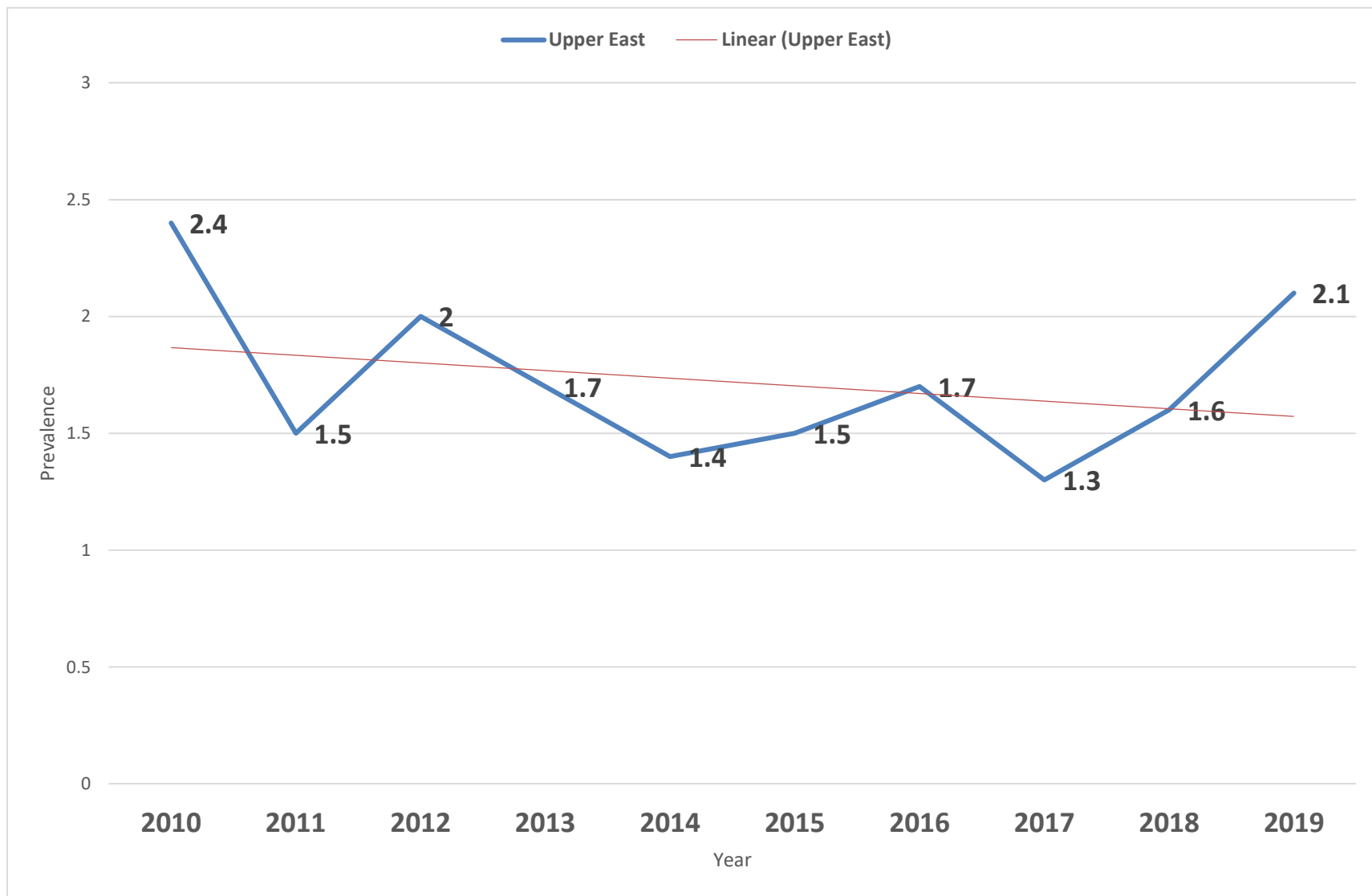
# Brong Ahafo Regional Trend Analysis of Median HIV Prevalence



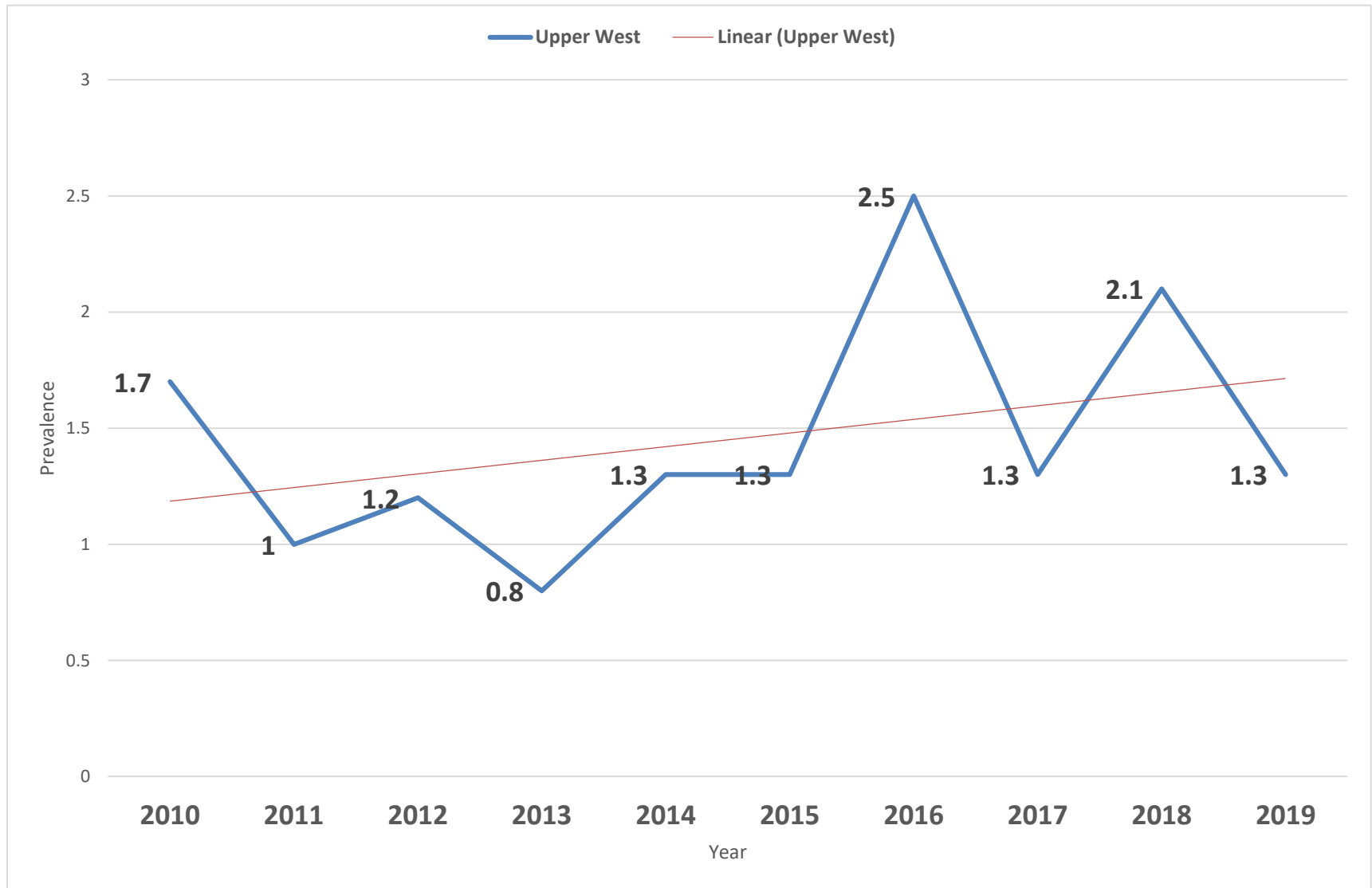
# Northern Regional Trend Analysis of Median HIV Prevalence



