2022 GHANA DEMOGRAPHIC AND HEALTH SURVEY

THEMATIC BRIEF

BREAST AND CERVICAL CANCER SCREENING AMONG WOMEN IN GHANA

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FOREWORD

Breast and cervical cancers remain two of the most significant threats to women's health in Ghana. The numbers bring the message home.

In 2022 alone, more than 5,000 women were diagnosed with breast cancer and over 3,000 with cervical cancer. Together, these diseases claimed more than 4,000 lives. The most effective defense is simple and proven early detection through screening. Yet access to screening is far from equal.

This brief provides the clearest district-level picture we have ever had on breast and cervical cancer screening among women aged 15 to 49, using the 2021 Population and Housing Census and the 2022 Demographic and Health Survey.

What the data show is both striking and instructive:

1. Screening coverage varies sharply by geography:

    i. Breast cancer screening ranges from as low as 5.4 percent in North East Gonja to over 31 percent in Effia Kwesimintsim. Seven of the ten districts with the lowest screening rates are in the northern regions, where coverage often falls below 10 percent; and

    ii. Cervical cancer screening is even lower nationwide, ranging from 1.6 percent to 11.4 percent. Many districts, particularly in the Savannah, Oti, Bono East, Western North, and Western regions, record coverage below 4 percent.

2. These disparities reflect deeper inequalities in access to information, services, and preventive care:

    i. Women in urban and coastal districts are more likely to get screened, while those in rural and underserved communities face persistent barriers, namely, distance, limited services, low awareness, and constrained resources.

    ii. The data also reveal wide gaps within regions, showing that no region is uniformly high performing.

But the findings also provide a roadmap. They show where investment must be intensified and which communities need targeted, sustained attention.

To close these gaps, four actions matter most.

First, bring services closer to the women who need them through community-based outreach and mobile screening, especially in districts where coverage is below 10 percent.

Second, embed breast and cervical cancer screening into routine primary healthcare so every woman can be reached during the normal course of care.

Third, expand awareness campaigns using local languages and trusted community voices to demystify screening, reduce stigma, and encourage early detection.

Fourth, make district-level monitoring routine so that disparities are identified early and interventions follow the data, not assumptions.

This report demonstrates the power of statistics to illuminate inequality and guide targeted action. By using granular district-level evidence, it calls on government, health providers, civil society, and communities to work together to reduce preventable deaths and accelerate progress toward Universal Health Coverage and the Sustainable Development Goals.

The responsibility is shared. The path is clear. No woman in Ghana should die from a disease that can be detected early and treated effectively.

DR. ALHASSAN IDDRISU
GOVERNMENT STATISTICIAN

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Breast and cervical cancers are now two of the deadliest threats to women's health in Ghana. In 2022, more than 5,000 women were diagnosed with breast cancer and over 3,000 with cervical cancer, leading to more than 4,000 deaths combined. Early detection is the strongest defense, but the data show that too many women are still being missed.

This brief uses the 2021 Population and Housing Census and the 2022 Ghana Demographic and Health Survey to give Ghana its most detailed district-level picture of breast and cervical cancer screening among women aged 15 to 49. What emerges is a story of sharp inequality, between regions, across districts, and even within the same region.

The key findings are:

1. Breast cancer screening is low and highly uneven:
    i. screening ranges from 6.9% in Savannah to 24.4% in Greater Accra;
    ii. the disparities widen at district level, from just 5.4% in North East Gonja to 31.1% in Effia Kwesimintsim; and
    iii. seven of the ten lowest-performing districts are in the northern regions.
2. Cervical cancer screening is even lower nationwide:
    i. regional coverage ranges from 1.6% in Savannah to 6.7% in Northern Region;
    ii. district-level rates stretch from 2.0% in Nzema East to 11.4% in Sagnarigu; and
    iii. large pockets in Bono East, Oti, Western North, and Western Region show coverage below 4%.
3. Geography is the strongest determinant of screening:
    i. urban and coastal districts consistently perform better;
    ii. rural and remote districts record the weakest numbers, pointing to challenges around access, availability of services, and awareness.
4. Intra-regional inequalities are substantial:
    i. some regions, like Eastern and Ashanti, show gaps of more than 15 percentage points between their highest and lowest districts, clear evidence that regional averages hide deeper local disparities.

Taken together, the findings reveal a simple reality: where women live determines the likelihood that they will be screened, and in many districts, the likelihood is far too low.

This matters because Breast and cervical cancers are detectable early, treatable when found on time, and preventable through routine screening. When screening rates stay this low, women are diagnosed later, treatment costs rise, and preventable deaths continue.

The current patterns also undermine Ghana's ability to meet SDG 3.4 and global targets for women's cancers.

The evidence points to clear, implementable actions:

1. **Make screening part of routine primary healthcare**: Embed breast examinations, Pap smears, VIA, and HPV testing into everyday service points; OPDs, child welfare clinics, family planning sessions, and maternal health visits;

2. **Expand mobile and community-based outreach**: Deploy mobile clinics to low-performing districts, especially in the Savannah, Oti, Western North, Bono East, and Northern regions. Bring screening closer to women who face the highest barriers to access;

3. **Intensify public education using trusted local channels**: Run culturally sensitive campaigns in local languages to counter fear, myths, and misinformation. Leverage radio, health volunteers, religious networks, traditional authorities, and women's groups;

4. **Strengthen district-level monitoring**: Track screening trends in real time. Use district data, not national or regional averages, to guide resource allocation, outreach strategies, and performance reviews;

5. **Invest in capacity and logistics**: Equip health facilities with screening tools, train frontline nurses and clinicians, and ensure a steady supply of consumables needed for breast and cervical cancer screening.

Improving screening is not only a health priority, but also a gender and development imperative. District-level disparities need targeted solutions, and high-performing areas offer models that can be adapted nationwide. With coordinated action and district-led strategies, Ghana can improve early detection, reduce preventable deaths, and move closer to Universal Health Coverage and the Sustainable Development Goals.

1. INTRODUCTION

Breast and cervical cancers continue to pose major public health challenges for women across the world, particularly in low- and middle-income countries such as Ghana. Globally, these two diseases, rank the first and fourth cancers and are also the primary causes of cancer-related deaths among women. In 2022 alone, 2,296,840 women worldwide were diagnosed with breast cancer, resulting in 666,103 deaths while 662,301 women were diagnosed with cervical cancer leading to 348,874 deaths. In Ghana, the situation mirrors the global pattern as breast and cervical cancers are the first and second ranked cancers among women. In 2022, 5,026 women were diagnosed with breast cancer and 3,072 with cervical cancer, resulting in 2,369 and 1,815 deaths respectively. These figures highlight the growing threat these diseases pose to women's health and wellbeing.

Women constitute 99 percent of all breast cancer cases globally. Factors such as aging, reproductive history (late age at menarche and first pregnancy), obesity, and substance use (alcohol and smoking) elevate the risk of contracting these diseases. Cervical cancer, on the other hand is primarily caused by Human Papillomavirus (HPV), with risk heightened by reproductive history (Increasing number of children and early age at first sexual intercourse), women's age, and substance use (smoking), HIV infection and prolonged use of hormonal contraceptive. Unlike breast cancer, cervical cancer is preventable through HPV vaccination and regular screening. Screening for both breast and cervical cancer is the most efficient and cost-effective strategy that increases women's chances of early detection and treatment.

Recognising the urgency of addressing challenges related to breast and cervical cancers, the World Health Organization (WHO) launched the Global Breast Cancer Initiative (2021) and the Global Strategy to Accelerate the Elimination of Cervical Cancer (2020) to aid in addressing these cancers. The Global Breast Cancer Initiative aims to reduce breast cancer by 2.5 percent annually through health promotion and early detection of breast, timely diagnosis and comprehensive management of breast cancer by 2040. The Global Strategy to Accelerate the Elimination of Cervical Cancer on the other hand aims to reduce annual new cervical cancer cases to 4 or less per 100,000 women by 2030 following a 90-70-90 target. It is expected that by 2030, 90 percent of girls will be fully vaccinated with the HPV vaccine by age 15, 70 percent of women will be screened with a high-performance test by ages 35 and 45, and 90 percent of women identified with cervical disease will receive treatment.

These global commitments align with Sustainable Development Goals (SDG) 3, target 3.4 which calls for a one-third reduction in premature mortality from non-communicable diseases through prevention and treatment by 2030. Ghana, as a WHO member state, has responded to these global calls through initiatives such as the National Policy on Non-Communicable Diseases (NCDs), (2022) and the National Strategy for Cancer Control in Ghana (2012-2016). Both initiatives emphasise cancer screening, early detection, and public education as key strategies for reducing the burden of cancers.

This report examines the prevalence of breast and cervical cancer screening among women aged 15-49 in Ghana, using data from the 2021 Population and Housing Census

(PHC) and the 2022 Demographic and Health Survey (GDHS). By applying Small Area Estimation (SAE) techniques, the brief provides district-level insights to support evidence-based policymaking. Understanding whether women access screening services is critical to designing effective interventions that protect women's lives and advance Ghana's progress toward global cancer control targets.

The subsequent sections of the report present the definition of concepts, data sources, and estimation; justification for the selection of correlates; key findings; conclusion and policy recommendations.

2. DEFINITION OF CONCEPTS, DATA SOURCES, AND ESTIMATION

2.1 Definitions of Concepts

2.1.1 Breast cancer screening

This refers to a doctor/healthcare provider examining or the radiological examination of the breasts of a woman for cancer. The breast examination could be a clinical breast examination with a medical equipment to make an image of the breast tissue.

2.1.2 Cervical cancer screening

This refers to a doctor or other healthcare provider ever testing a woman for cervical cancer. The cervical cancer test could either be a Pap smear, HPV test, or a visual inspection with acetic acid (VIA). With the VIA, the doctor or other healthcare provider applies vinegar to a woman's cervix and observes the reaction.

2.2 Data Sources

Data from the 2022 Ghana DHS and the 2021 Ghana PHC were used for the analysis using the women and household datasets. The 2022 GDHS employed a two-stage sample design to select participants for the study during the data collection and provides detailed information on individual health behaviours including indicators on breast and cervical cancer screenings. The 2021 PHC data, on the other hand was a complete enumeration of all persons/households in Ghana, irrespective of nationality.

2.3 Estimation

The Small Area Estimation (SAE) approach was employed to generate district-level estimates of breast and cervical cancer screening. The SAE leveraged regional level indicators in the GDHS as well as the 2021 PHC to predict district-level estimates on breast and cervical cancer screening.

The United Nations Population Fund (UNFPA) model of SAE which was used for the estimation requires that dependent variables are binary. The predictive power of the model depends on the Receiver Operating Characteristic (ROC) curve area being at least 70 percent. In addition, confidence intervals for the district-level estimates which were generated two data sets were generated, and the PHC estimates were between the confidence intervals of the survey estimates.

In this brief, summary statistics of the predictors were generated from both datasets, and a comparison was made between their respective means. These predictors were recoded as binary variables in the two datasets with the same variable name. A logistic regression model was estimated with the appended data, and the stepwise regression model was

applied to estimate the variables that predict breast and cervical cancer screenings at the lower level (district). A ROC of 72 and 75 percent was recorded for breast and cervical cancer screening, respectively. In addition, all the PHC estimates were between the DHS estimate's lower and upper boundary confidence interval.

3. JUSTIFICATION FOR THE SELECTION OF CORRELATES

This section presents the justification for selecting the key correlates used in generating the number of breast and cervical cancer screening at the district-level as presented in the report.

3.1 Education of Women

Education plays a crucial role in promoting cancer screening among women. Women with higher levels of education are associated with increased participation in cancer screening programs. They understand the importance of early detection and the benefits of screening tests, such as Pap smears for cervical cancer and breast screening.

3.3 Number of Children by Women

The number of children a woman has given birth can influence her decision to screen for breast and cervical cancers. Women with three or more children are less likely to screen for breast and cervical cancers.

3.2 Type of Locality of Women

Women in urban areas are more likely to have better access to health facilities, which can influence their decision to screen for breast and cervical cancers.

4. KEY FINDINGS

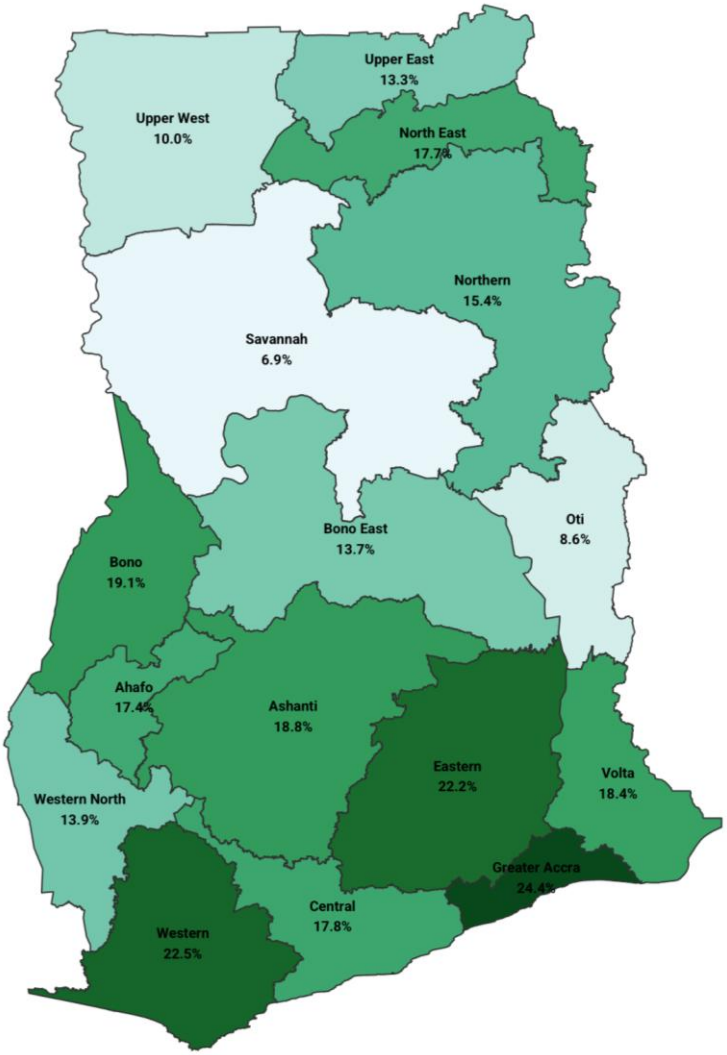
4.1. Breast Cancer Screening

This section presents regional and district patterns of breast cancer screening among women aged 15–49 in Ghana. The analysis highlights geographical disparities, showcasing variations in participation between regions and across districts.

Regional distribution in breast cancer screening vary widely, ranging from 6.9 percent in the Savannah Region to 24.4 percent in Greater Accra Region.

Screening remained low across the five northern regions, with each recording below 20.0 percent.

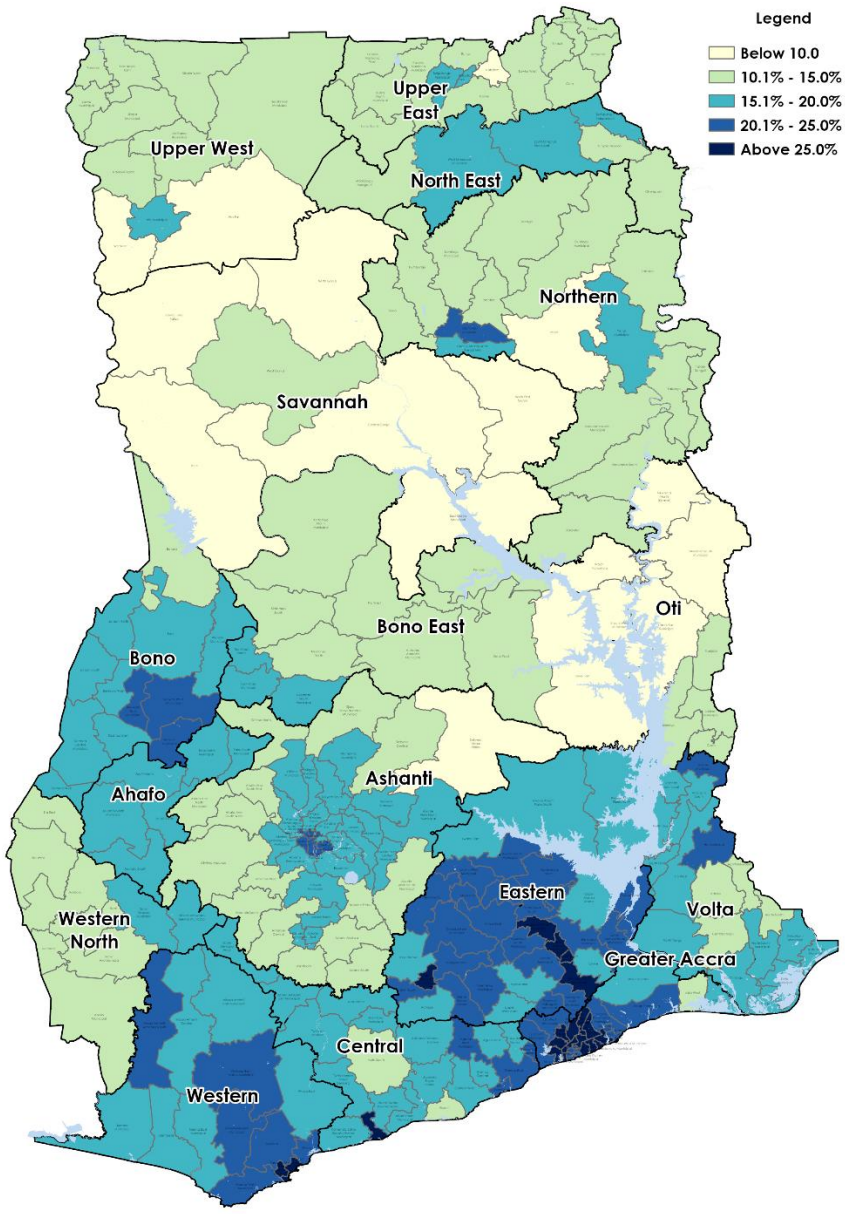
FIGURE 4.1.1: PERCENTAGE OF BREAST CANCER SCREENING BY REGION



Across the five northern regions, most districts recorded breast cancer screening rates below 20.0 percent, except regional capitals such as Tamale, Wa, Nalerigu, and Bolgatanga.

In contrast, southern districts reported screening rates above 15.0 percent, with all districts in the Eastern and Western regions exceeding this threshold.

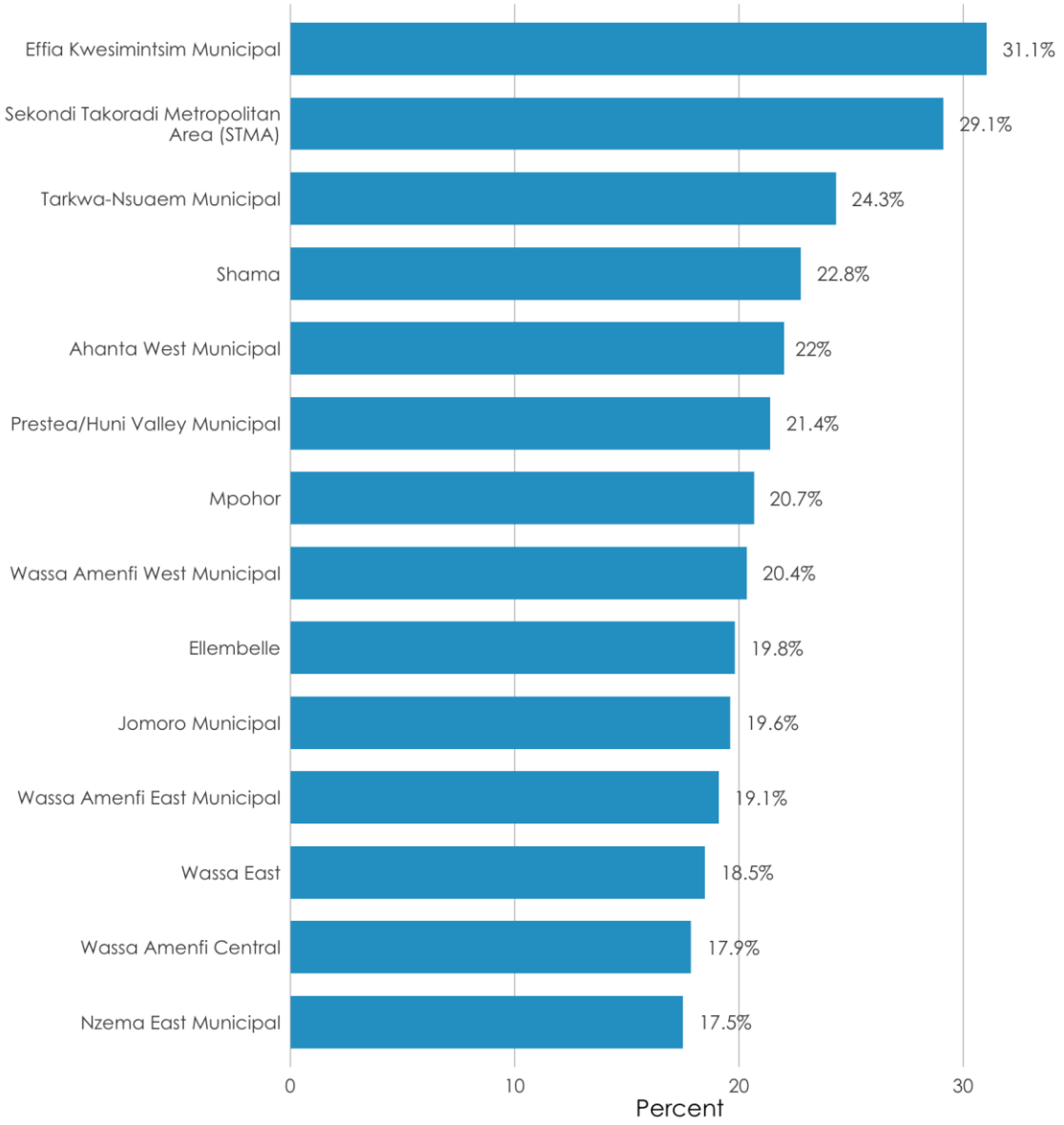
FIGURE 4.1.2: PERCENTAGE OF BREAST CANCER SCREENING BY DISTRICT



Effia Kwesimintsim Municipal recorded the highest breast cancer screening rate (31.1%), followed by Sekondi Takoradi Metropolitan Area (29.1%) and Tarkwa-Nsuaem Municipal (24.3%).

Screening was moderate in Shama (22.8%) and Ahanta West Municipal (22%) and lowest in Wassa Amenfi Central (17.9%).

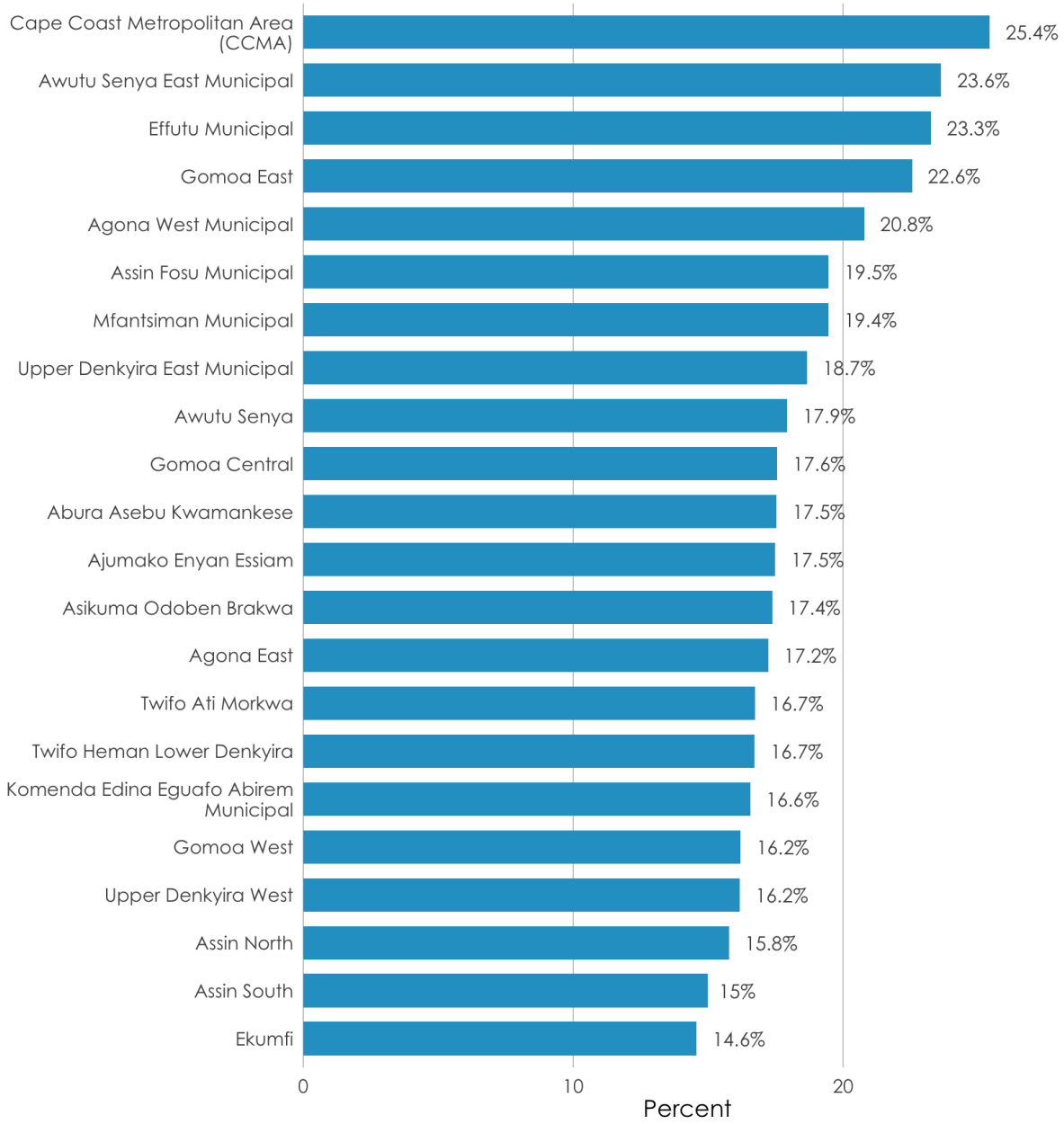
FIGURE 4.1.3: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE WESTERN REGION



The Cape Coast Metropolitan Area (CCMA) recorded the highest breast cancer screening rate at 25.4 percent, followed by Awutu Senya East Municipal (23.6%) and Effutu Municipal (23.3%).

Screening participation is lower in rural districts like Assin South (15%) and Ekumfi (14.6%).

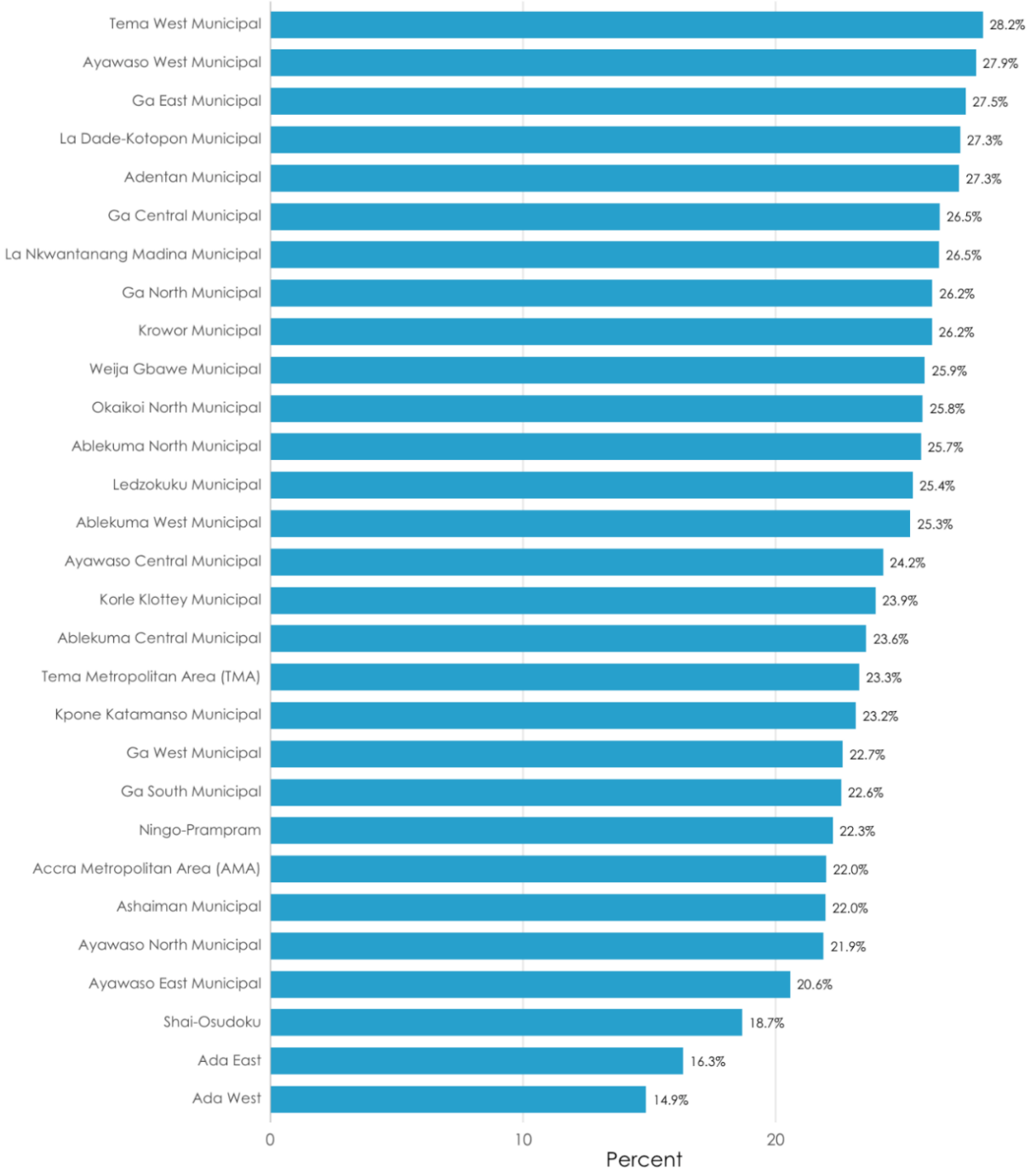
FIGURE 4.1.4: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE CENTRAL REGION



In the Greater Accra Region, fourteen districts including the Tema West Municipal, Ayawaso West Municipal, Ga East Municipal recorded breast cancer screening rates above the regional average of 24.4 percent.

Ada East and Ada West Districts show the lowest participation at 16.3 percent and 14.9 percent respectively.

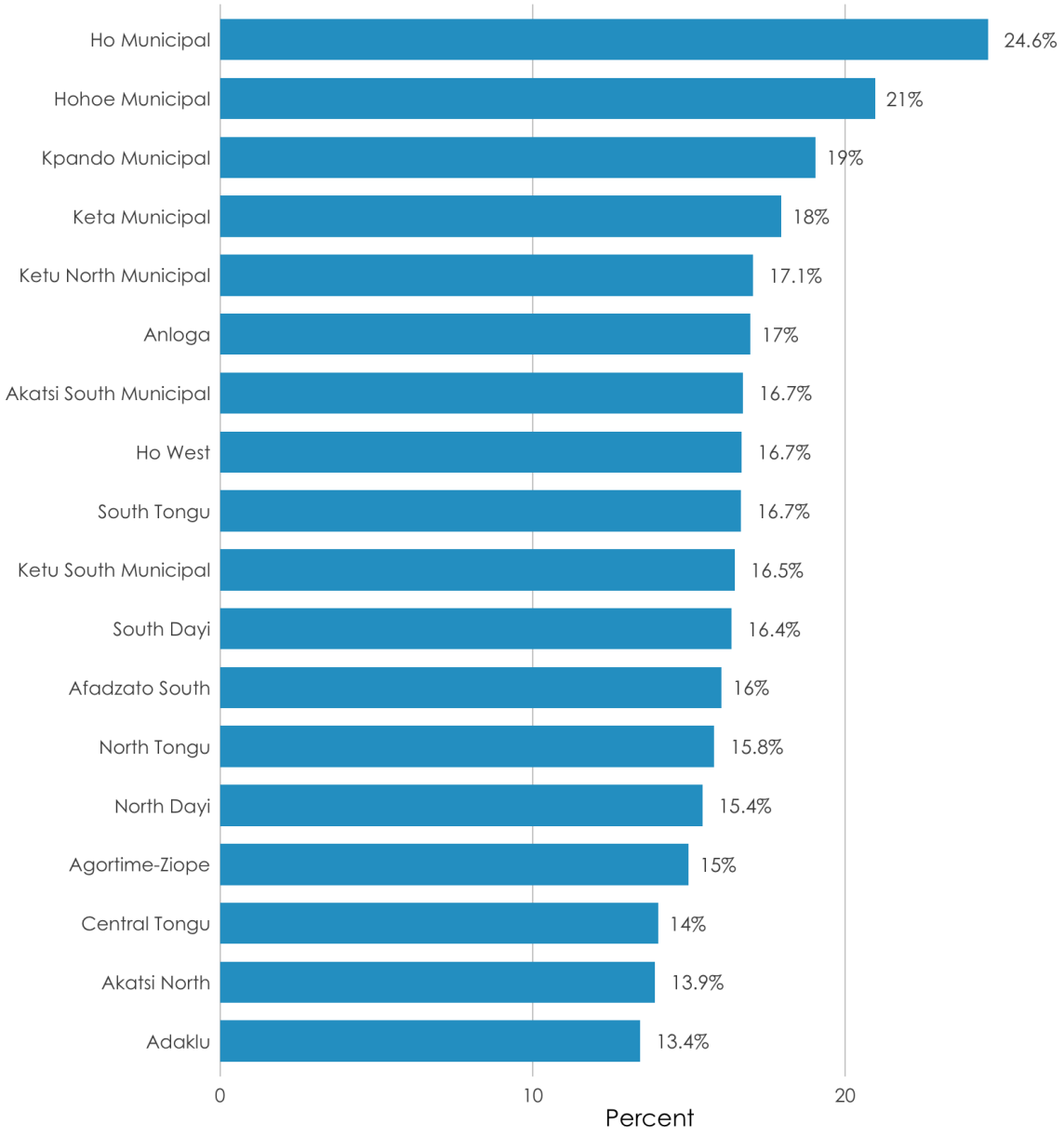
FIGURE 4.1.5: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE GREATER ACCRA REGION



In the Volta Region, Ho Municipal recorded the highest breast cancer screening rate at 24.6 percent, followed by Hohoe Municipal (21%) and Kpando Municipal (19%).