# Upper East Regional Trend Analysis of Median HIV Prevalence

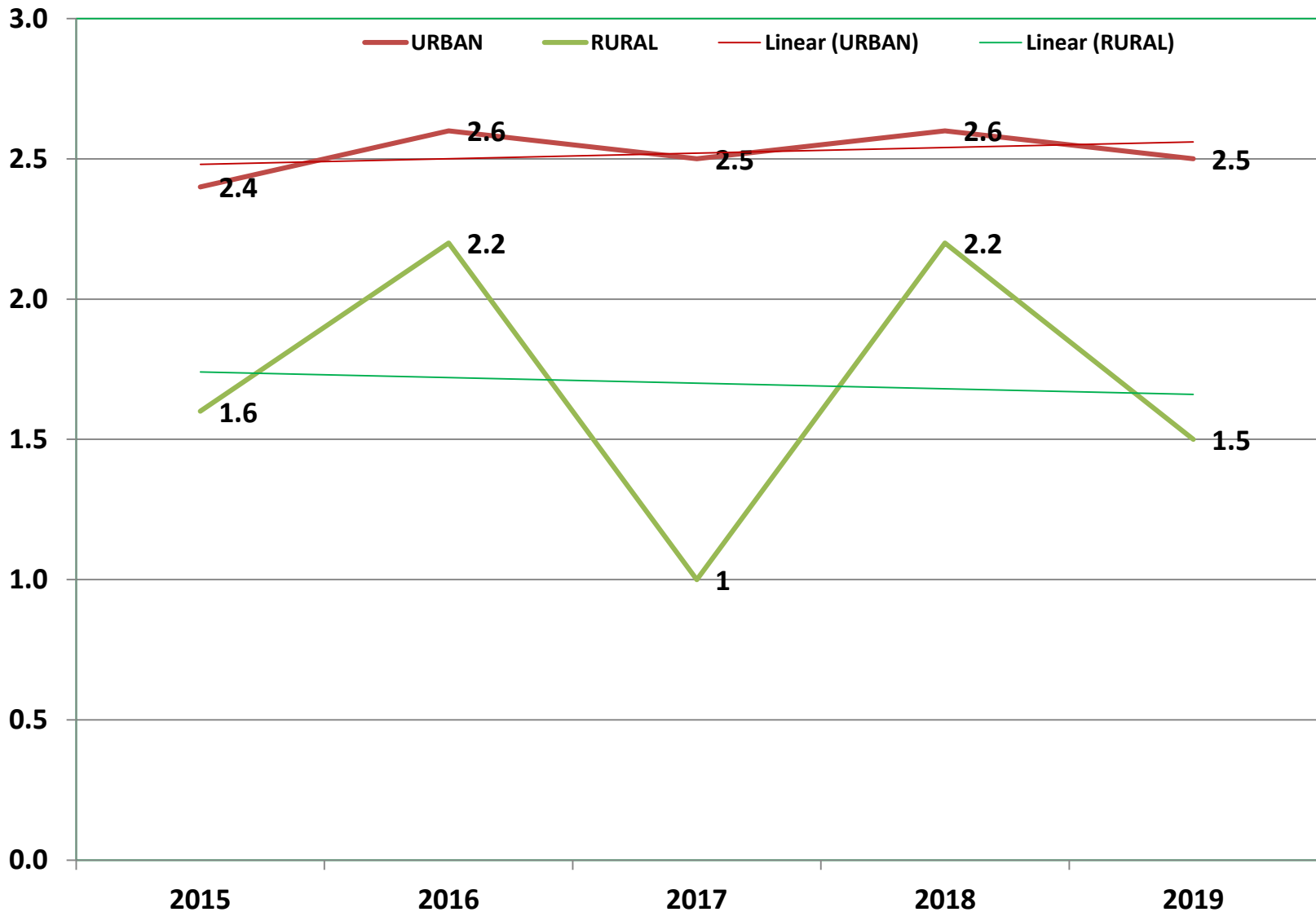


# Upper West Regional Trend Analysis of Median HIV Prevalence

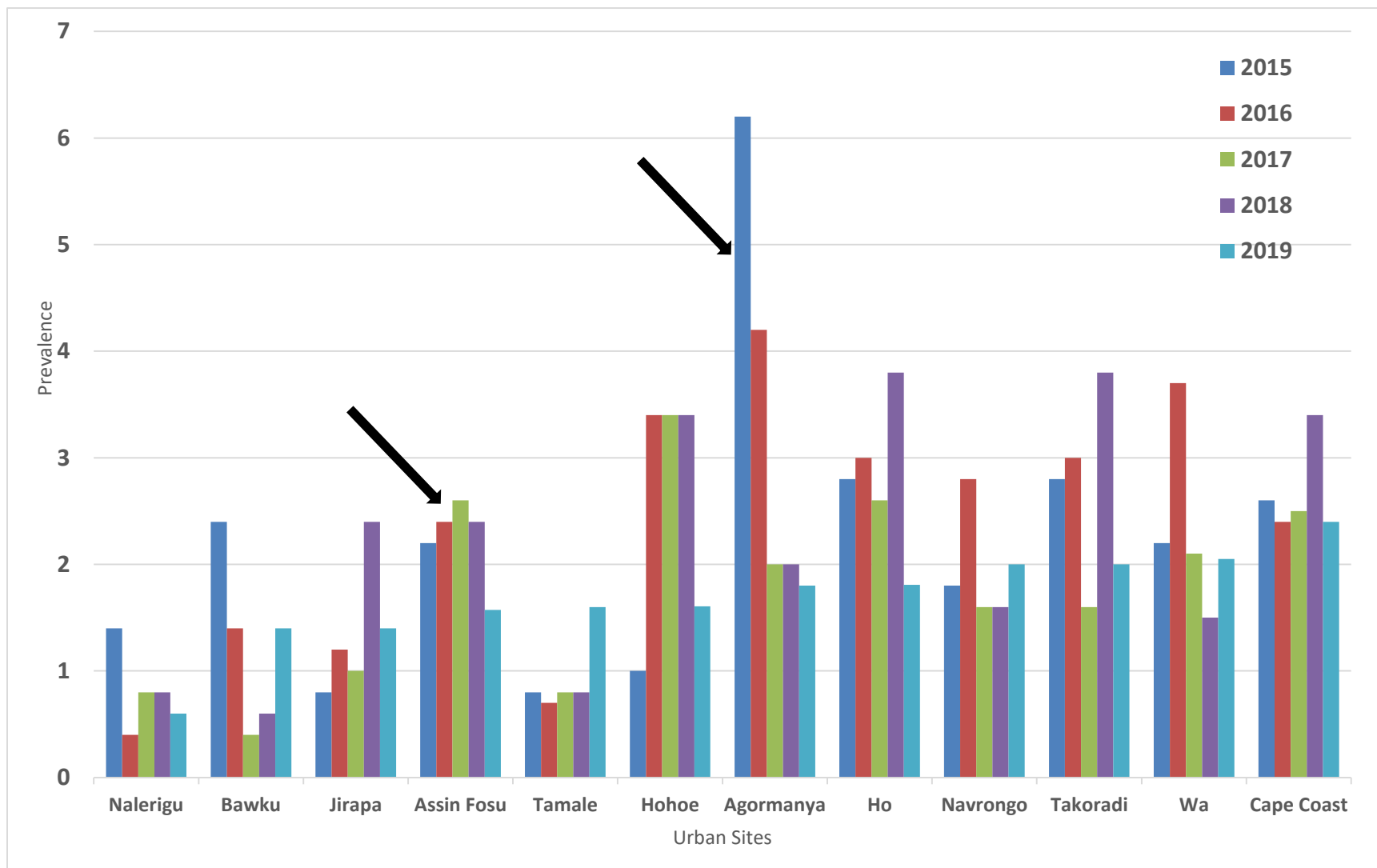




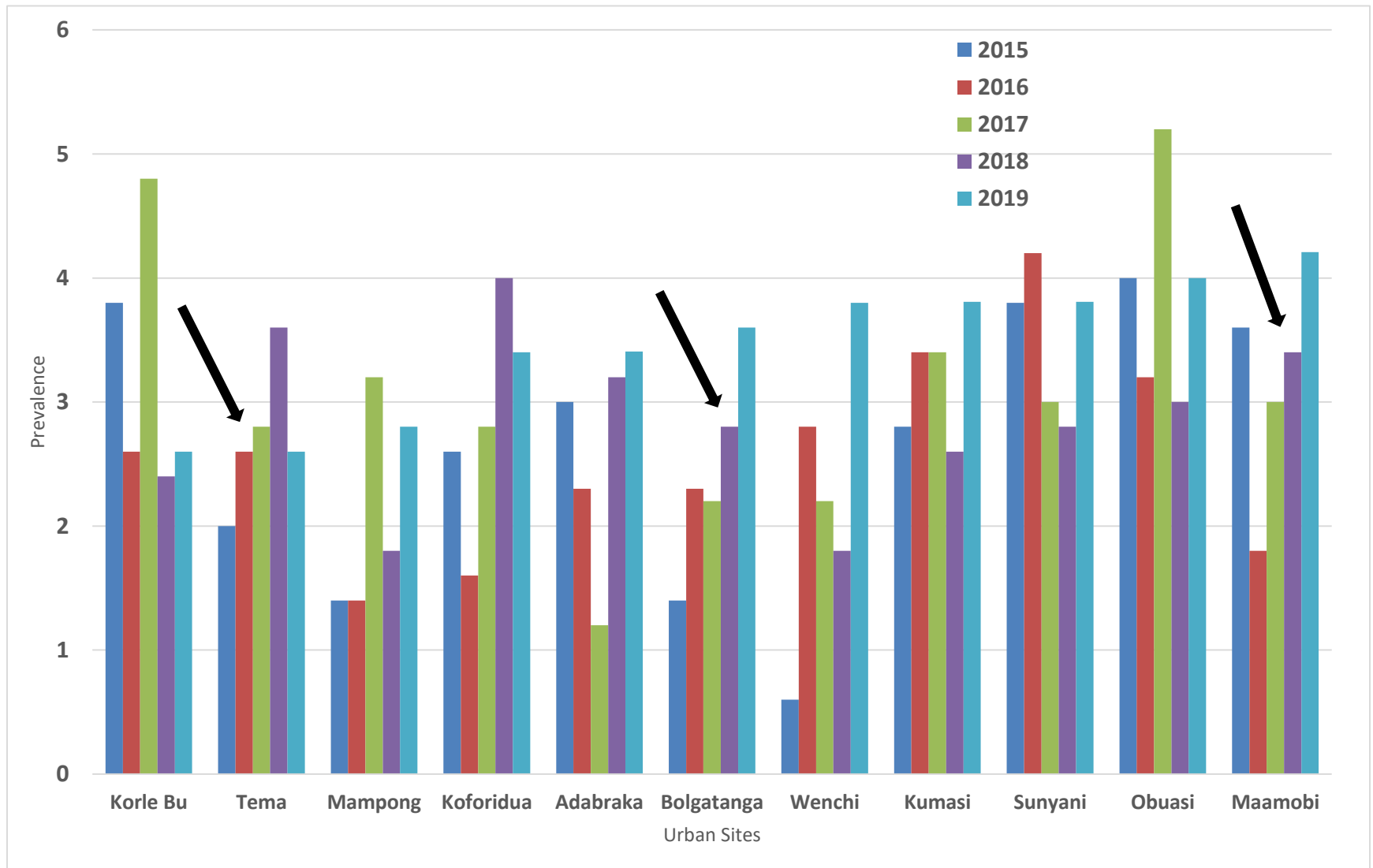
# Median HIV Prevalence By Location 2015 - 2019