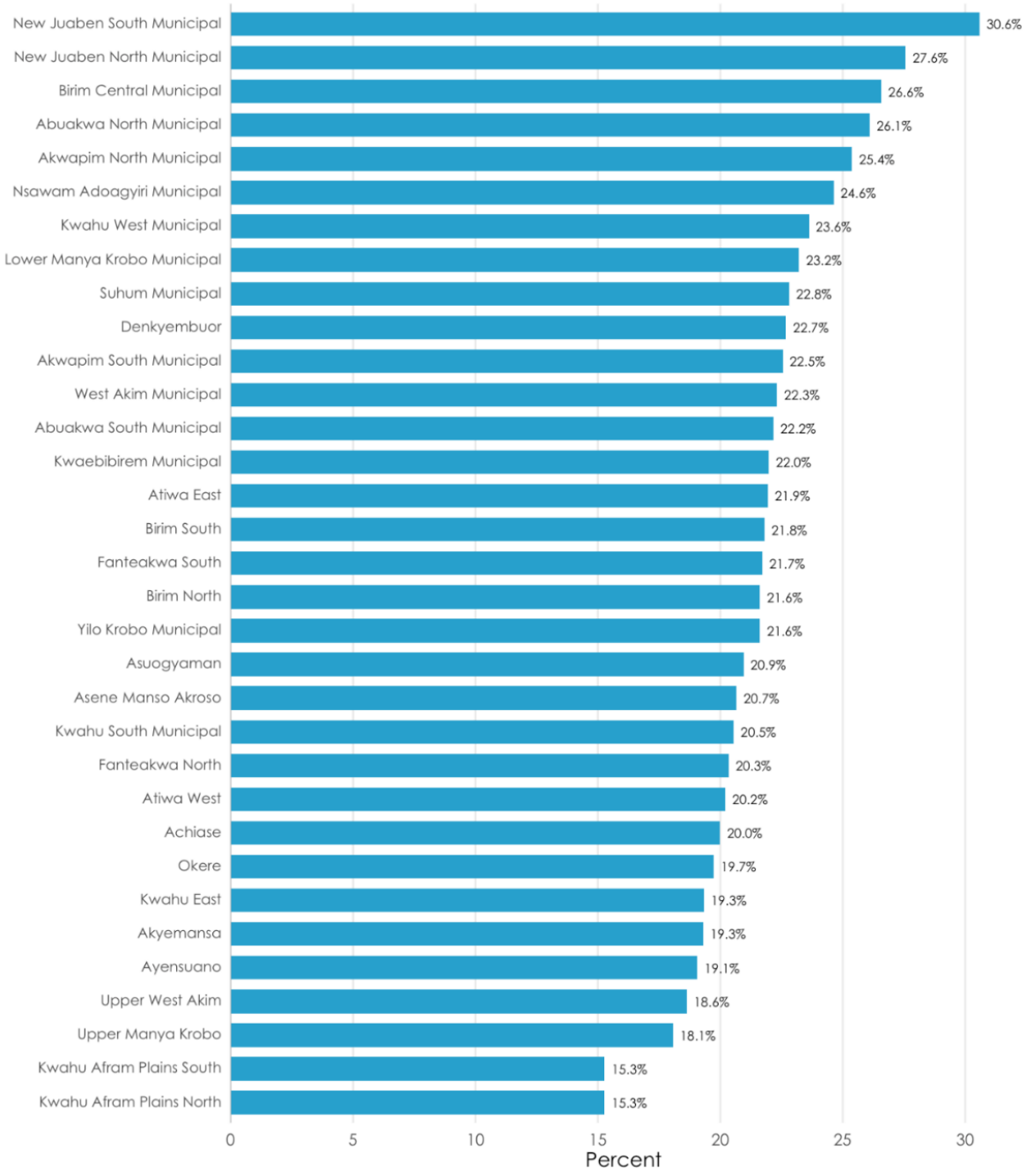
In contrast, Adaklu (13.4%) and Akatsi North (13.9%) districts reported notably lower screening rates.

FIGURE 4.1.6: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE VOLTA REGION



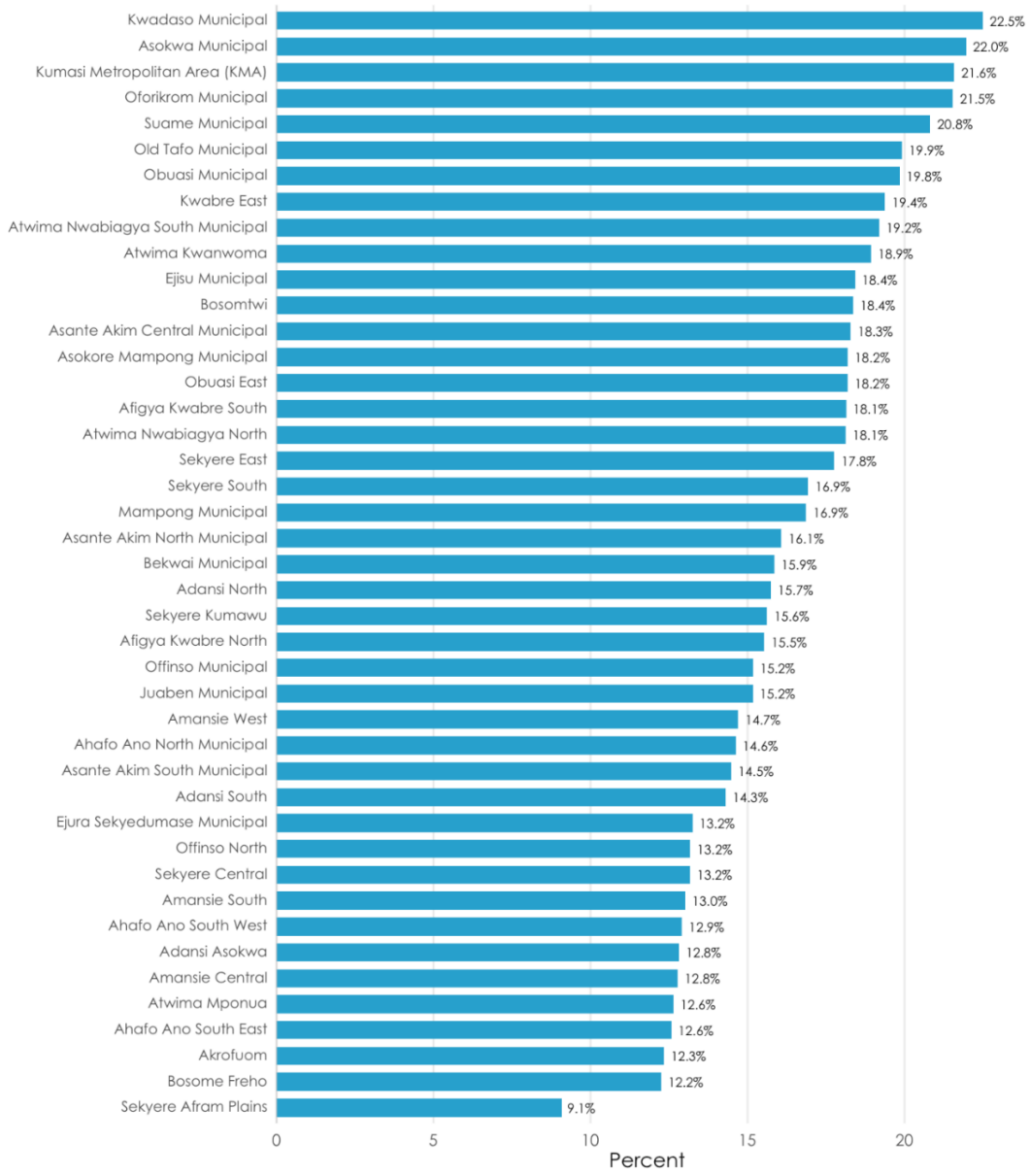
Breast cancer screening rate in the Eastern Region is highest in New Juaben South(30.6%), which is twice that in the districts with the least, Kwahu Afram Plains North and South (15.3% each).

FIGURE 4.1.7: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE EASTERN REGION



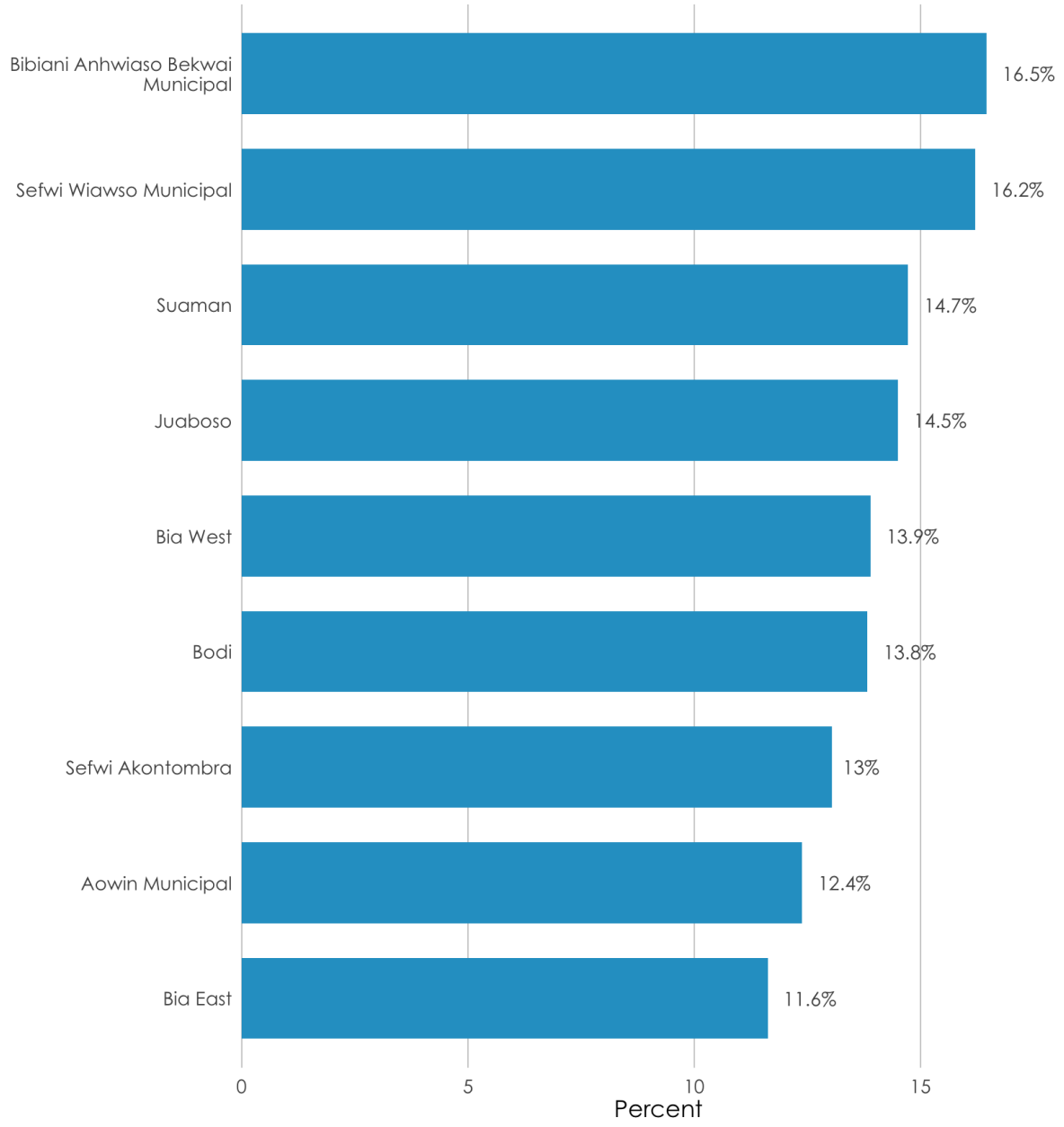
Breast cancer screening in the Ashanti Region ranges from 9.1 to 22.5 percent with the highest participation in the Kwadaso Municipal and lowest in Sekyere Afram Plains.

FIGURE 4.1.8: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE ASHANTI REGION



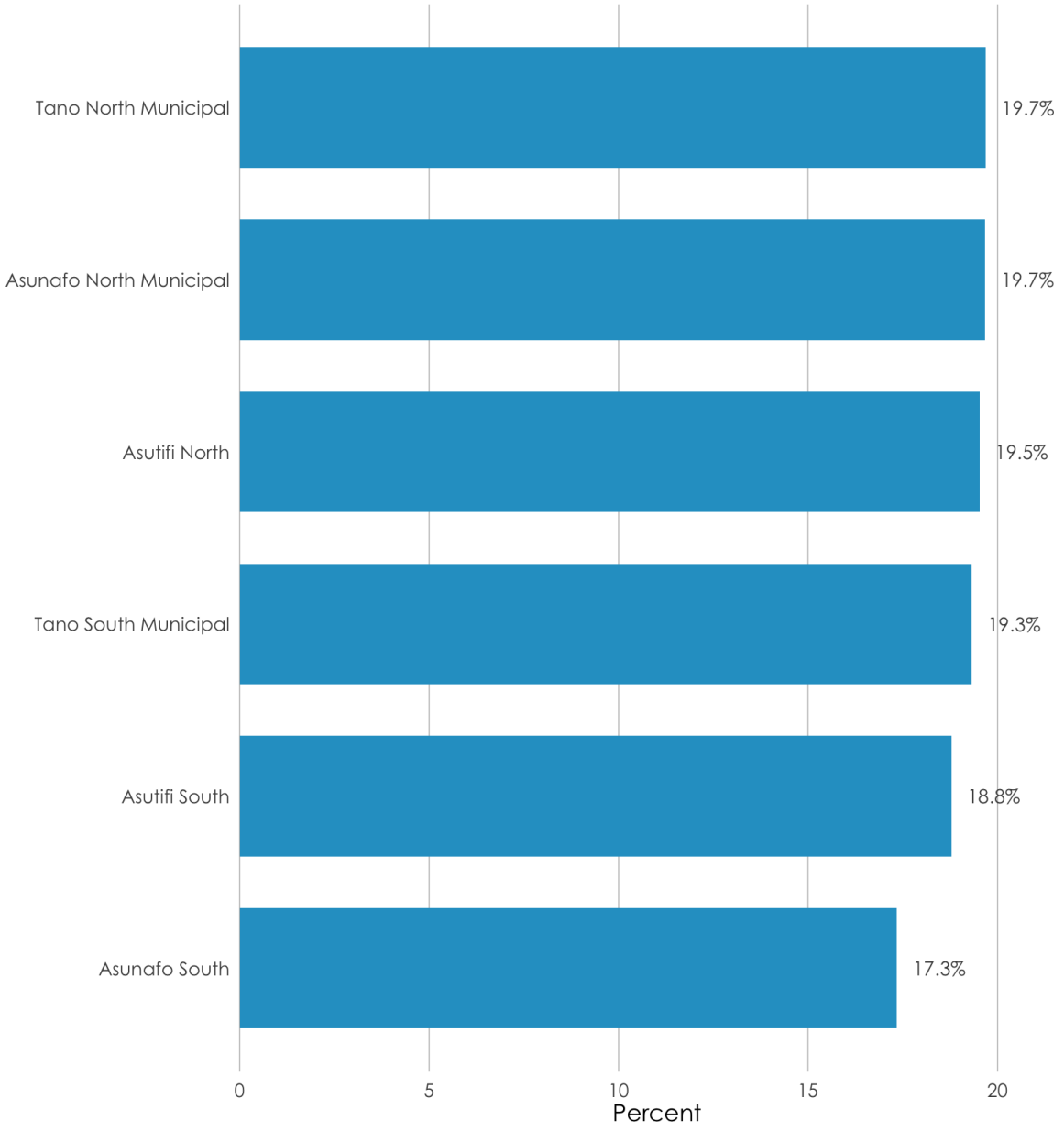
Breast cancer screening across the districts in the Western North Region is relatively low, with Bibiani Anhwiaso Bekwai Municipal (16.5%) and Sefwi Wiawso Municipal (16.2%) reporting the highest levels.

FIGURE 4.1.9: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE WESTERN NORTH REGION



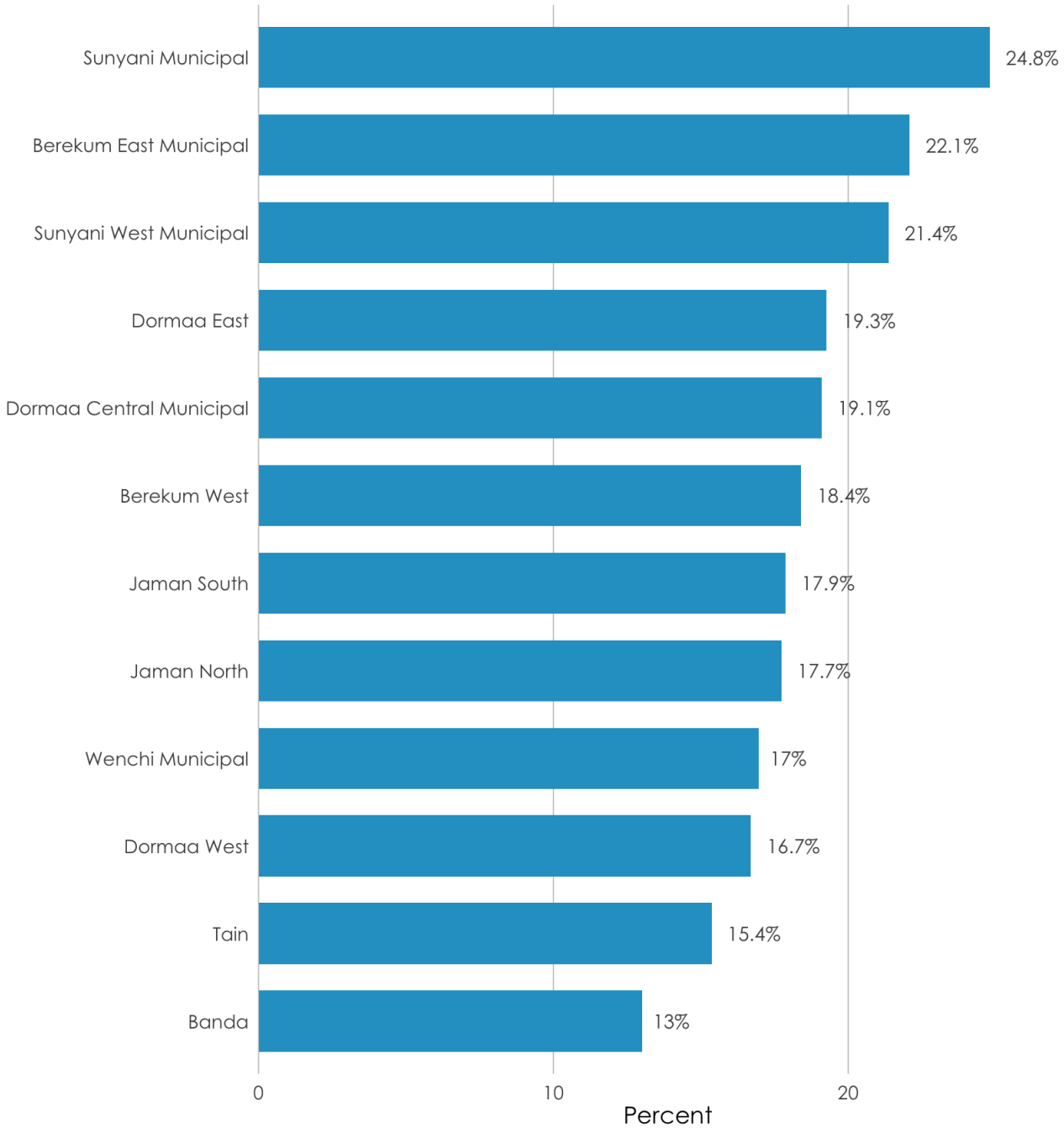
In the Ahafo Region, breast cancer screening rates show marginal variation across most of the districts, with the highest in Tano North Municipal and Asunafo North Municipal at 19.7 percent each.