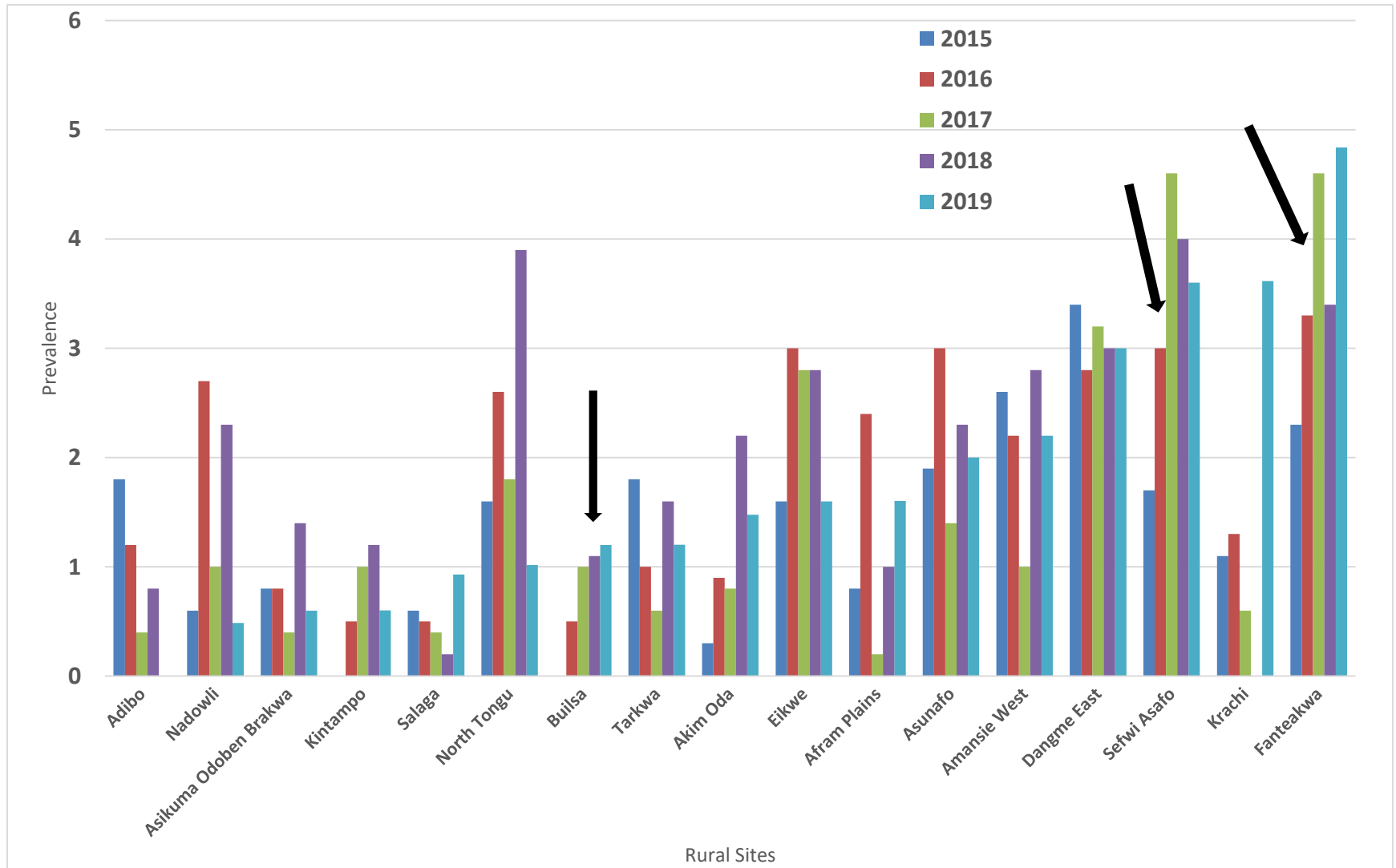
# URBAN Sites HIV Prevalence 2015 - 2019 (1)



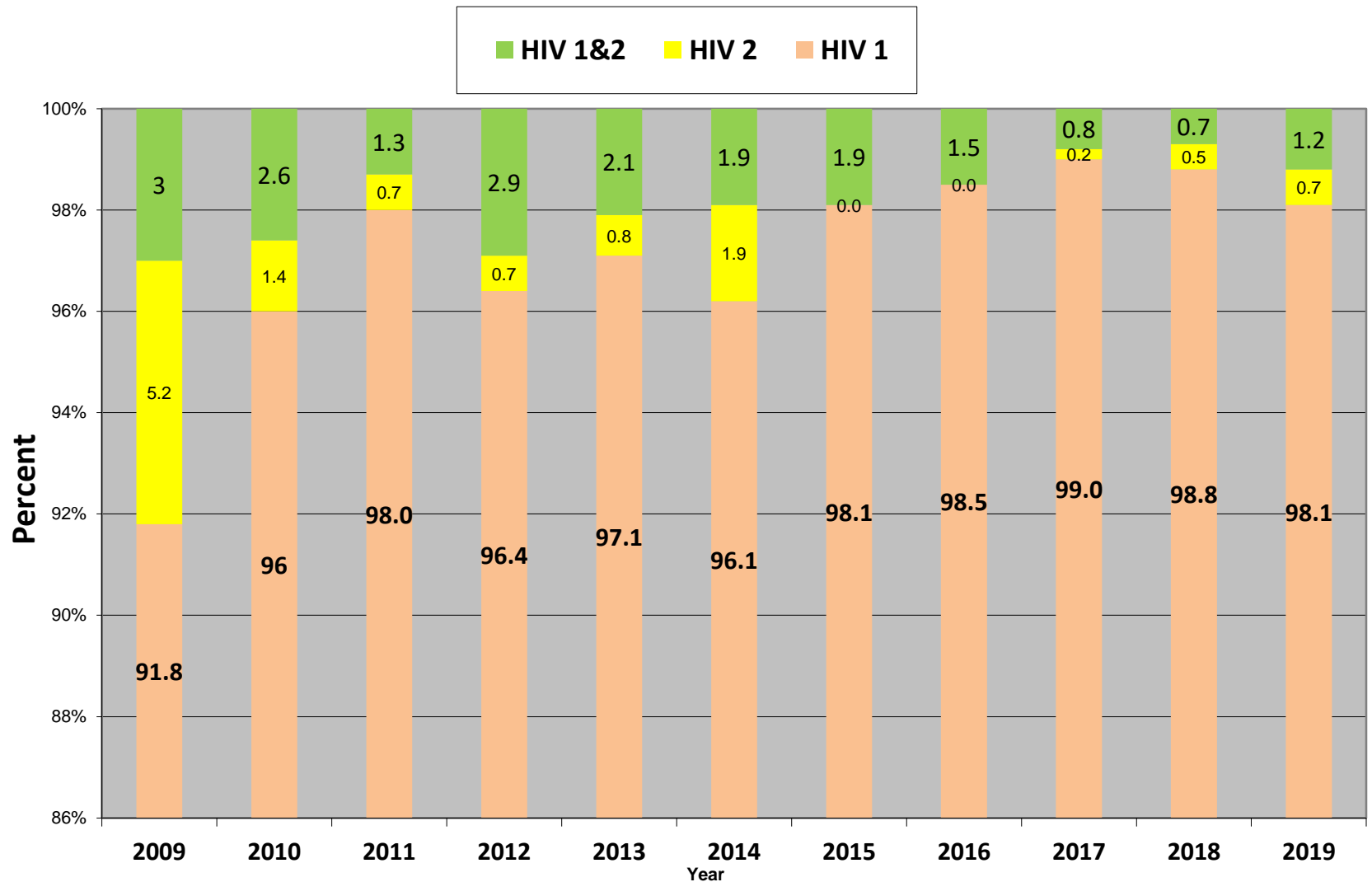
# URBAN Sites HIV Prevalence 2015 - 2019 (2)