FIGURE 4.1.10: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE AHAFO REGION



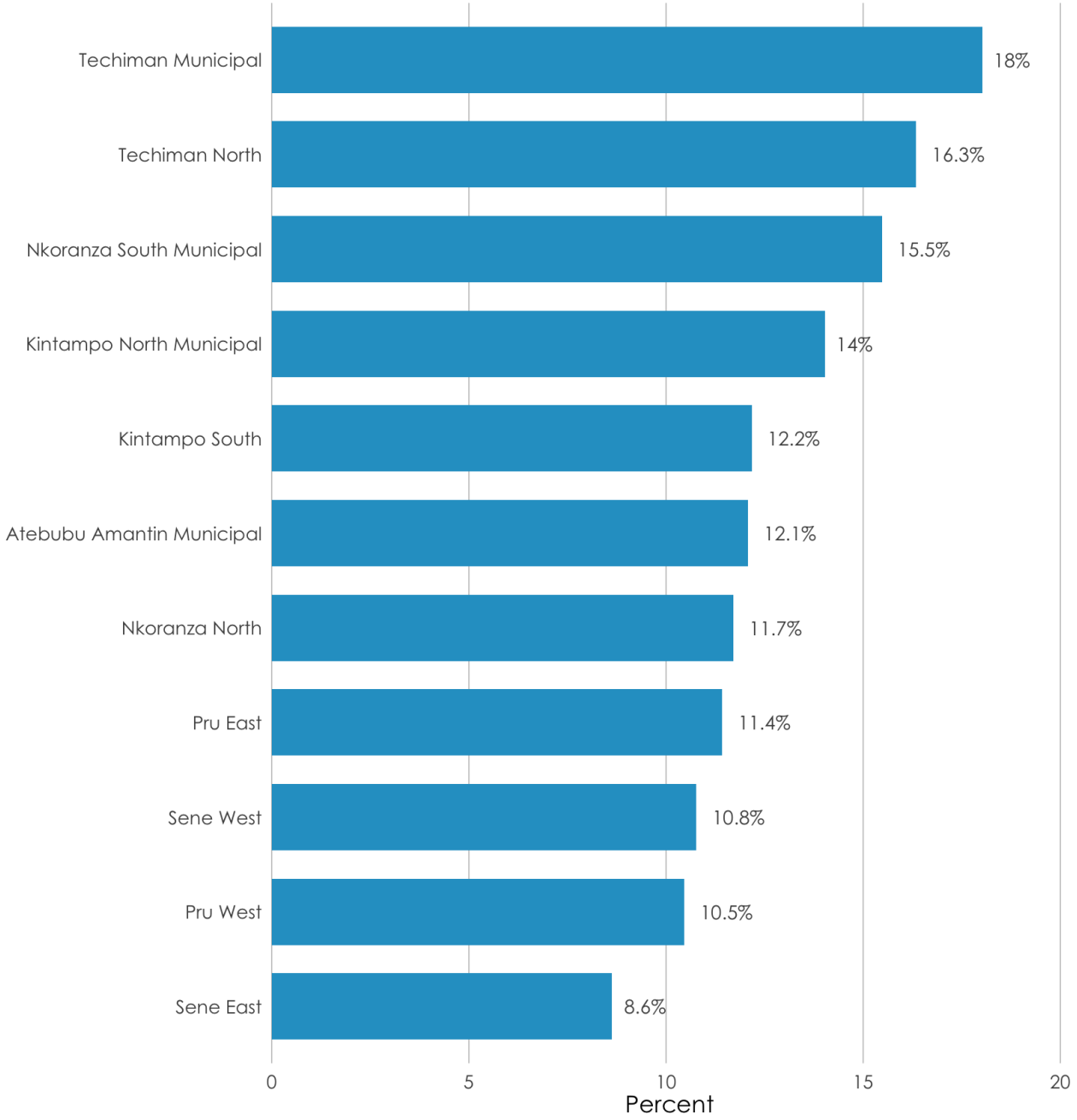
Three out of the 12 districts in the Bono Region, recorded breast cancer screening rates above 20 percent.

FIGURE 4.1.11: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE BONO REGION



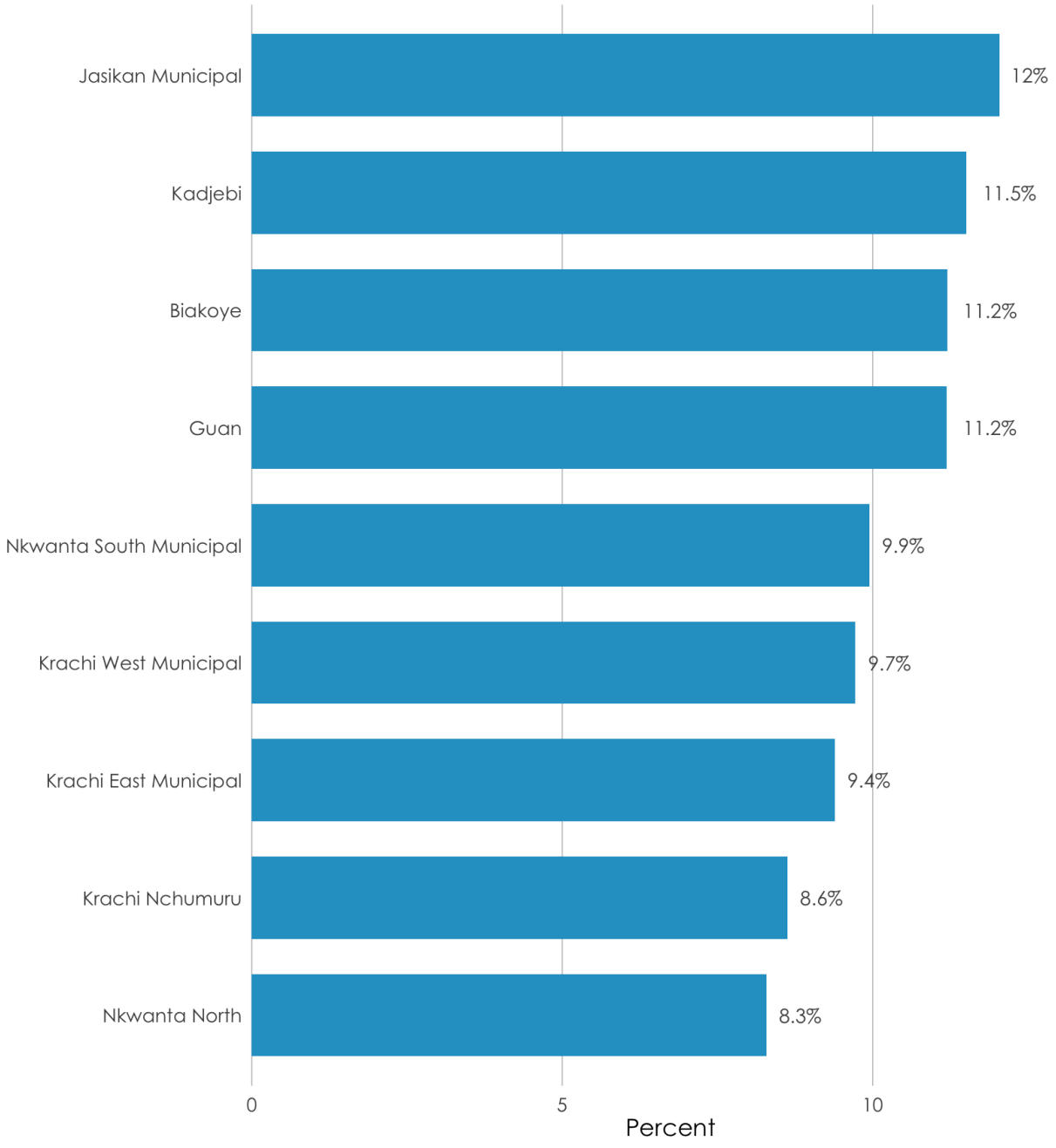
In Bono East Region, breast cancer screening was highest in Techiman Municipal (18.0%), followed by Techiman North (16.3%) and Nkoranza South Municipal (15.5%) while Sene East recorded the lowest participation at 8.6 percent.

FIGURE 4.1.12: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN BONO EAST REGION



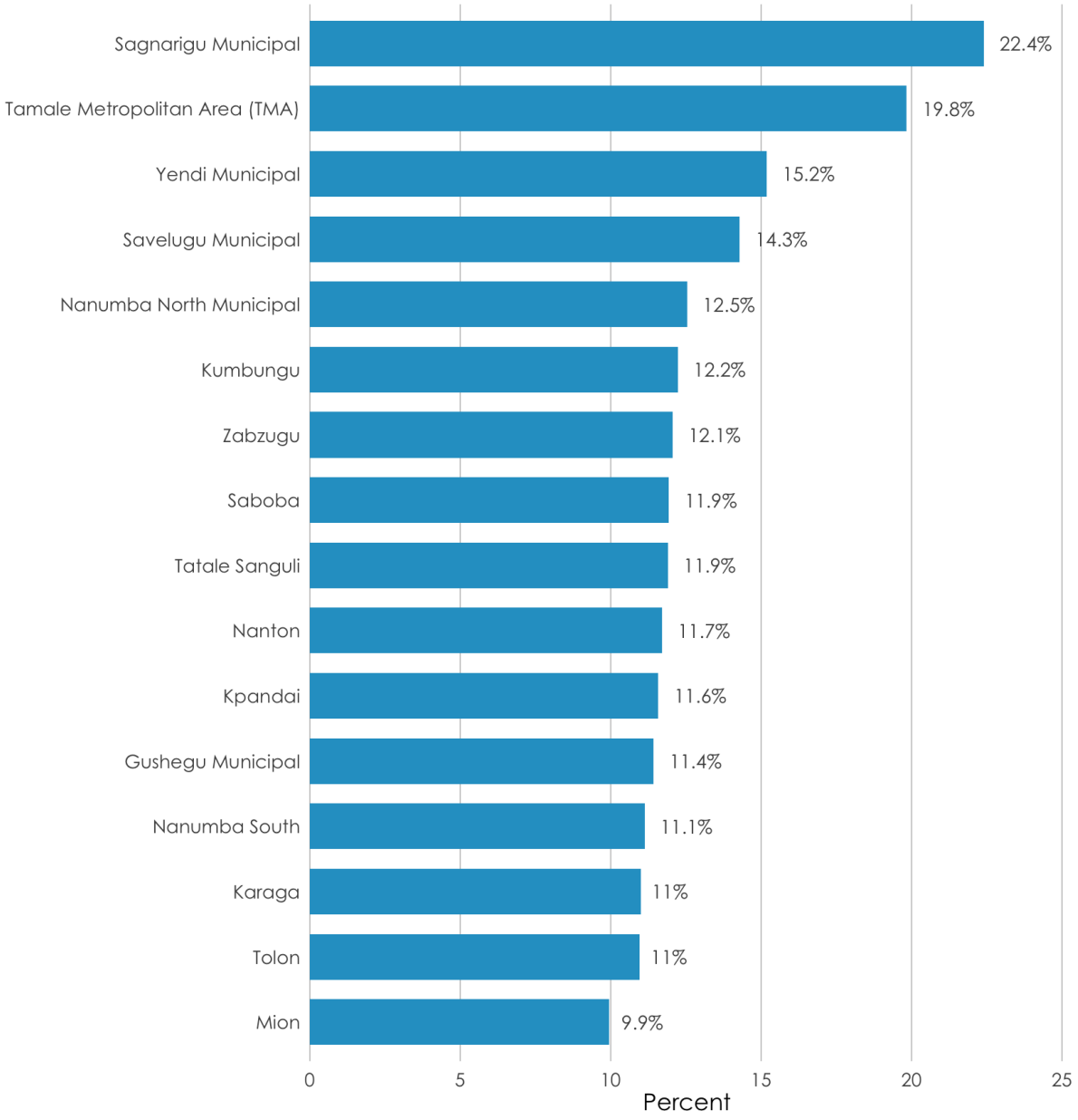
Breast cancer screening is generally low in Oti Region, with Jasikan Municipal (12.0%) and Kadjebi (11.5%) recording the highest participation rates.

FIGURE 4.1.13: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE OTI REGION



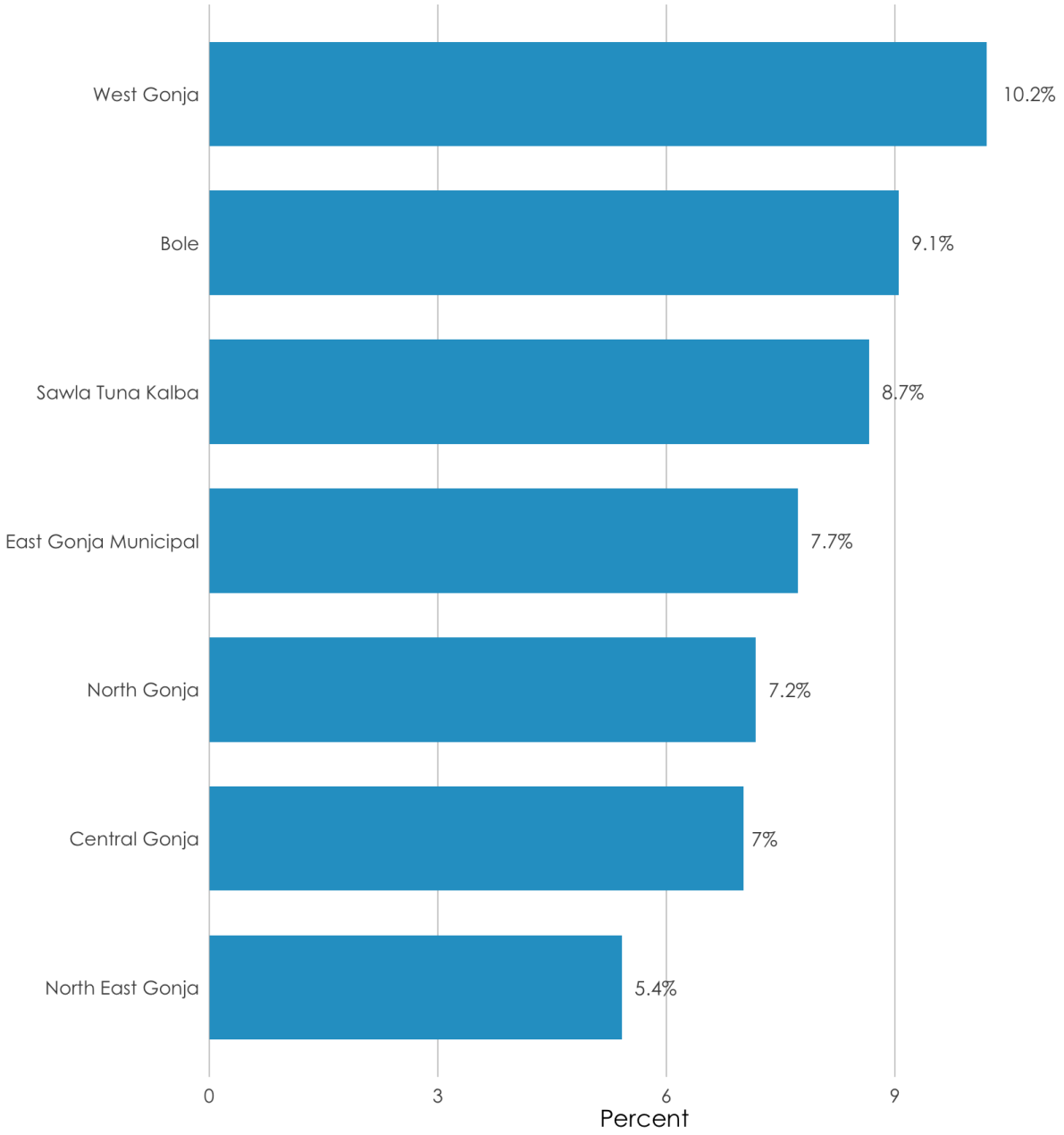
Sagnarigu Municipal (22.4%) and Tamale Metropolitan Area (19.8%) recorded the highest rates of breast cancer screening in the Northern Region while Mion District had the lowest at 9.9 percent.

FIGURE 4.1.14: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE NORTHERN REGION



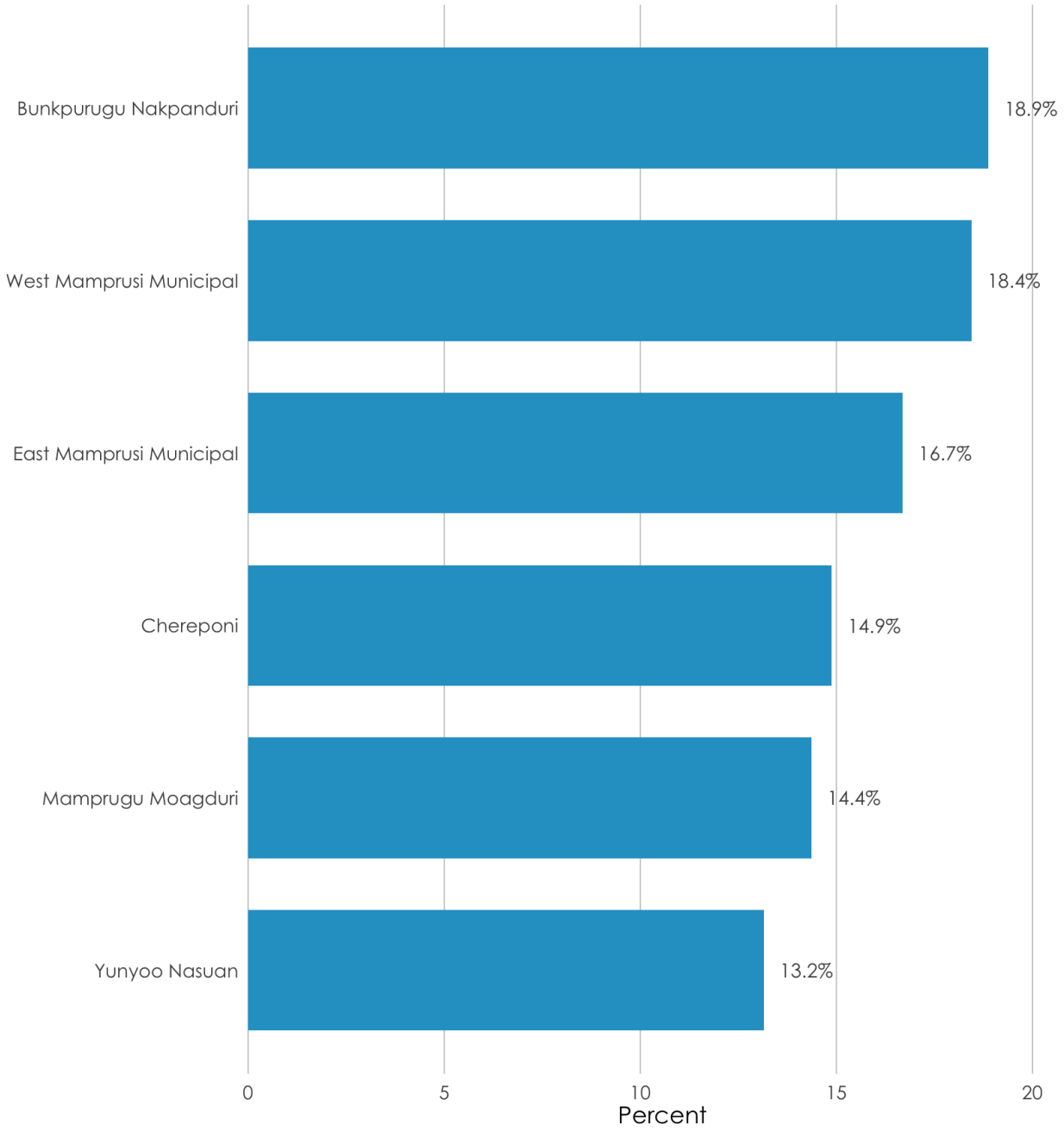
Participation rate in breast cancer screening is highest in West Gonja at 10.2 percent lowest in North East Gonja at 5.4 percent.

FIGURE 4.1.15: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE SAVANNAH REGION



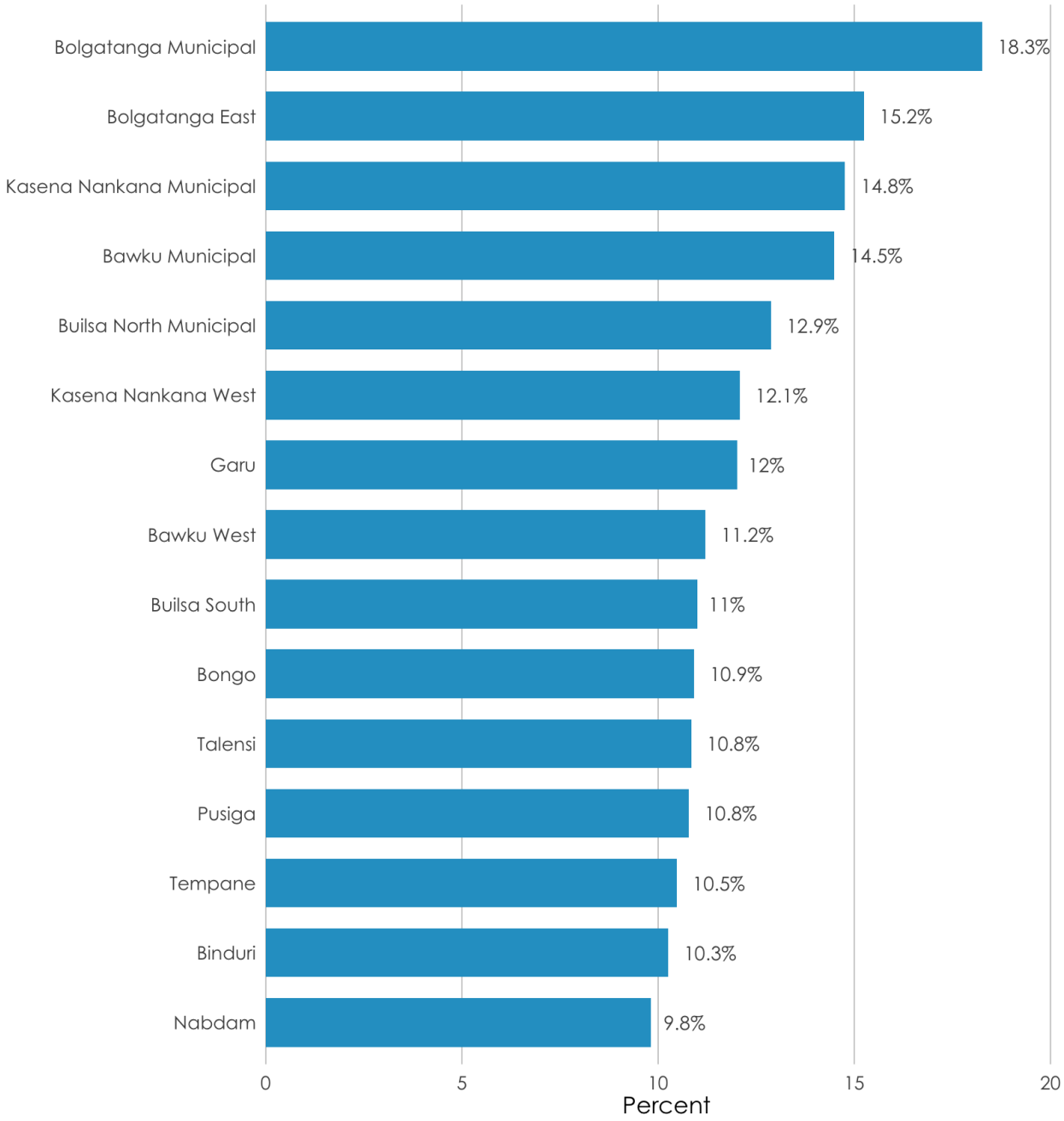
Breast cancer screening participation rate in the North East Region was highest in Bunkpurugu Nakpanduri district (18.9%) and lowest in Yunyoo Nasuan at 13.2 percent.

FIGURE 4.1.16: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE NORTH EAST REGION



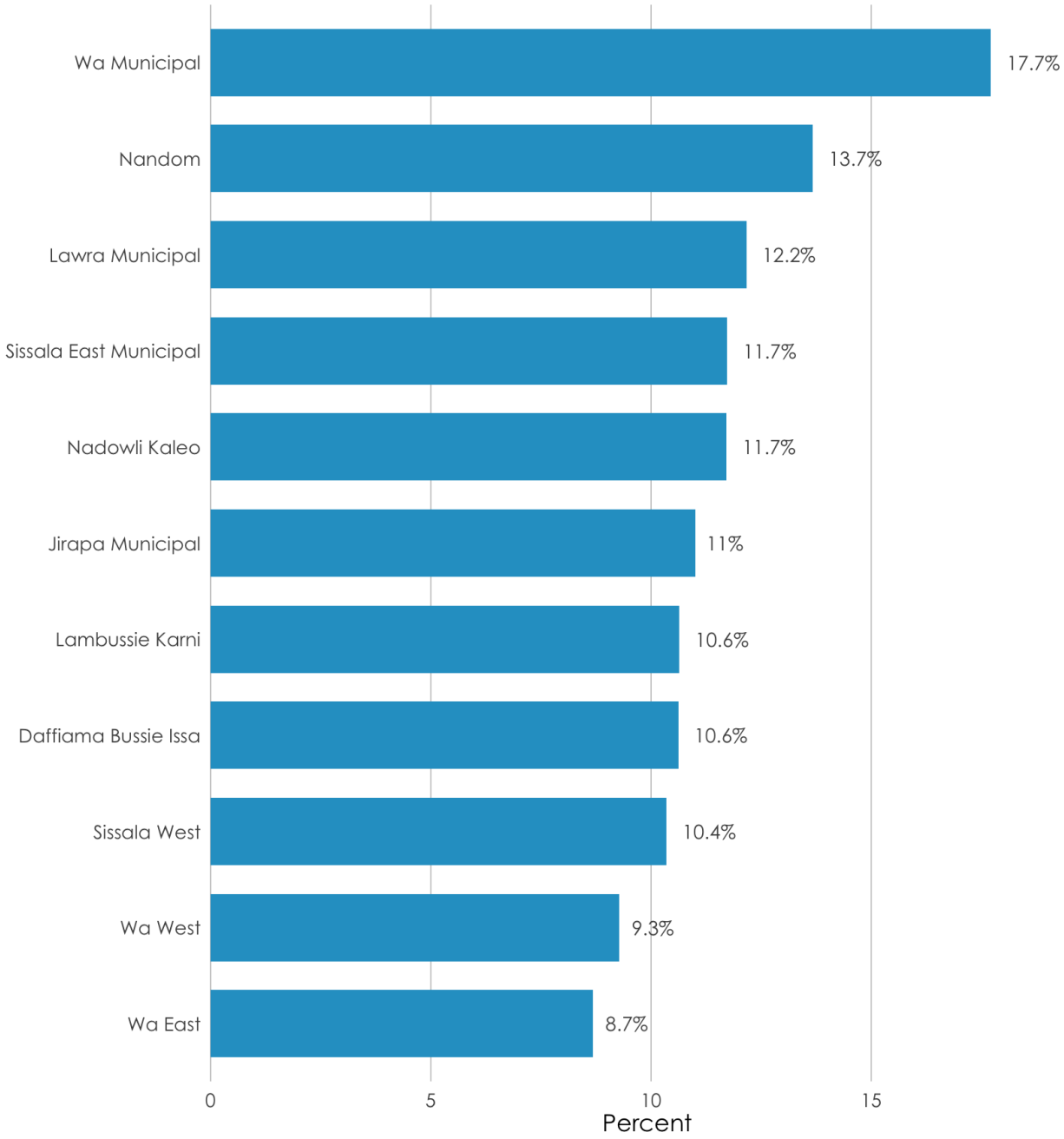
Bolgatanga Municipal reported the highest breast cancer screening rate at 18.3 percent, followed by Bolgatanga East (15.2%) and Kasena Nankana Municipal (14.8%). In contrast, rural districts such as Binduri (10.3%) and Nabdam (9.8%) reported low participation.

FIGURE 4.1.17: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE UPPER EAST REGION



In the Upper West Region, Wa Municipal recorded the highest breast cancer screening rate at 17.7 percent, which is more than twice the rate for Wa East (8.7%) having the lowest.

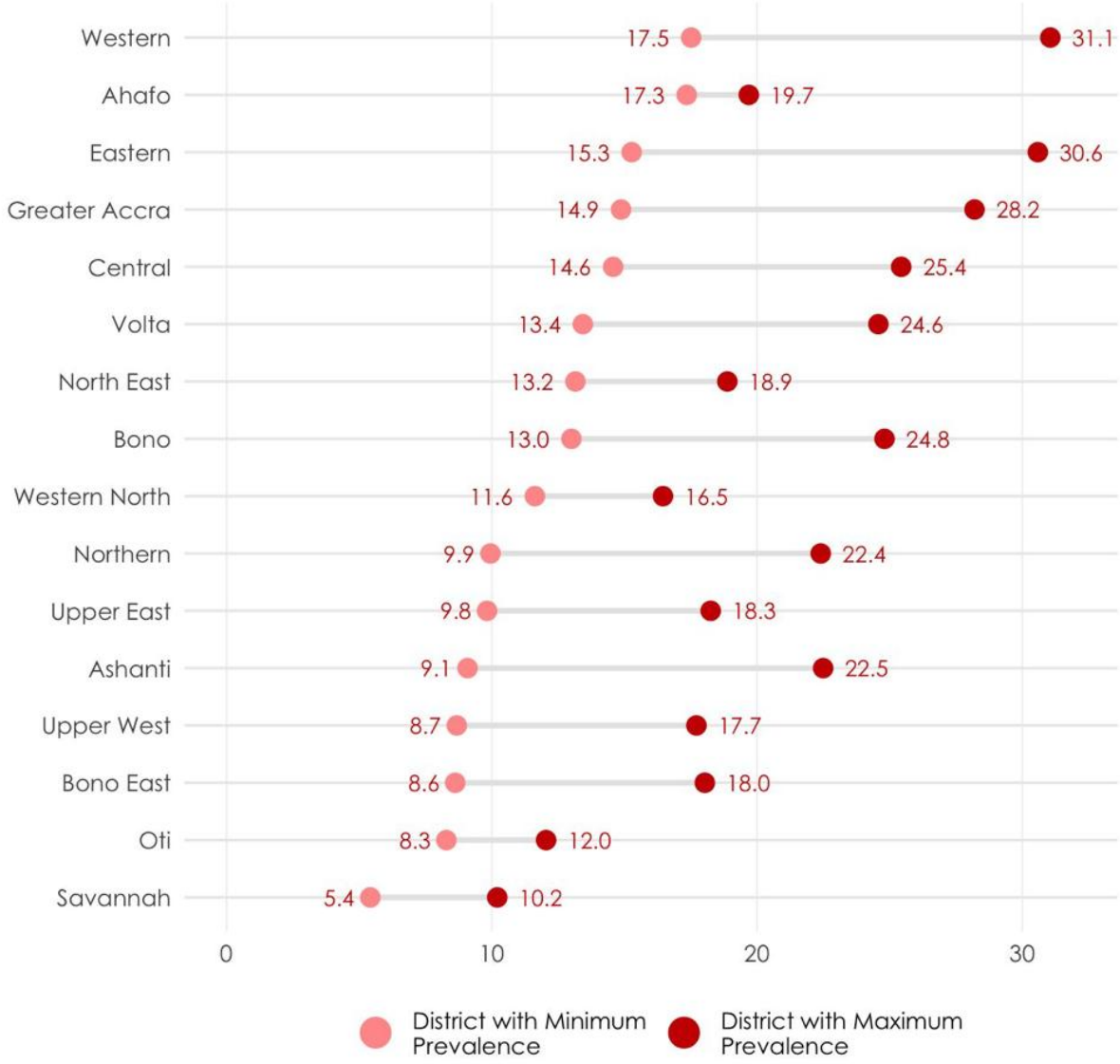
FIGURE 4.1.18: DISTRICT-LEVEL ESTIMATES OF BREAST CANCER SCREENING IN THE UPPER WEST REGION



Eastern Region had the highest intra-regional disparity in breast cancer screening rate, with a difference of 15.3 percentage points, while the Ahafo Region had the smallest difference of 2.3 percentage points.

District with the highest screening rate in the Savannah Region (10.2%) had a lower prevalence than the districts in nine other regions.

FIGURE 4.1.199: MINIMUM AND MAXIMUM PREVALENCE OF BREAST CANCER SCREENING BY REGION

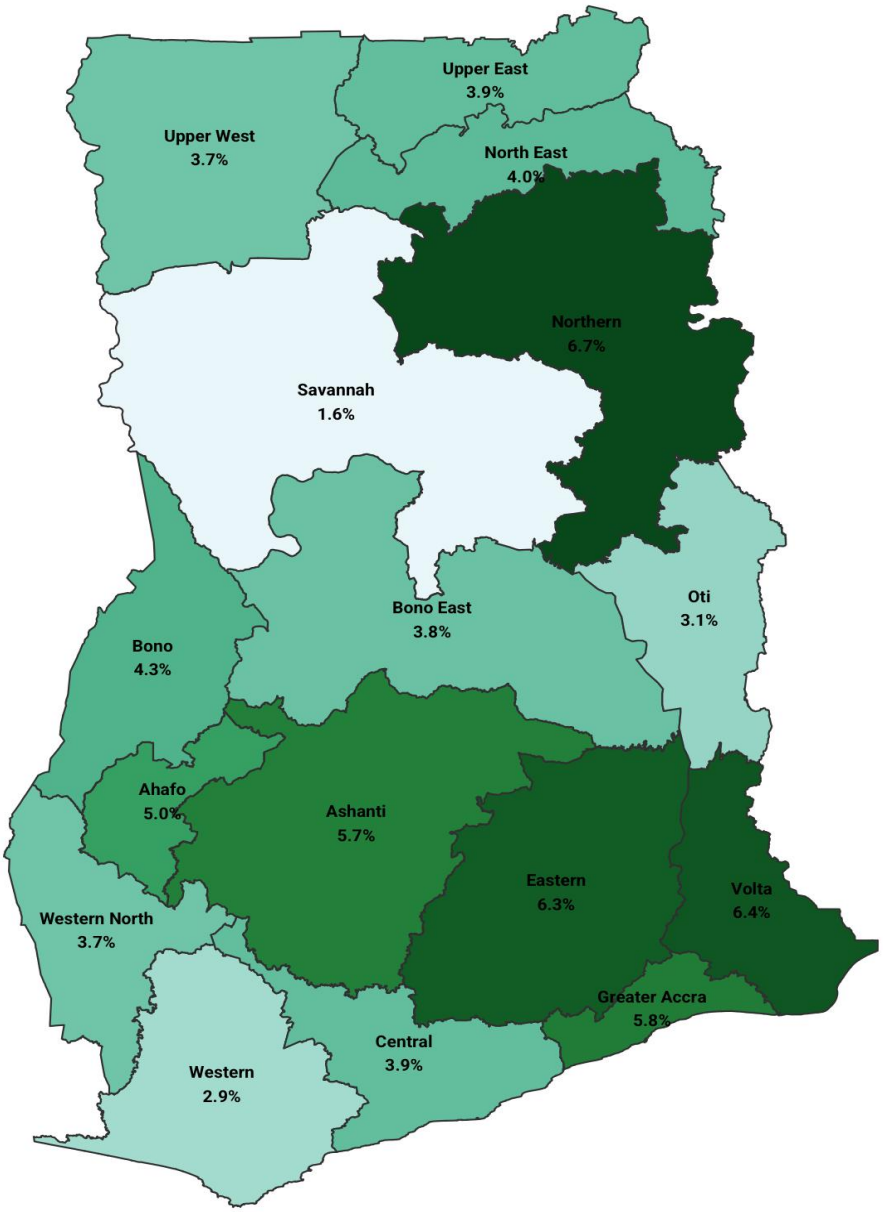


4.2. Cervical Cancer Screening

This section presents regional and district-level patterns of cervical cancer screening among women 15–49 years in Ghana. The analysis highlights geographical variations, illustrating differences in screening participation across and within regions.