# RURAL Sites HIV Prevalence 2015 - 2019



# Trend in HIV Type 2009 - 2019

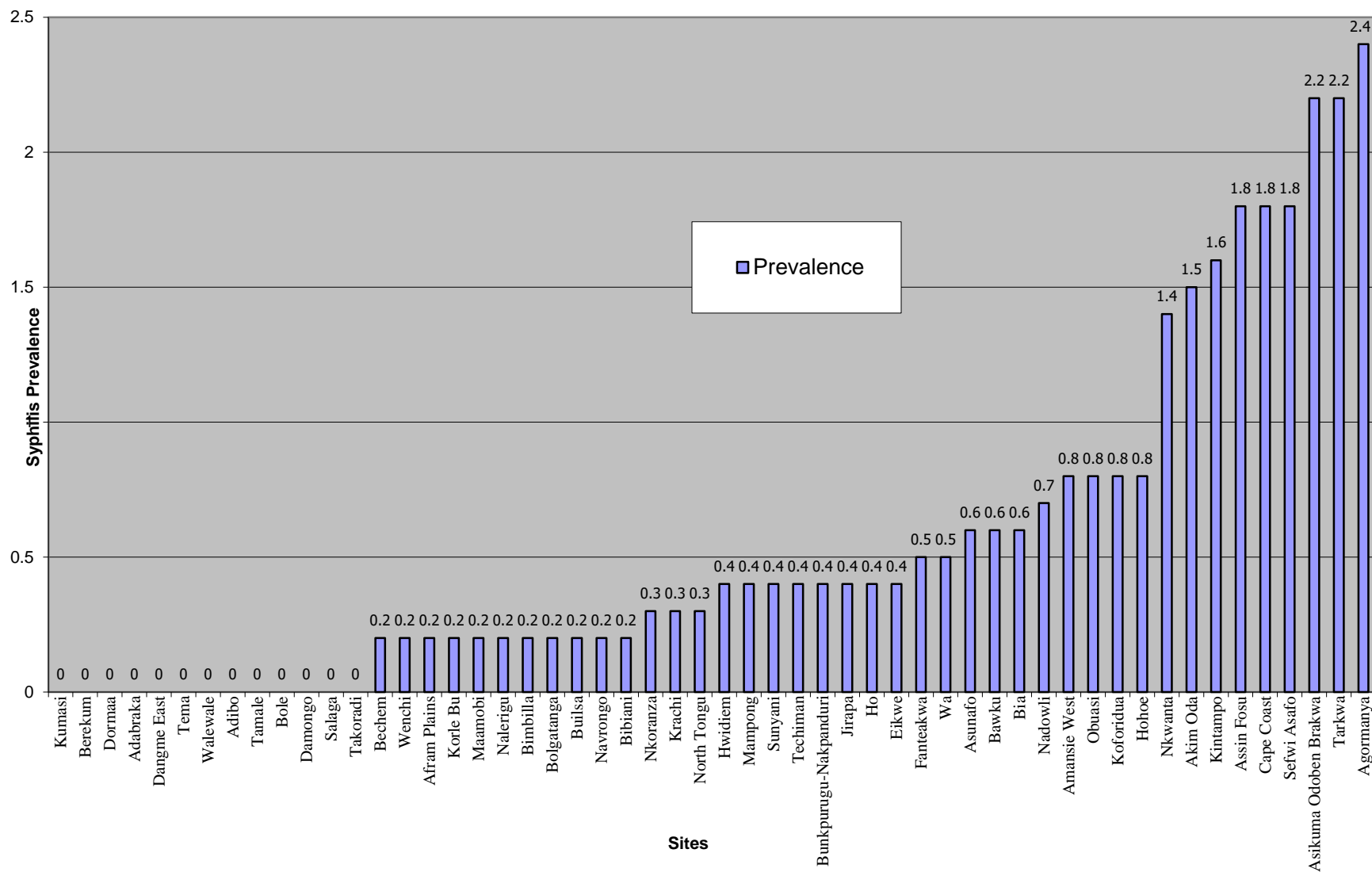


# Syphilis Prevalence

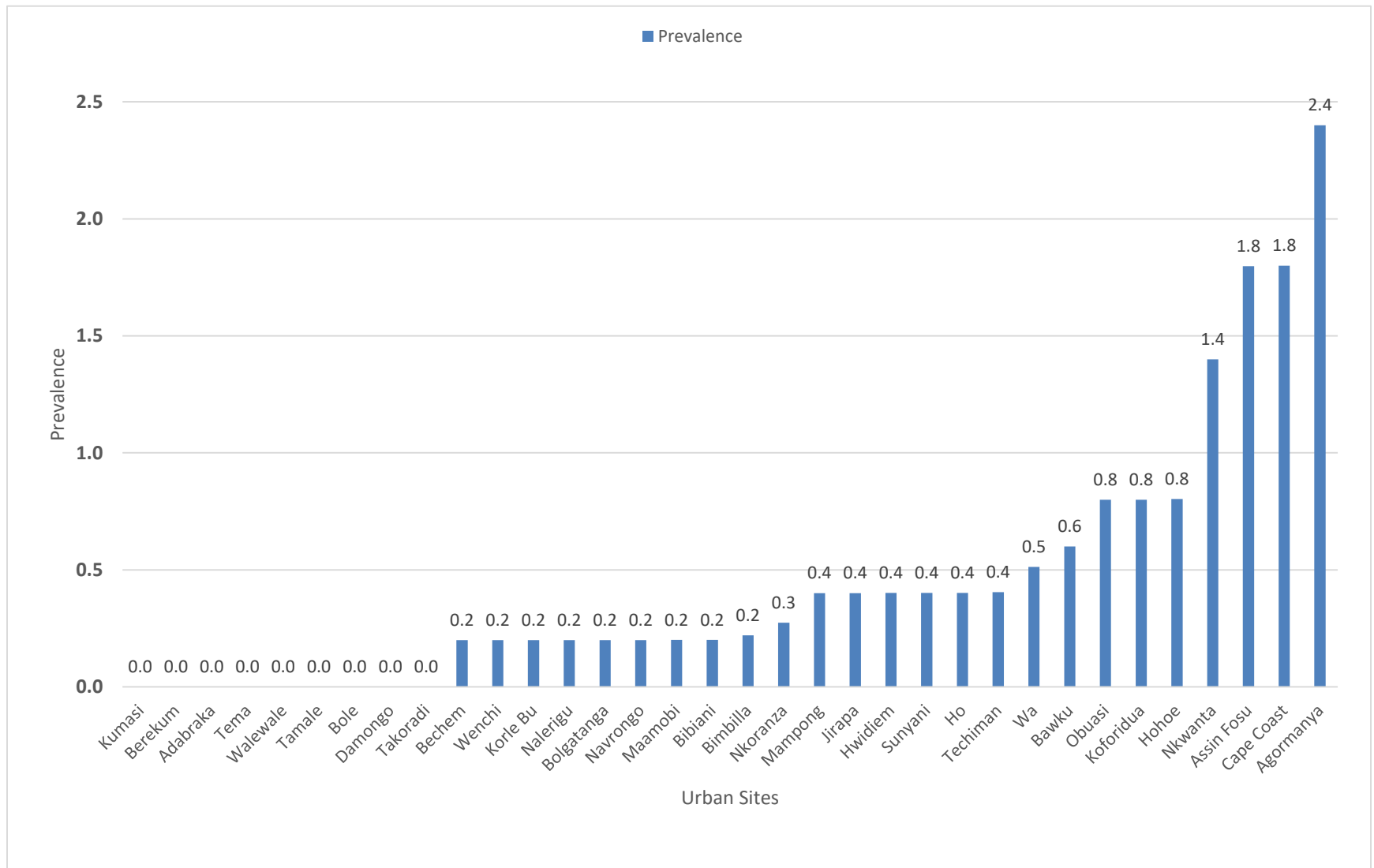
- Syphilis prevalence ranged from 0.0% in Adabraka and twelve other sites to 2.4% in Agormanya (Urban)
- The median syphilis prevalence for 2019 is **0.4% (95% C.I: 0.32 - 0.48)**
- Nine Urban sites recorded 0.0%
- Four Rural Sites recorded 0.0%