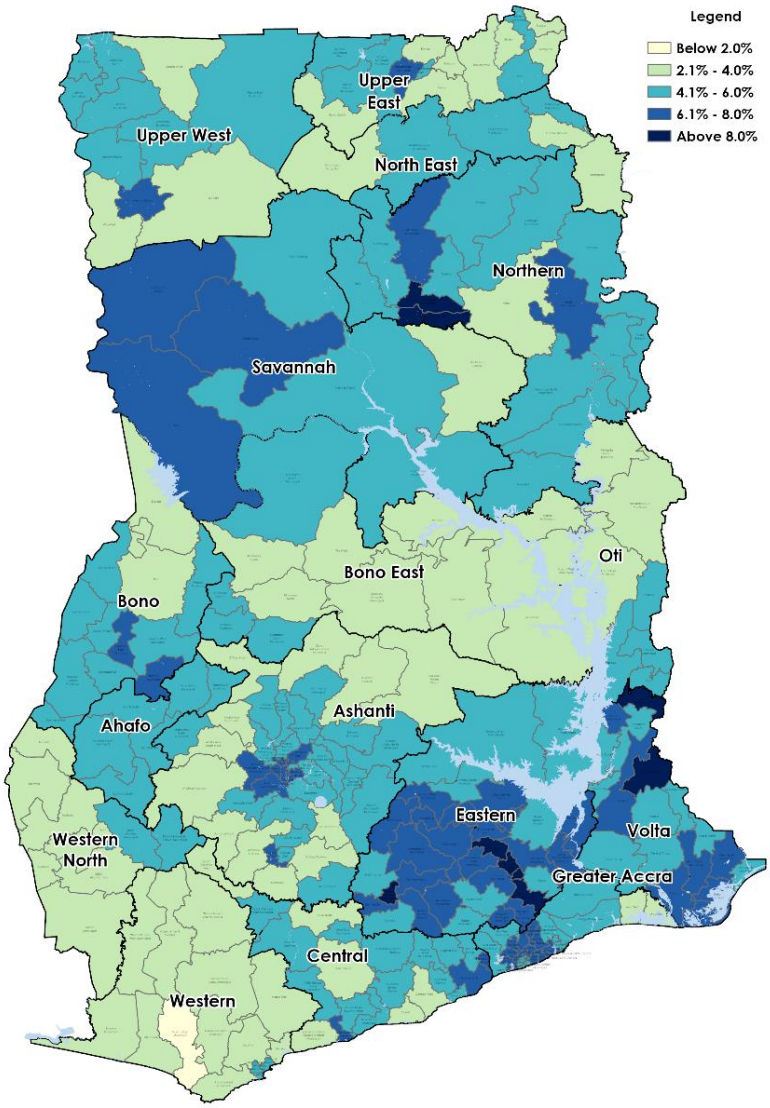
Cervical cancer screening in Ghana is low, with the Northern (6.7%), Volta (6.4%), and Eastern (6.3%) regions recording the highest rate, while Savannah Region has the lowest at 1.6 percent.

FIGURE 4.2.1: PERCENTAGE OF CERVICAL CANCER SCREENING BY REGION



Most districts in the Bono East, Oti, Western North and Western regions recorded cervical cancer screening below 4.0 percent while districts in the northern part ranged between 4.0 and 8.0 percent.

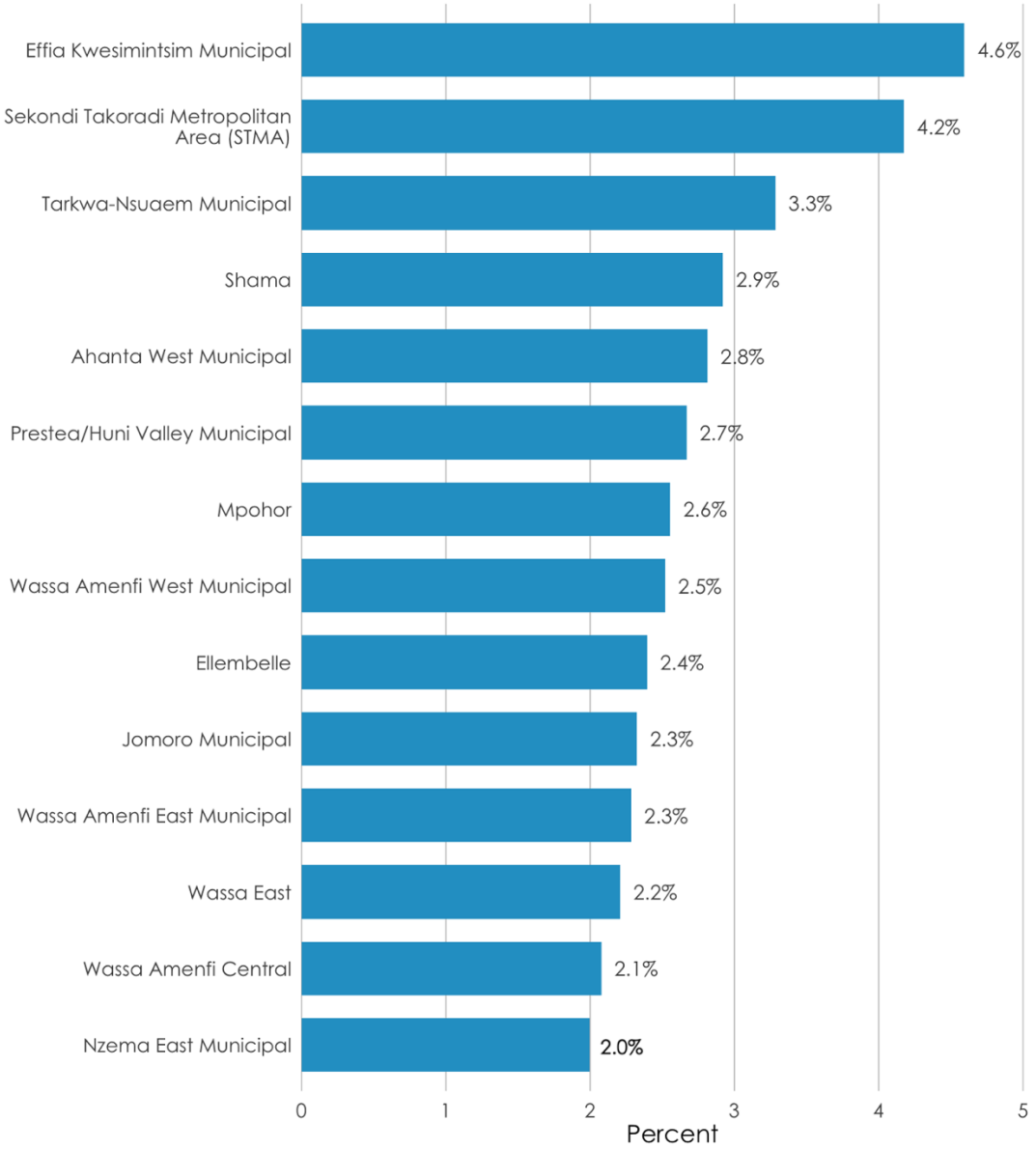
FIGURE 4.2.2: PERCENTAGE OF CERVICAL CANCER SCREENING BY DISTRICT



Effia Kwesimintsim Municipal (4.6%) and Sekondi Takoradi Metropolitan Area (4.2%)recorded the highest levels of cervical cancer screening in the Western Region.

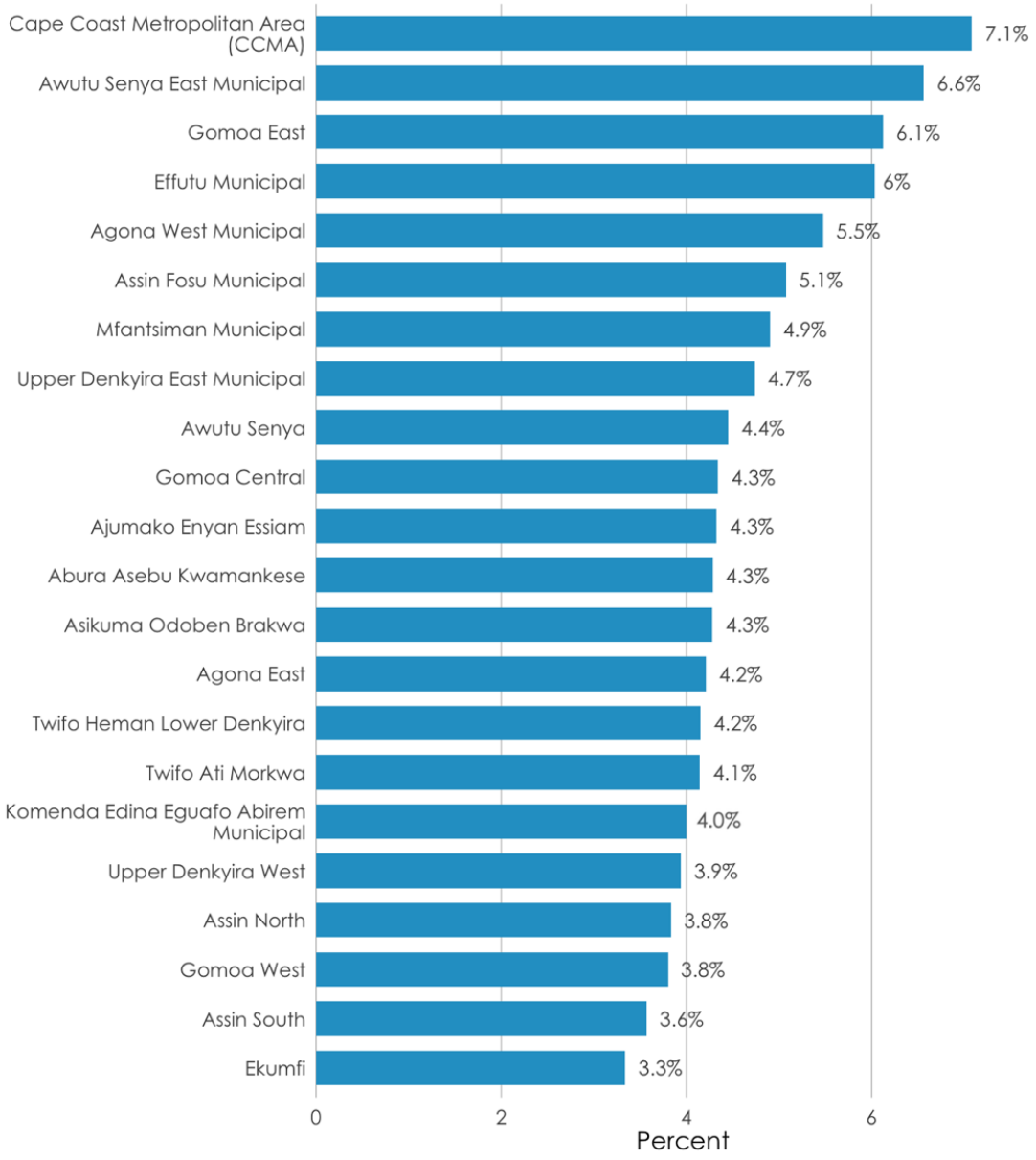
Most districts, including Shama (2.9%) and Ahanta West Municipal (2.8%) recorded screening rates below 3.0 percent, with Nzema East having the lowest at 2.0 percent.

FIGURE 4.2.3: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE WESTERN REGION



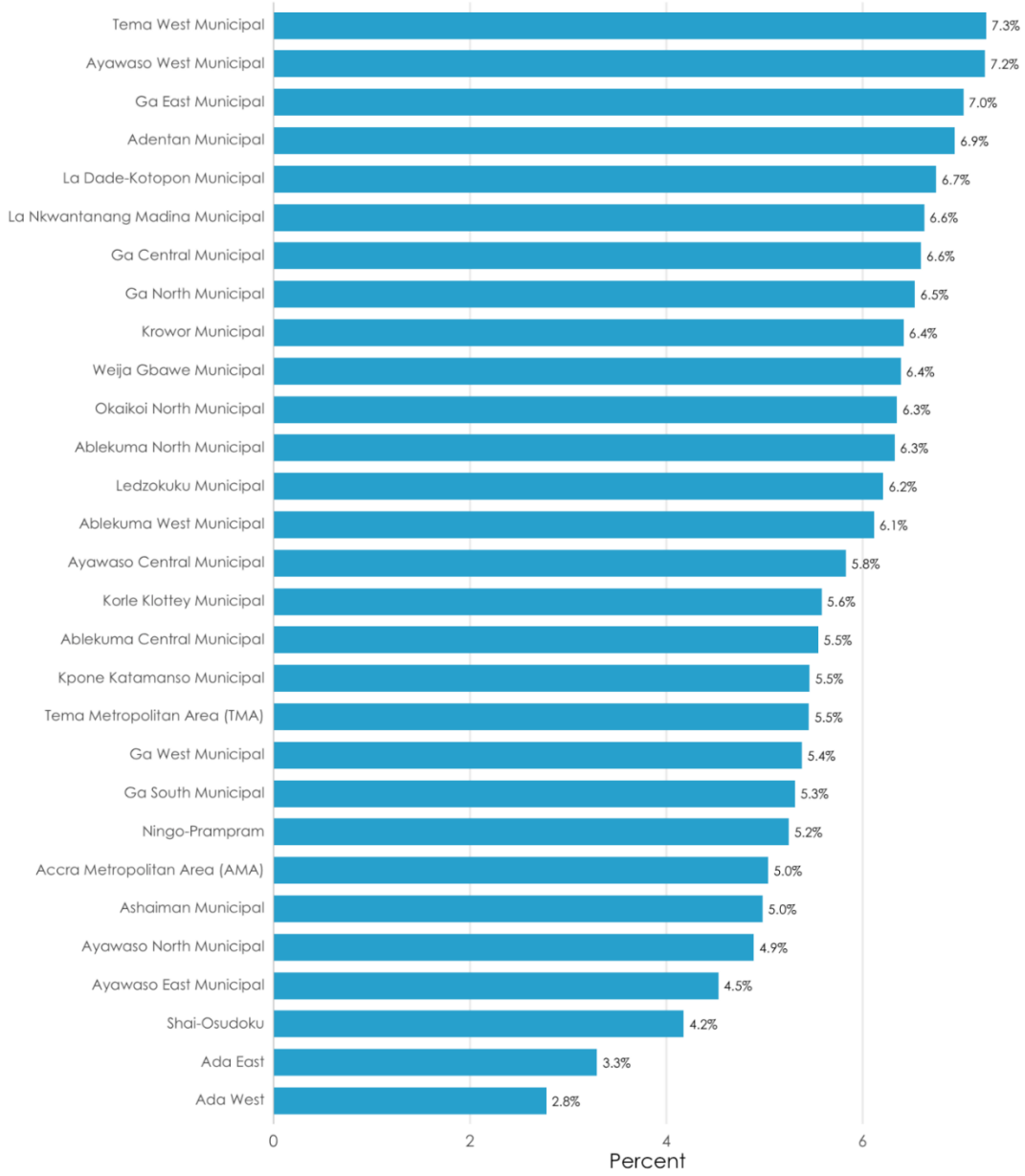
Cape Coast Metropolitan (7.1%) and Awutu Senya East Municipal (6.6%) had the highest screening rate, while districts like Ekumfi (3.3%) and Assin South (3.6%) lagged significantly.

FIGURE 4.2.4: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN CENTRAL REGION



In the Greater Accra Region, most districts recorded cervical cancer screening rates between 4.0 and 7.0 percent. Urban districts such as Tema West Municipal (7.3%) recorded the highest participation while Ada West (2.8%) recorded the lowest.

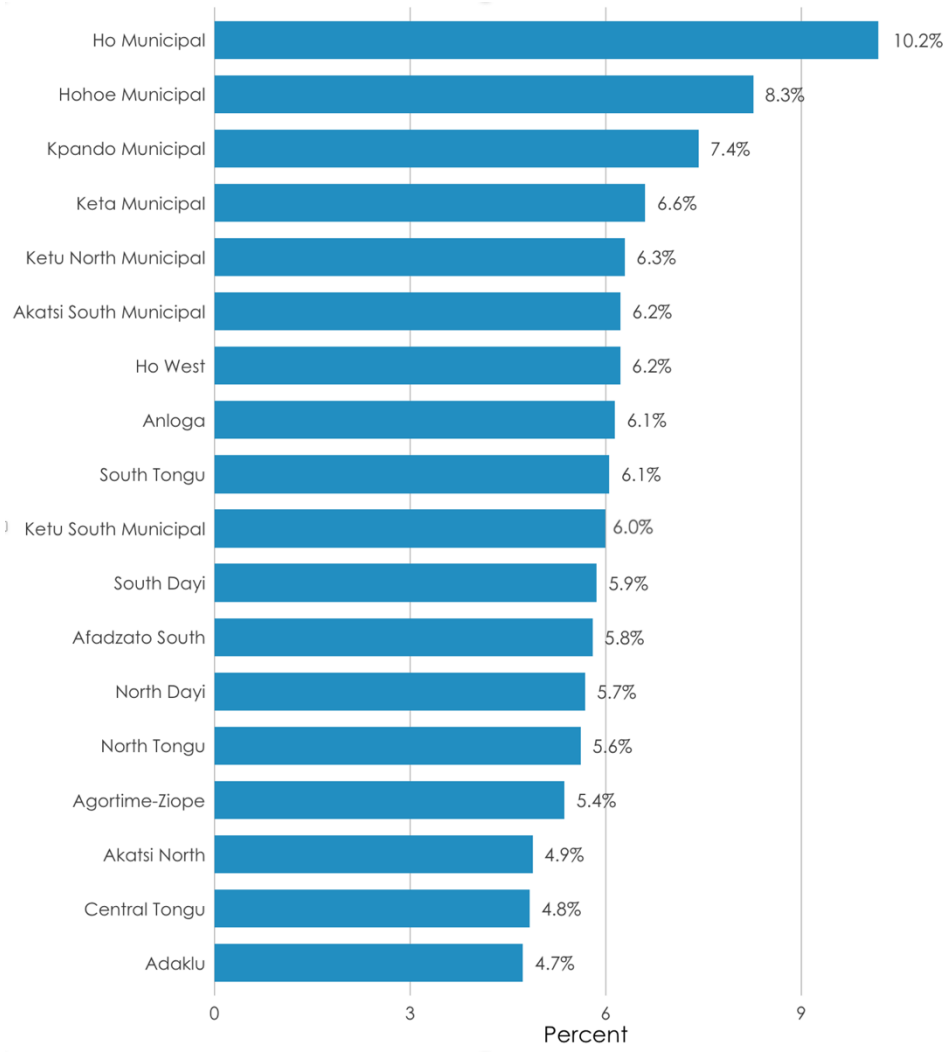
FIGURE 4.2.5: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE GREATER ACCRA REGION



In the Volta Region, Ho Municipal (10.2%) had the highest cervical cancer screening rate, followed by Hohoe Municipal (8.3%) and Kpando Municipal (7.4%).

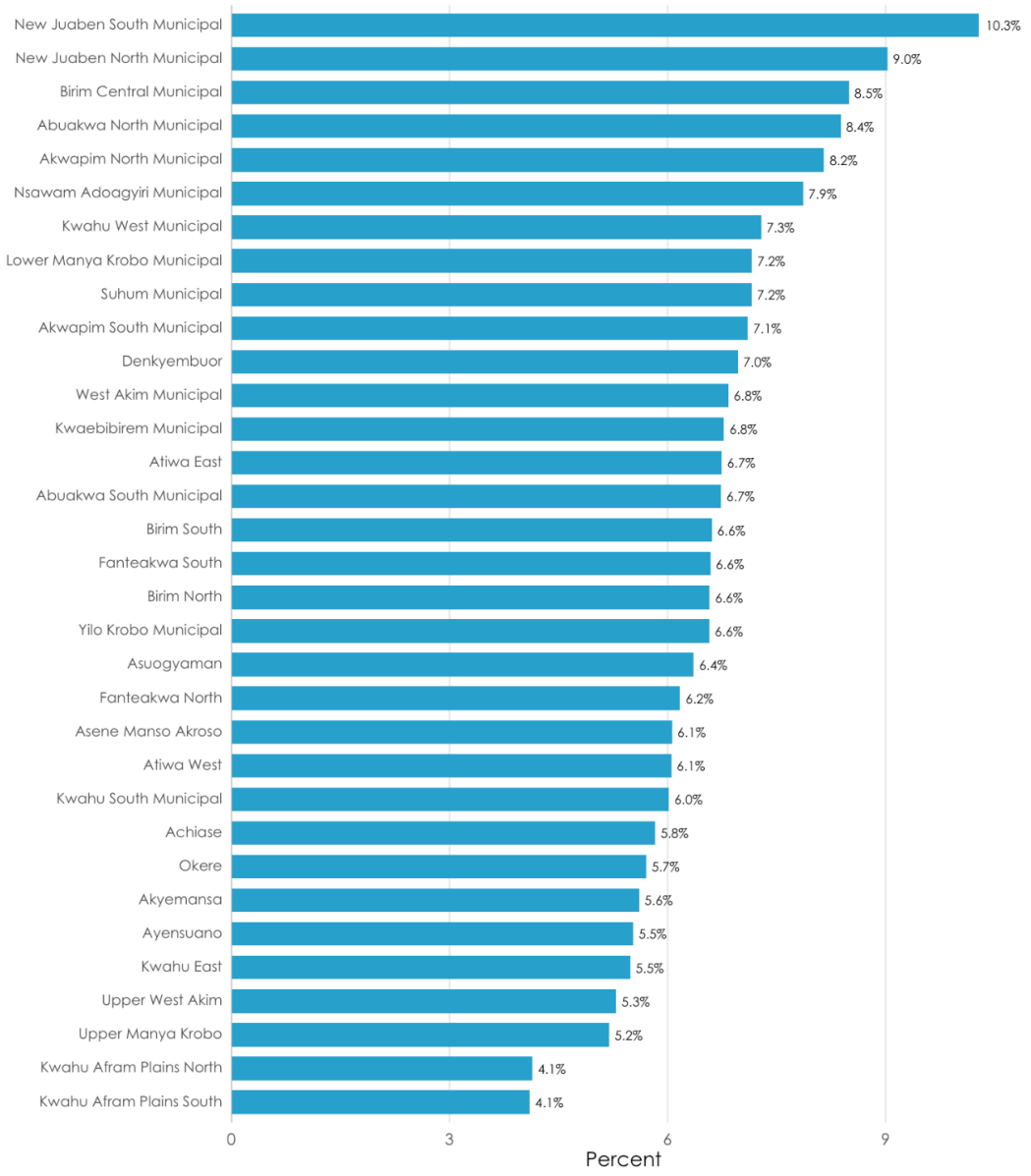
Central Tongu (4.8%) and Adaklu (4.7%) reported the lowest across the region.

FIGURE 4.2.6: DISTRICT-ESTIMATES OF CERVICAL CANCER SCREENING IN THE VOLTA REGION



Cervical Cancer screening rate in the Eastern Region ranged from 4.1 percent in Kwahu Afram Plains South to 10.3 in New Juaben South Municipal, with majority of the districts within the range of 6.0 percent to 8.0 percent.

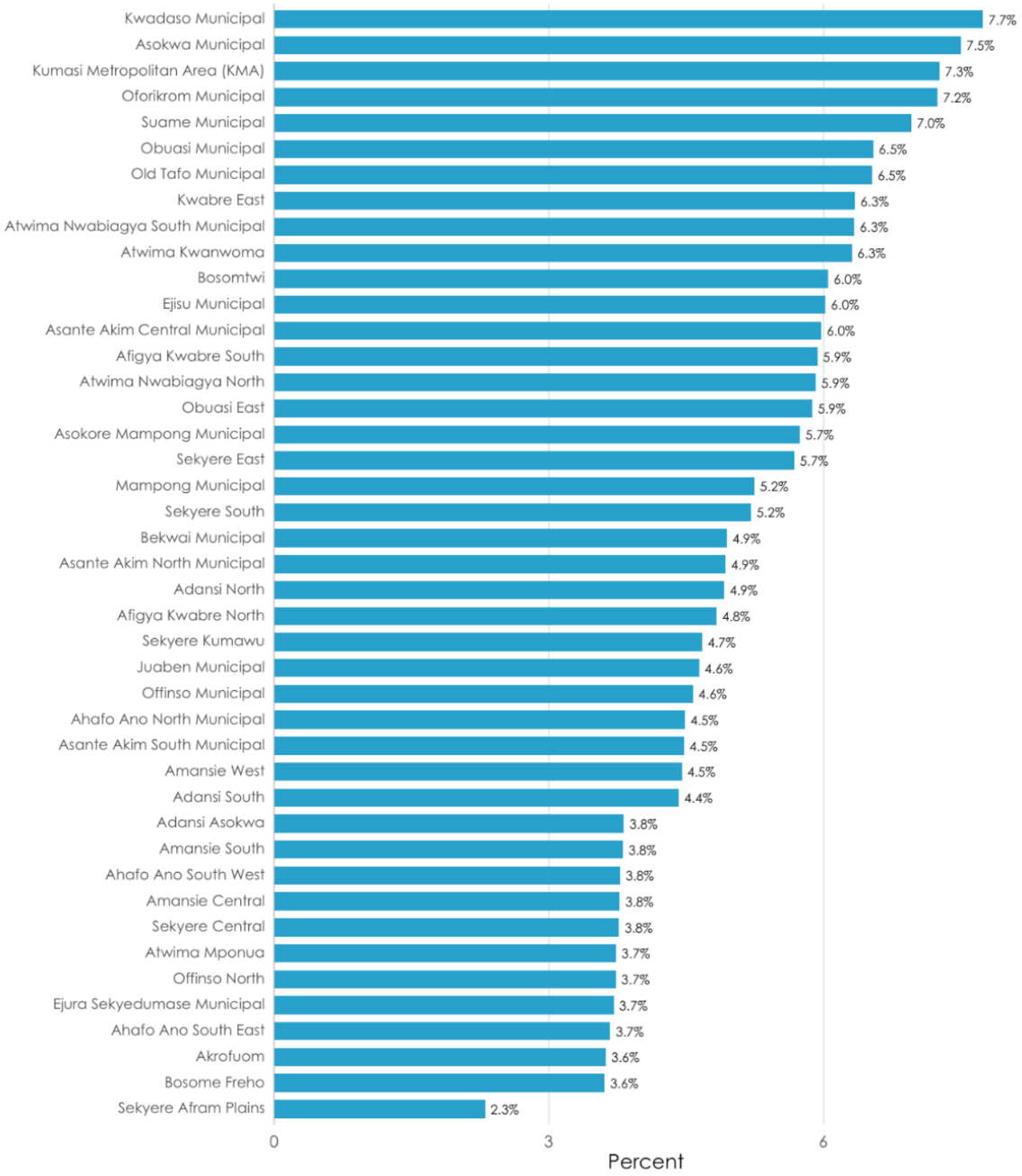
FIGURE 4.2.7: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE EASTERN REGION



In the Ashanti Region, Kwadaso Municipal recorded the highest rate of cervical cancer screening at 7.7 percent while Sekyere Afram Plains had the lowest at 2.3 percent.

Twenty-one districts had screening rates within 4.0 to 6.0 percent range, highlighting generally low and uneven screening across the region.

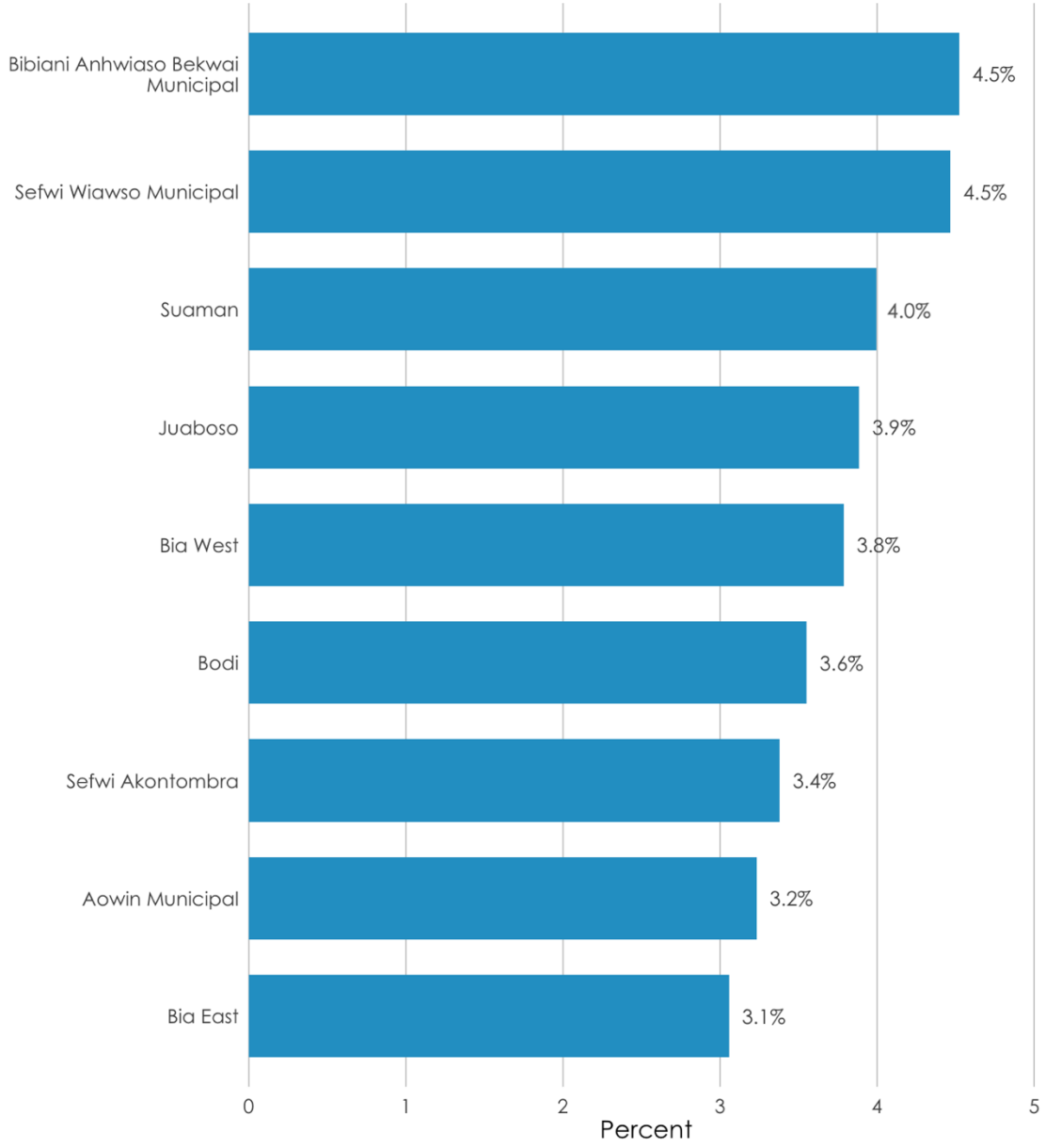
FIGURE 4.2.8: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE ASHANTI REGION



In the Western North Region, Bibiani Anhwiaso Bekwai Municipal and Sefwi Wiawso Municipal both recorded the highest rate in cervical cancer screening at 4.5 percent each.

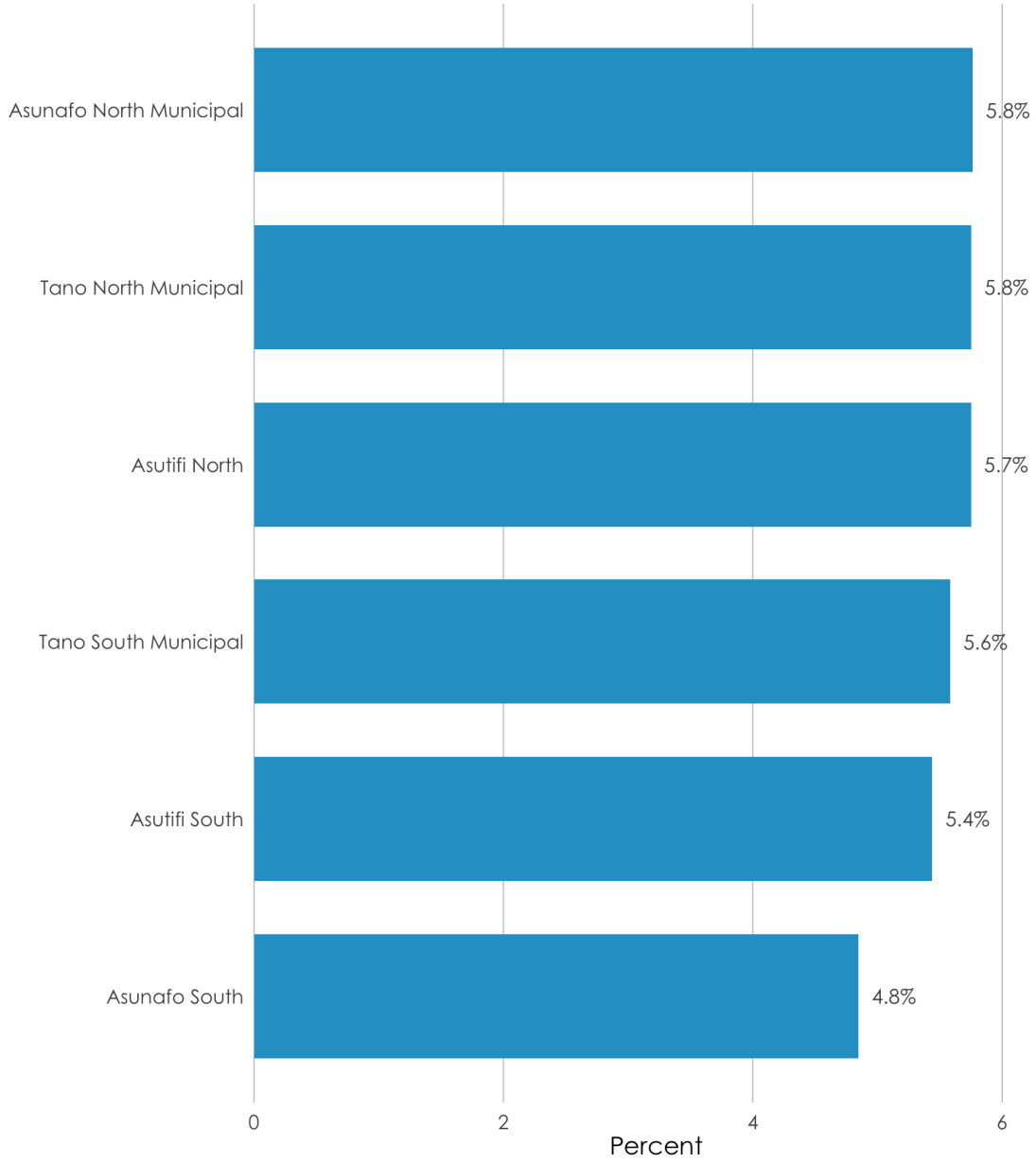
Rural districts such as Aowin Municipal (3.2%) and Bia East (3.1%) reported lower participation rate.