# All Sites Syphilis Prevalence - 2019

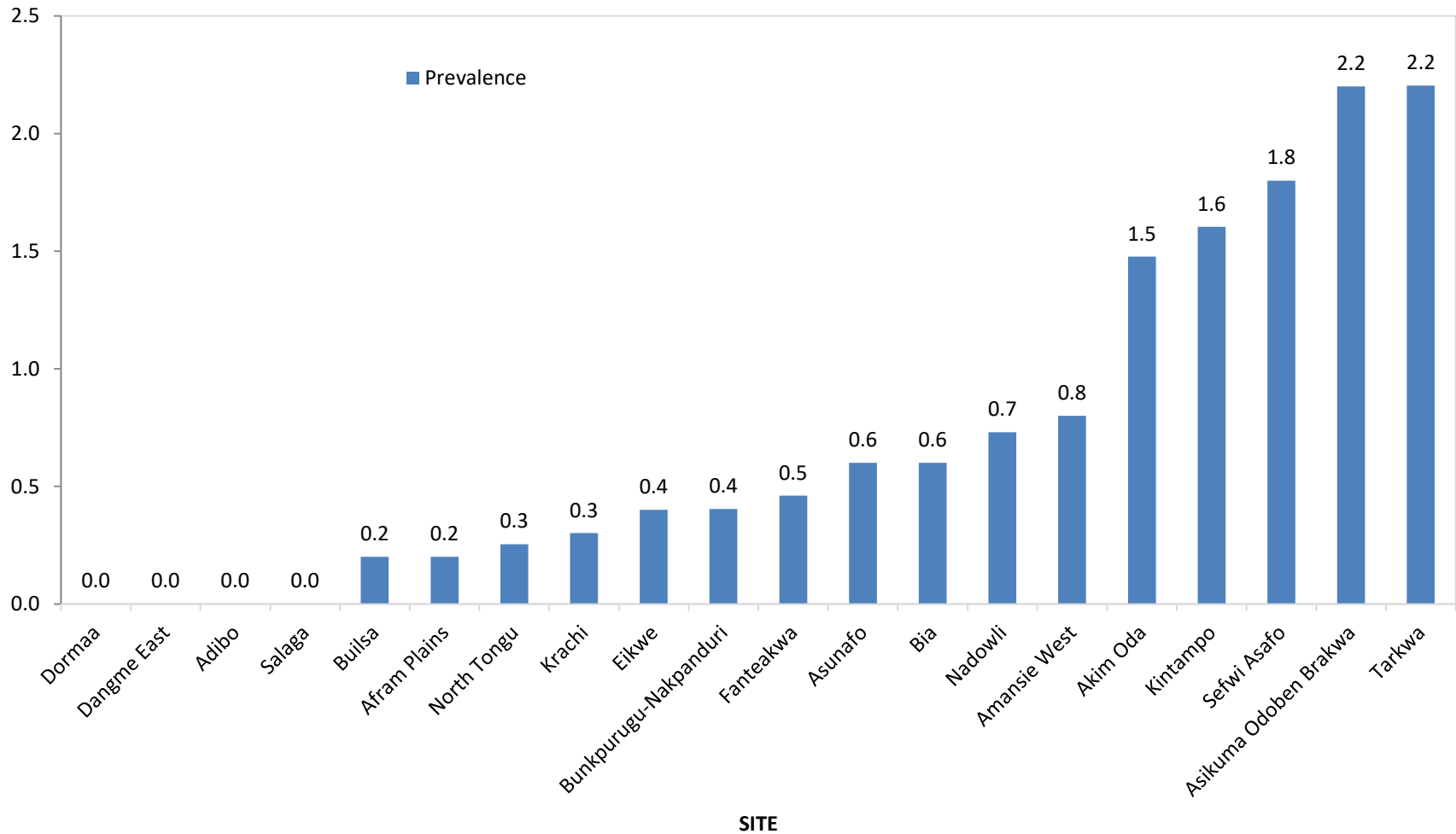


# Syphilis Prevalence by Urban Sites -2019

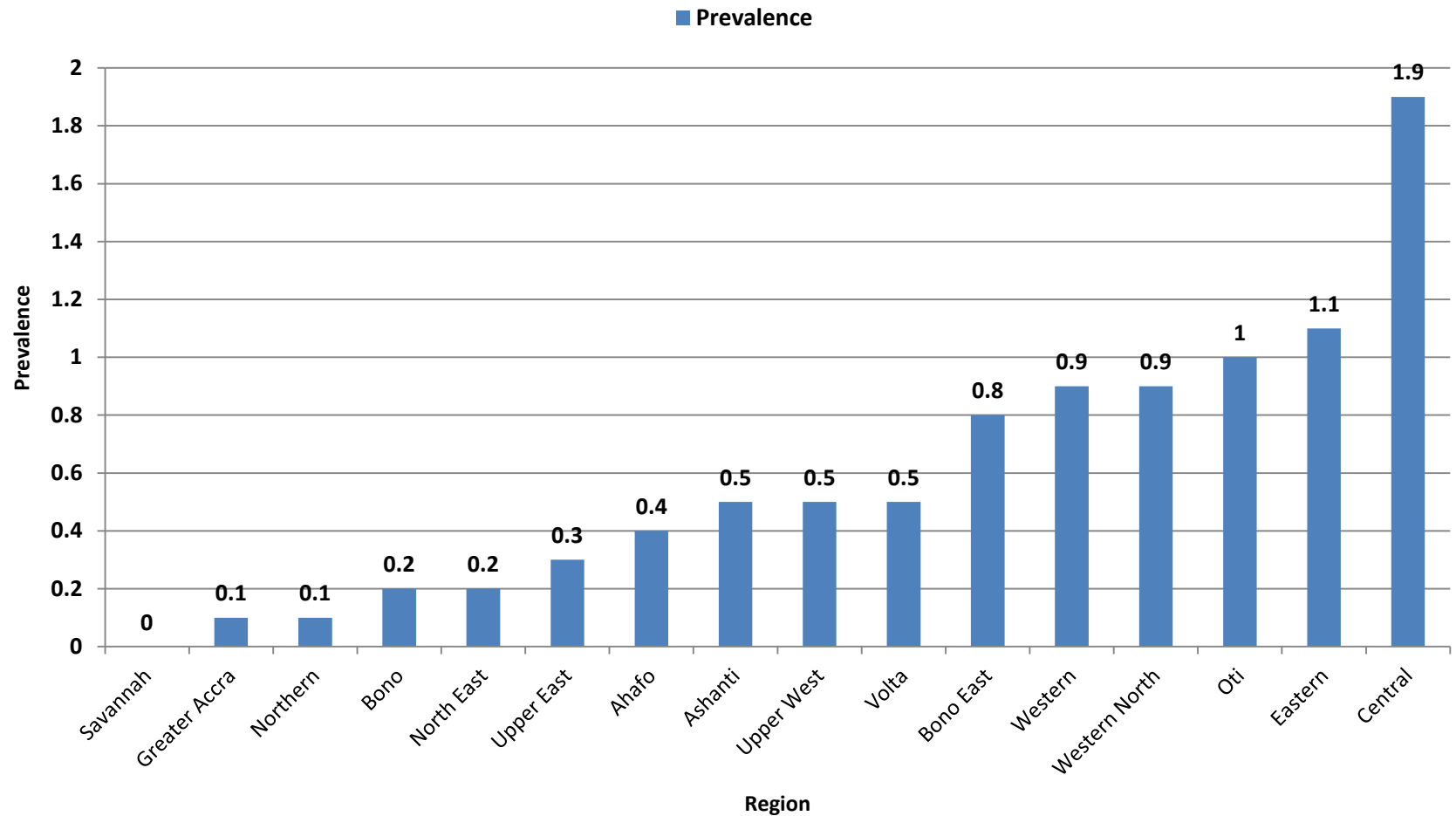




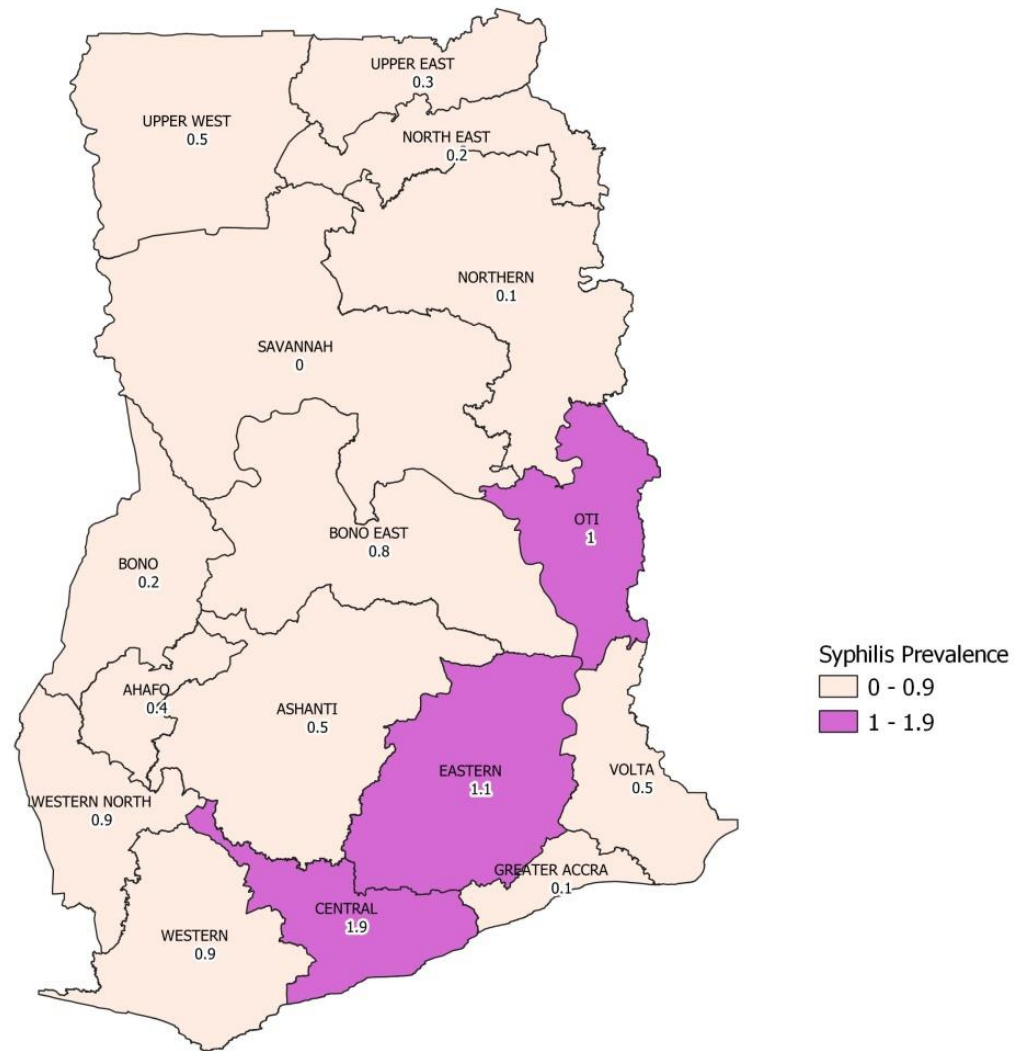
# Syphilis Prevalence by Rural Sites -2019



# Regional Syphilis Prevalence - 2019

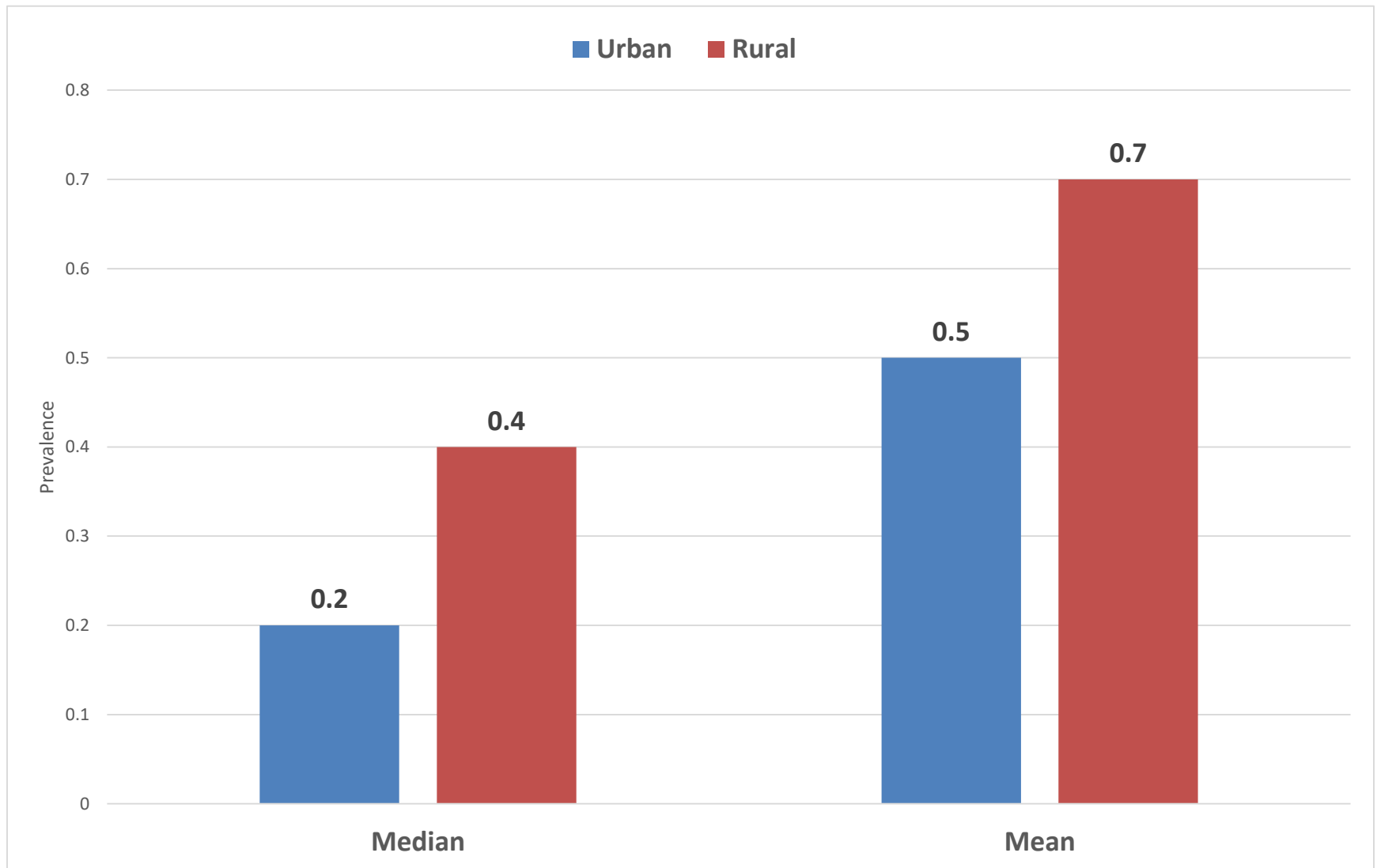


# Syphilis Prevalence by Region - 2019

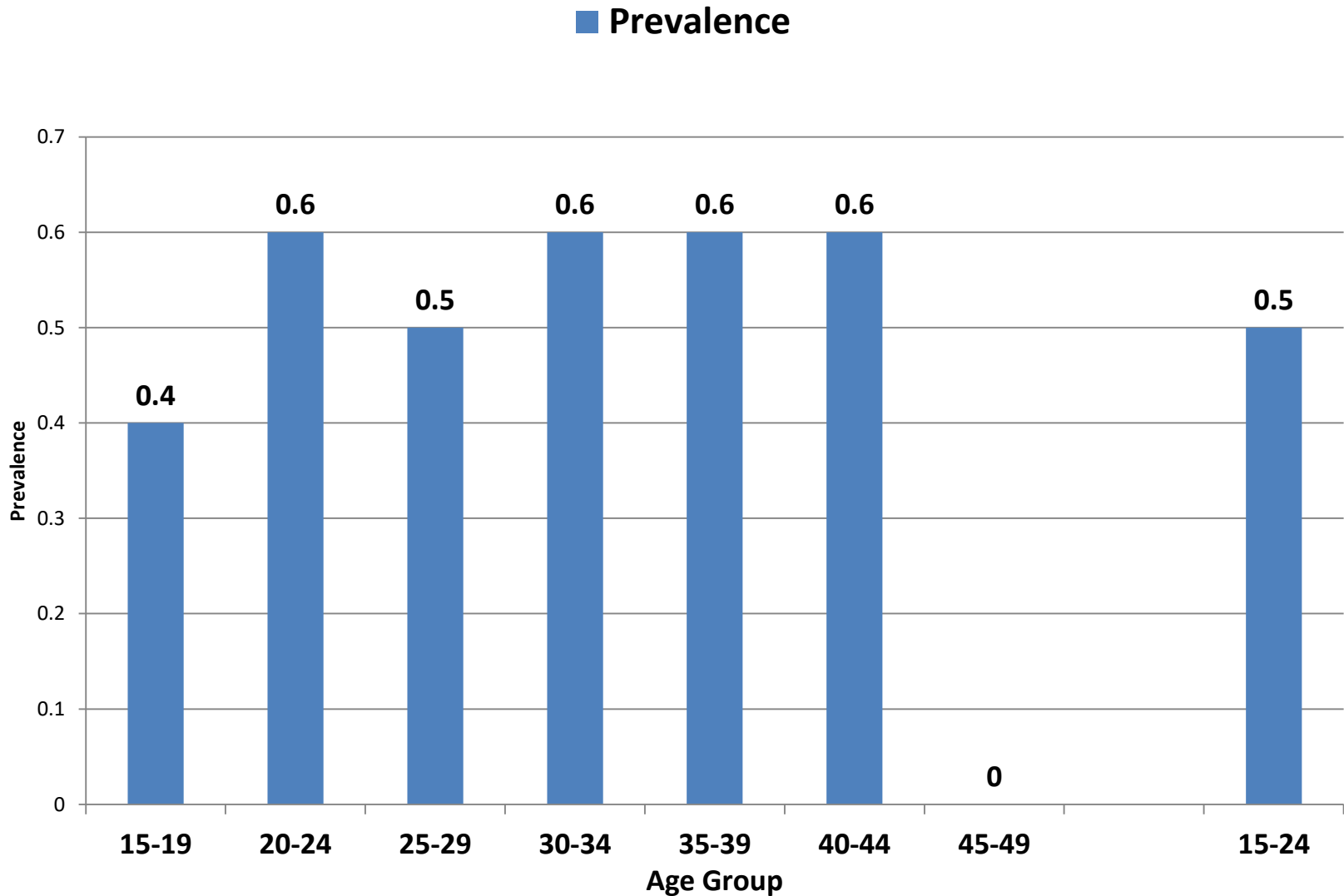


SOURCE:  
NACP/GHS

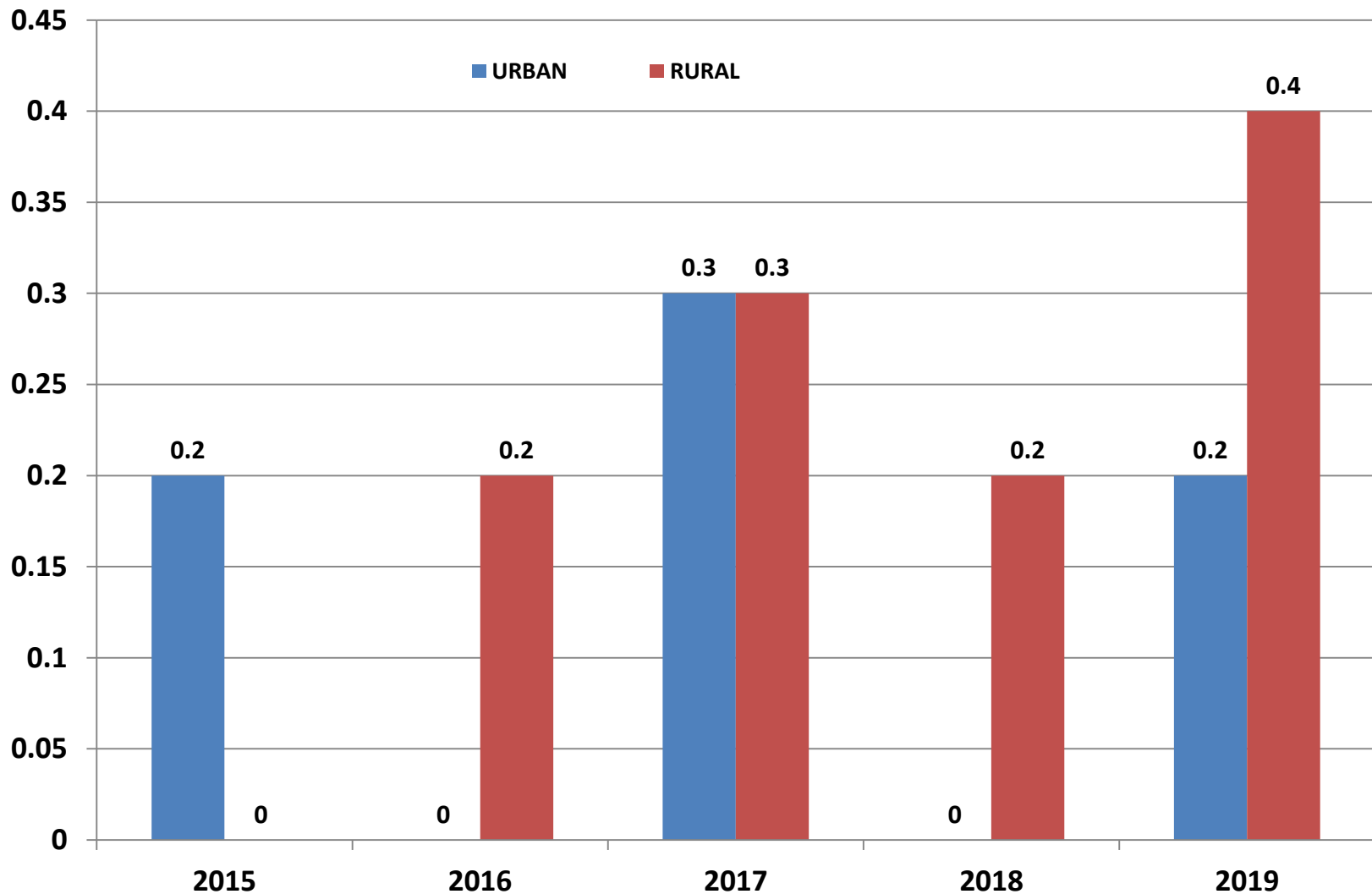
# Syphilis Prevalence by Location (Rural/Urban) - 2019



# Syphilis Prevalence by Age Group - 2019

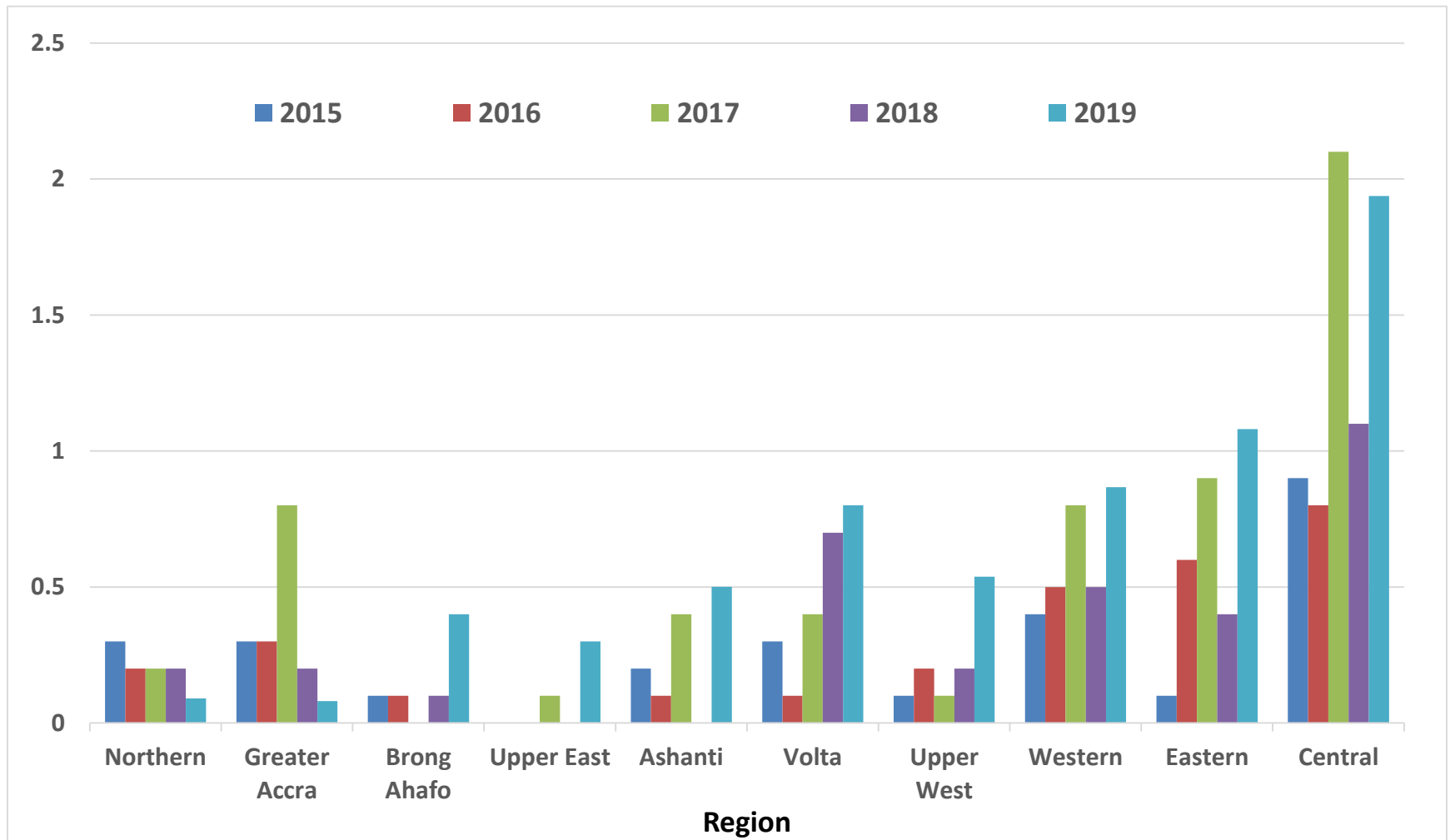


# Median Syphilis Prevalence By Location 2015 - 2019



# Trends in Syphilis Prevalence 2015 - 2019

## By Region

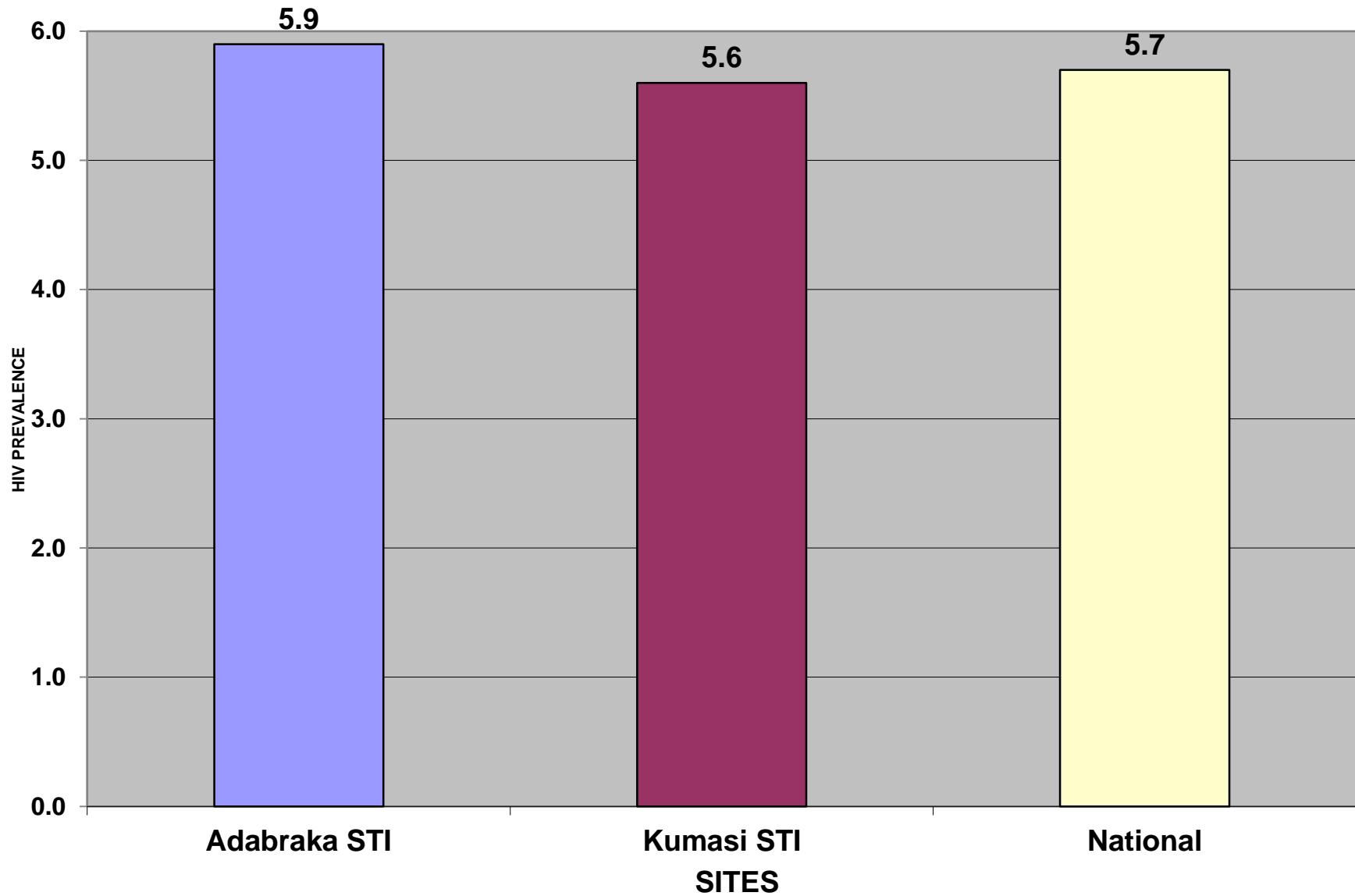


# 2019 HIV Prevalence in STI Sites

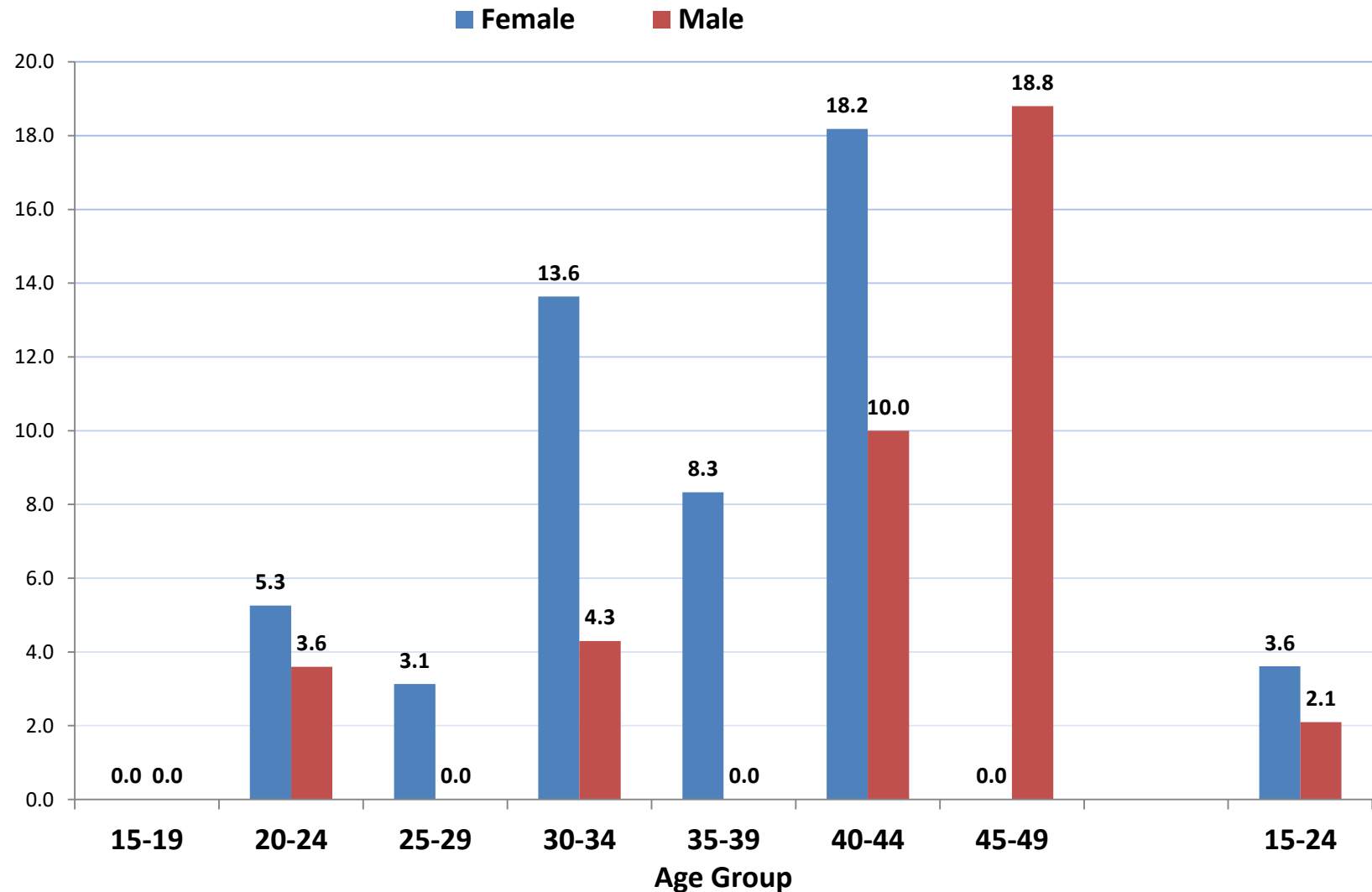
- The survey was successfully carried out in both STI sites.
- Prevalence of HIV among STI clients was **5.7%** a decrease from **9.2%** in 2018.
  - Adabraka STI site 5.9%
  - Kumasi STI site 5.6%
- The highest prevalence (15.6%) is in the 40-44 year age group
- The lowest prevalence (0.0%) is in the 15-19 year age group.



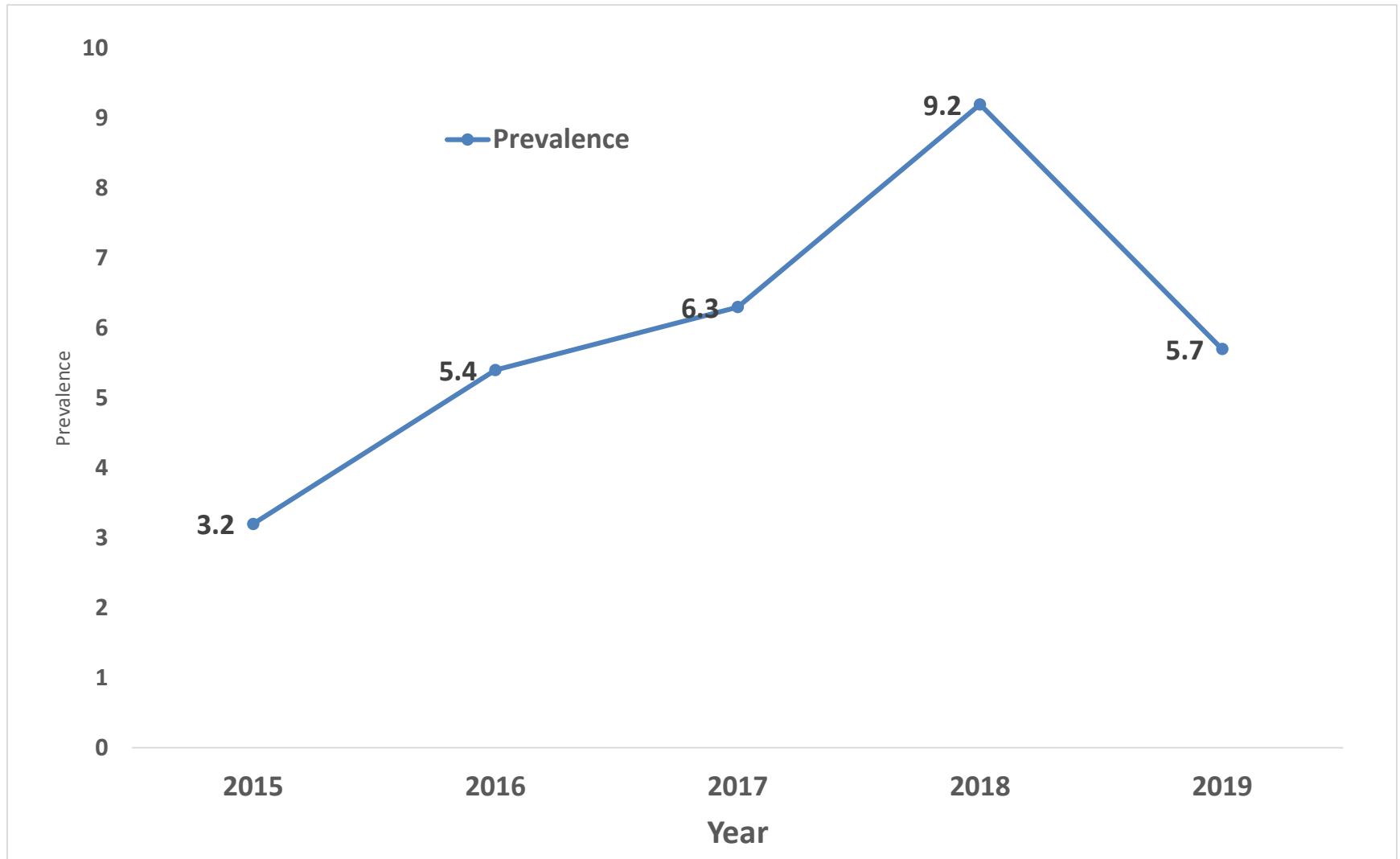
# Mean HIV Prevalence Among STI Clients 2019



# HIV Prevalence among STI Clients By Age and Sex - 2019



# Mean HIV Prevalence In STI Clients 2015 - 2019





# **DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**



# Discussion

- HIV prevalence among antenatal clients for 2019 is **2.0% (C.I 1.83 -2.17)** a decrease from the 2018 prevalence of 2.4%.
- This represents a drop of 16.7% from the 2018 figure.
- However, a ten-year and five-year linear trend analysis both show an increasing trend in prevalence.

# Discussion

- The outcome of the 2019 HSS showed, nine regions recorded prevalence above the national median prevalence of 2.0%.
- Prevalence ranged from 0.8% in the North East and Northern regions to 3.4% in the Bono Region.
- The Bono region has thus taken over from the Western and Greater Accra regions as the region with the highest prevalence of HIV in the country for the year 2019.

# DISCUSSION

## Rural/Urban

- HIV site prevalence ranged from 0.0% in Adibo to 4.8% in Fanteakwa, all rural sites.
- Eighteen (18) sites experienced increases in prevalence, with five in the rural and thirteen in the urban areas.
- Twenty one (21) sites decreased in prevalence, with eleven in the rural and ten in the urban areas.
- **Agormanya**, an urban site, has been consistently decreasing in prevalence since 2015.
- **Builsa**, a rural site, has been consistently increasing in prevalence since 2015.

# DISCUSSION

- Ghana's HIV epidemic is firmly established as higher in urban sites compared to rural sites.
- However, in 2019, the highest prevalence is from a rural site.
- This finding is affirming the fact that rural HIV prevalence is catching up with urban sites
- It could also be due to the fact that most of our rural sites have upgraded to urban sites based on our operational definition of a rural site. Hence there is the need to reassess our rural site for reclassification



# DISCUSSION

## Age groups

- The highest age group prevalence was recorded within the 40-44-year group (3.6%) and the lowest (0.6%) was within the 15-19 year age group.
- The 15-19 year group has consistently remained the age group with the lowest mean prevalence since 2012.
- HIV prevalence in the young population (15-24) has declined from 1.5% to 1.2%
- The declining prevalence among the young population (the proxy for new infections) must be sustained by intensifying HIV prevention interventions amongst them.

# DISCUSSION

## **Age groups**

- With increasing coverage of antiretroviral therapy in Ghana and survival on therapy, fertility outcomes amongst women living with HIV are expected to improve
- It's necessary to document the needs of the ageing cohort of HIV clients to guide new differentiated interventions for specific age groups.

# DISCUSSION

## HIV Type

- HIV sub-type 1 is still the most dominant with a proportion of 98.1%.
- In 2015 and 2016 there was no HIV Subtype II however, it has been steadily increasing from 0.2% in 2017, 0.5% in 2018 and now 0.7% in 2019.

# DISCUSSION

## Syphilis prevalence

- Syphilis prevalence has increased from 0.0% in 2018 to 0.4.% in 2019.
- The **Central Region** remained the region with the highest prevalence with an increase from 1.1% in the previous year to 1.9%
- **Agormanya** has overtaken **Asikuma Odoben Brakwa** as the site with highest prevalence (2.4%) in this survey.
- Both mean and median prevalences are higher in the Rural areas.

# DISCUSSION

## HIV AMONGST STI CLIENTS

- The mean HIV prevalence among STI clients is 5.7%. A decrease from the 9.2% in 2018
- Adabraka STI site recorded a prevalence of 5.9% whilst Kumasi STI site prevalence was 5.6%
- Co-morbidities of HIV and STIs are high because of similar modes of transmission
- Integration of interventions targeting both HIV and STIs is essential.
- Screening of all people who report with STIs for HIV is therefore, a key strategy for maximizing HIV positive yield.

# CONCLUSION

- The findings of the 2019 survey show a decrease in HIV prevalence in Ghana.
- Recent five and ten year linear trend analysis however, show increasing HIV prevalence.
- The Bono region, which was carved out of the Brong Ahafo region, has taken the lead as the region with the highest prevalence.
- Rural HIV prevalence seem to be catching up with urban sites.
- HIV subtype II which wasn't reported in 2015 and 2016, has seen an increase in prevalence from 2017 to 2019

# CONCLUSION

- Syphilis prevalence has witnessed an increase this year after a sharp decline in the previous year with the Central region still leading.
- HIV infection among STI clients saw a decline and this downward trend has to be maintained with the need to screen patients who report to all health facilities in Ghana with STIs for HIV.

# Way Forward

- Sustain survey in new regions to establish trend.
- Increase the budget for study to adequately accommodate the new additional sites created.
- Maintain the quality of data since it is the primary source of data for National HIV Estimates and Projections.
- Enhance additional demographic analysis.
- Further analysis required to guide a differentiated approach to Programmatic interventions.



# Acknowledgements

- Ministry of Health and Ghana Health Service.
- All Sentinel Site Staff and other health personnel.
- Public Health and Reference Labs.
- Noguchi Memorial Institute for Medical Research.
- Regional, District Health Directorates and facility managers.
- WHO and Joint UN team on AIDS (JUTA).
- Global Fund to fight ATM and CCM.
- Ghana AIDS Commission.
- ANC Clients.
- All other stakeholders.



# THANK YOU



**NATIONAL AIDS/STI CONTROL PROGRAMME**

P. O. BOX KB 547, KORLE BU – ACCRA

Phone: +233 302 678 457-9

Fax: +233 302 662 691

Email: [info@nacp.org.gh](mailto:info@nacp.org.gh)