FIGURE 4.2.9: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE WESTERN NORTH REGION



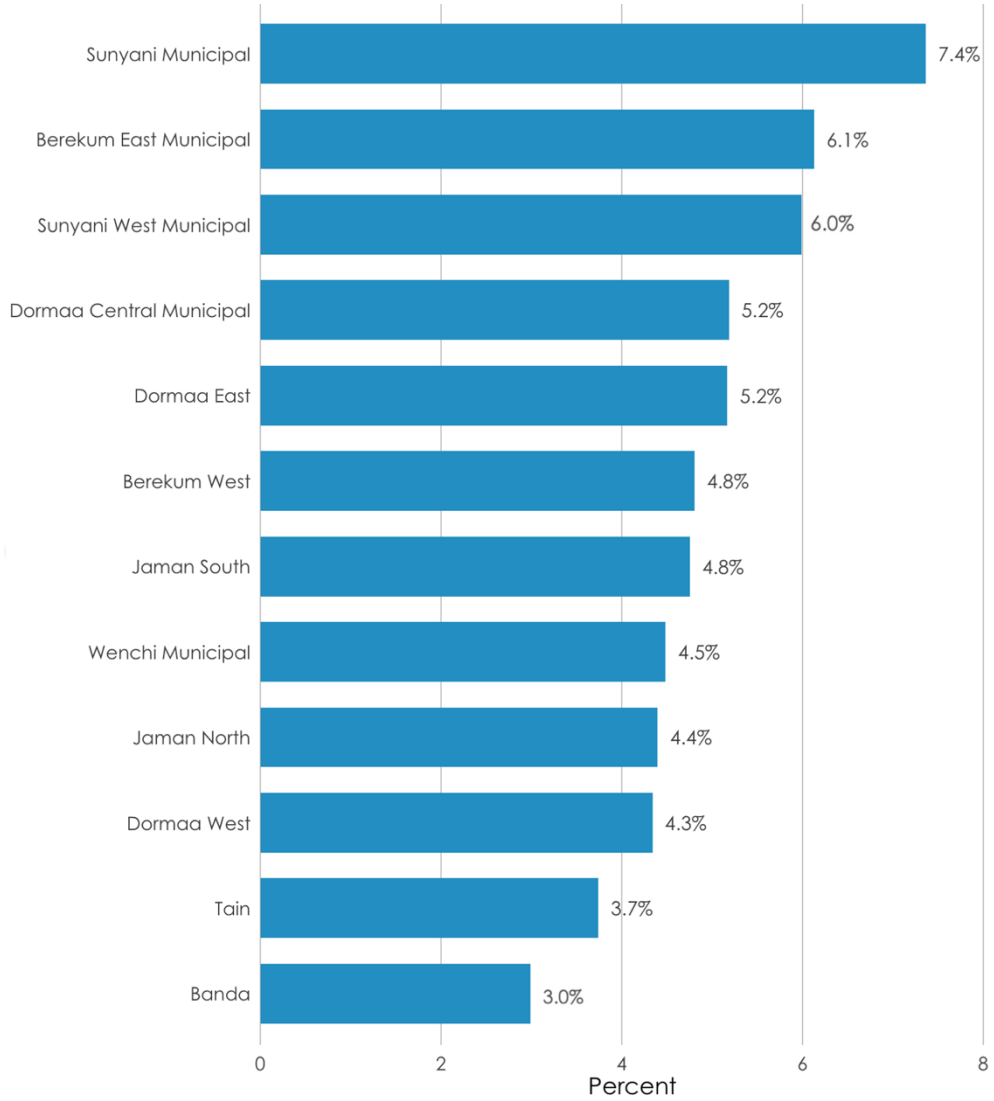
Asunafo North and Tano North Municipals (5.8%) recorded the highest cervical cancer screening rate in the Ahafo Region, while Asunafo South (4.8%) had the lowest.

FIGURE 4.2.10: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE AHAFO REGION



Sunyani Municipal had the highest cervical cancer screening rate at 7.4 percent, followed by Berekum East Municipal (6.1%). Rural areas, including Tain (3.7%) and Banda (3%) recorded lower rates.

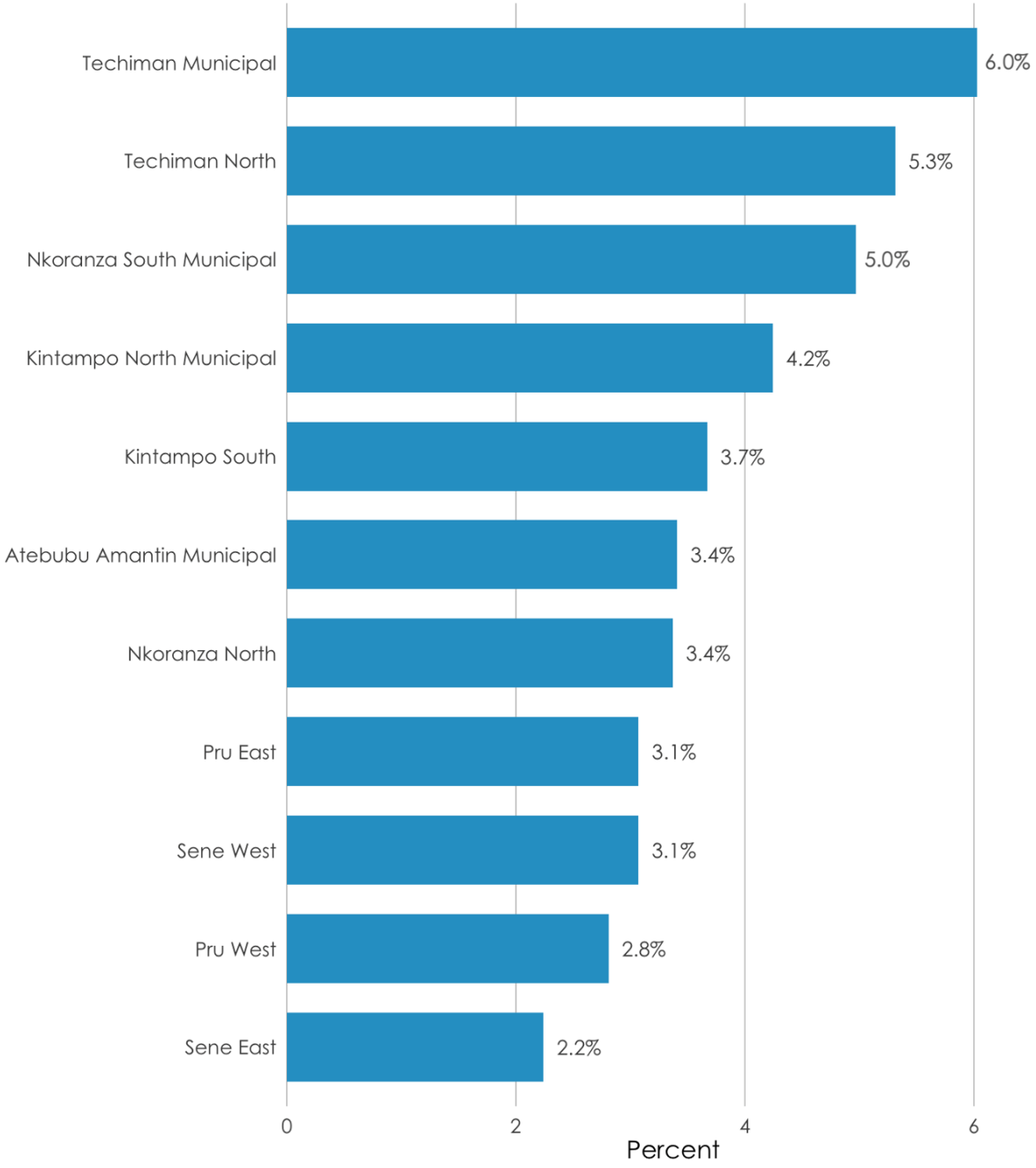
FIGURE 4.2.11: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE BONO REGION



Techiman Municipal (6.0%) and Techiman North (5.3%) recorded the highest cervical cancer screening rate in the region.

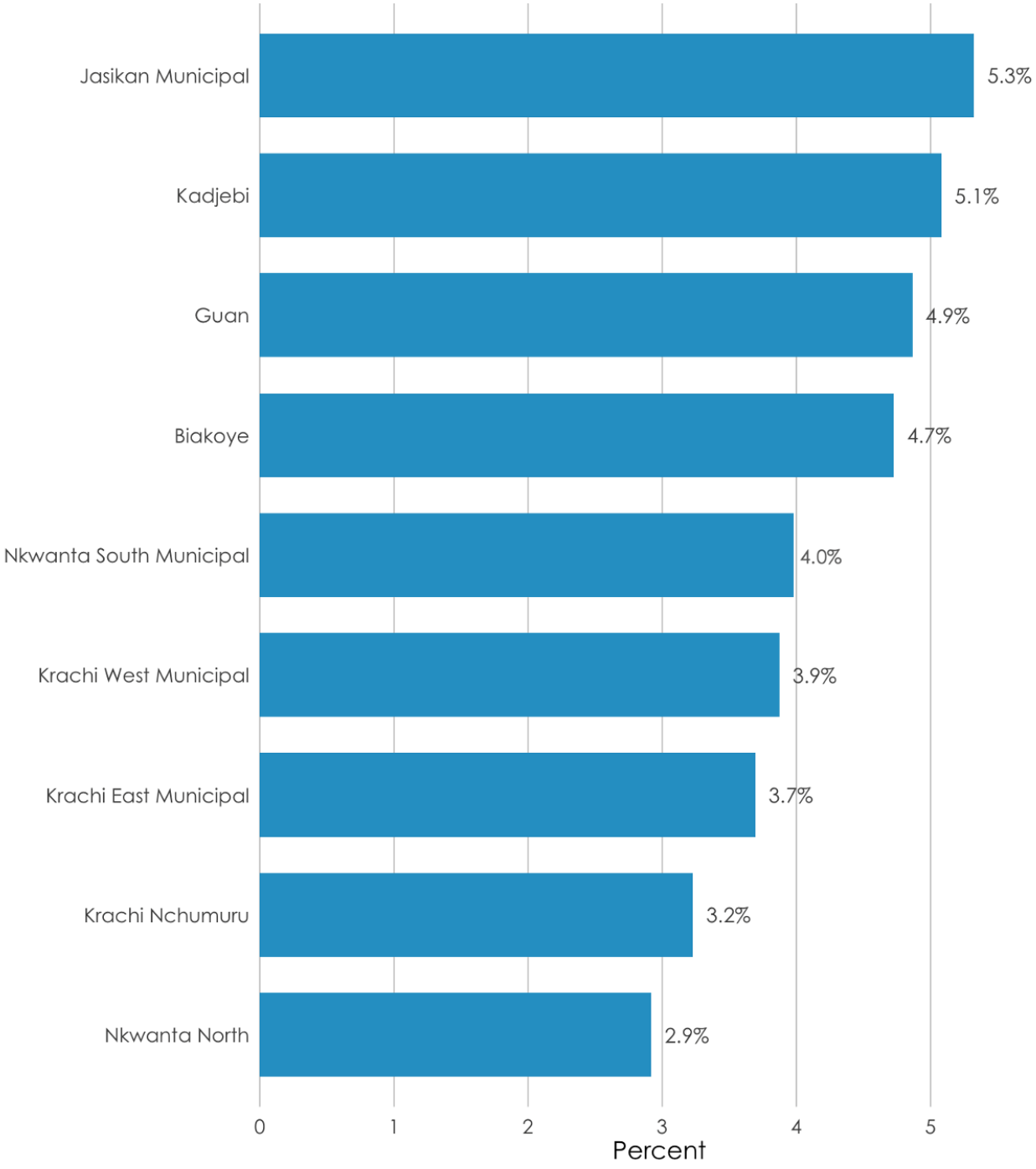
In contrast, critically low coverage was observed in districts such as Pru West (3.1%) and Sene East (2.2%).

FIGURE 4.2.12: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE BONO EAST REGION



Participation rate in cervical cancer screening is highest in Jasikan Municipal (5.3%) and lowest in Nkwanta North (2.9%)districts.

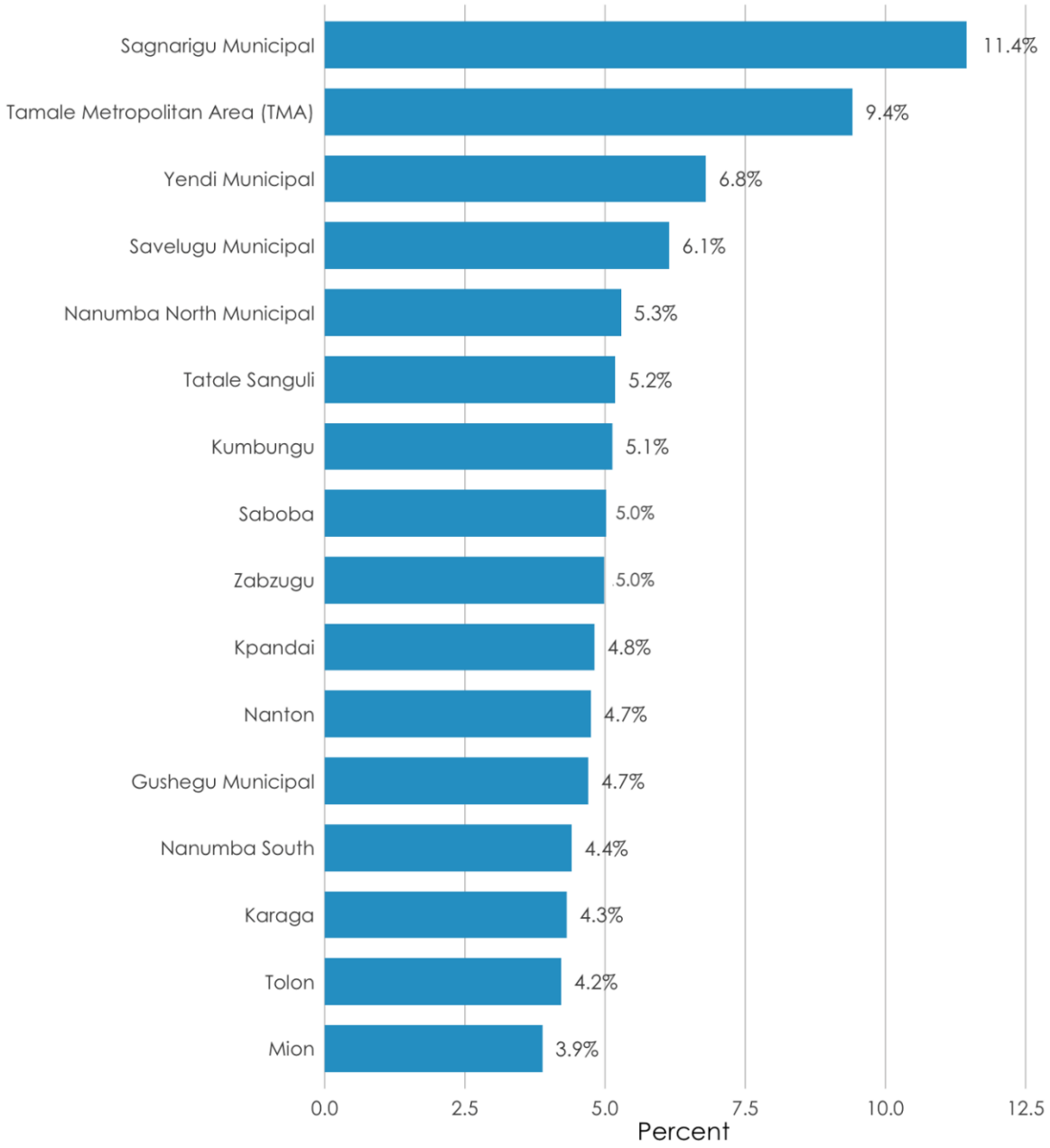
FIGURE 4.2.13: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE OTI REGION



In the Northern Region, Sagnarigu Municipal (11.4%) and Tamale Metropolitan Area (9.4%) recorded the highest cervical cancer screening rate.

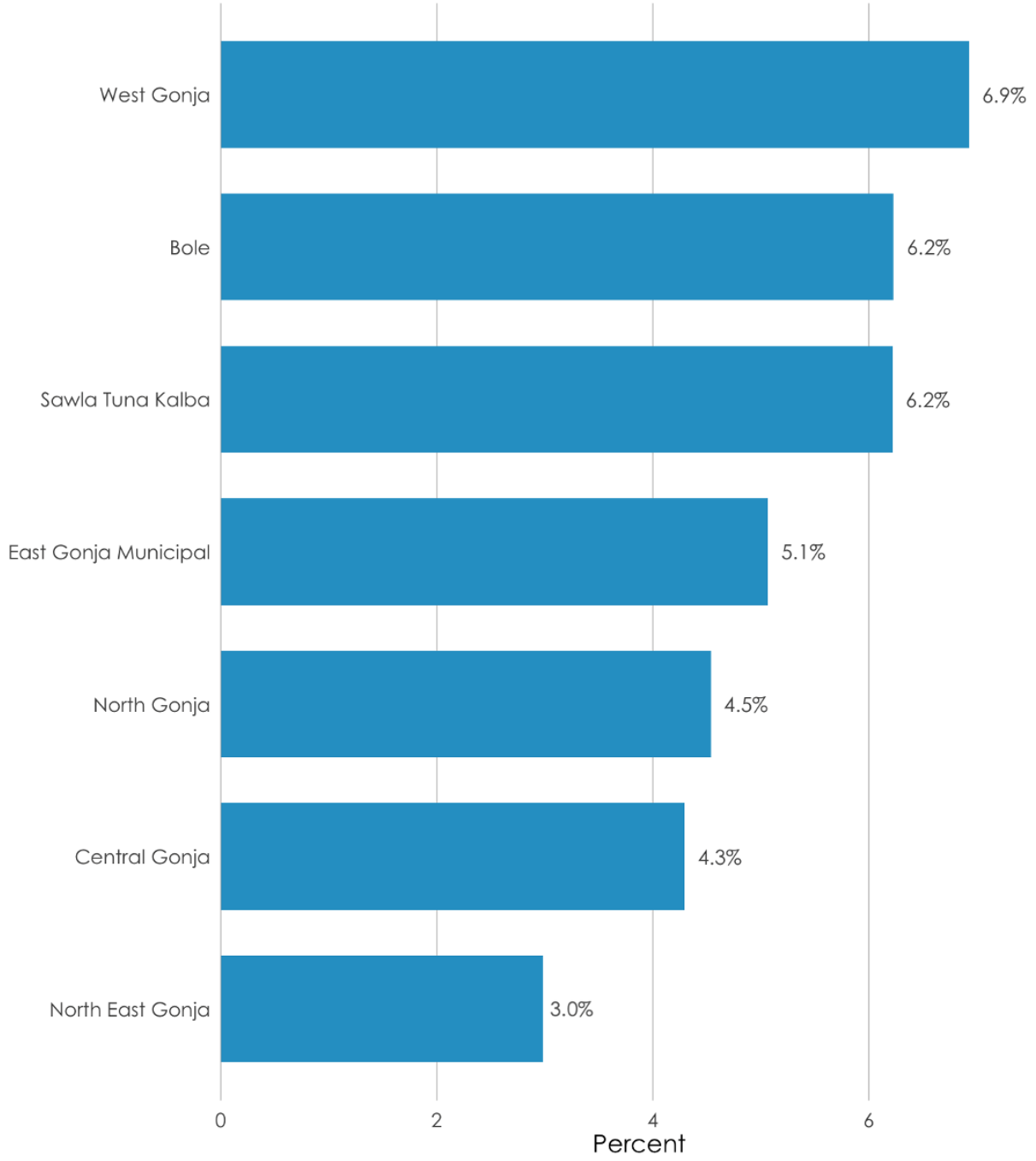
Rural districts such as Karaga (4.3%) and Mion (3.9%) recorded lower participation.

FIGURE 4.2.14: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE NORTHERN REGION



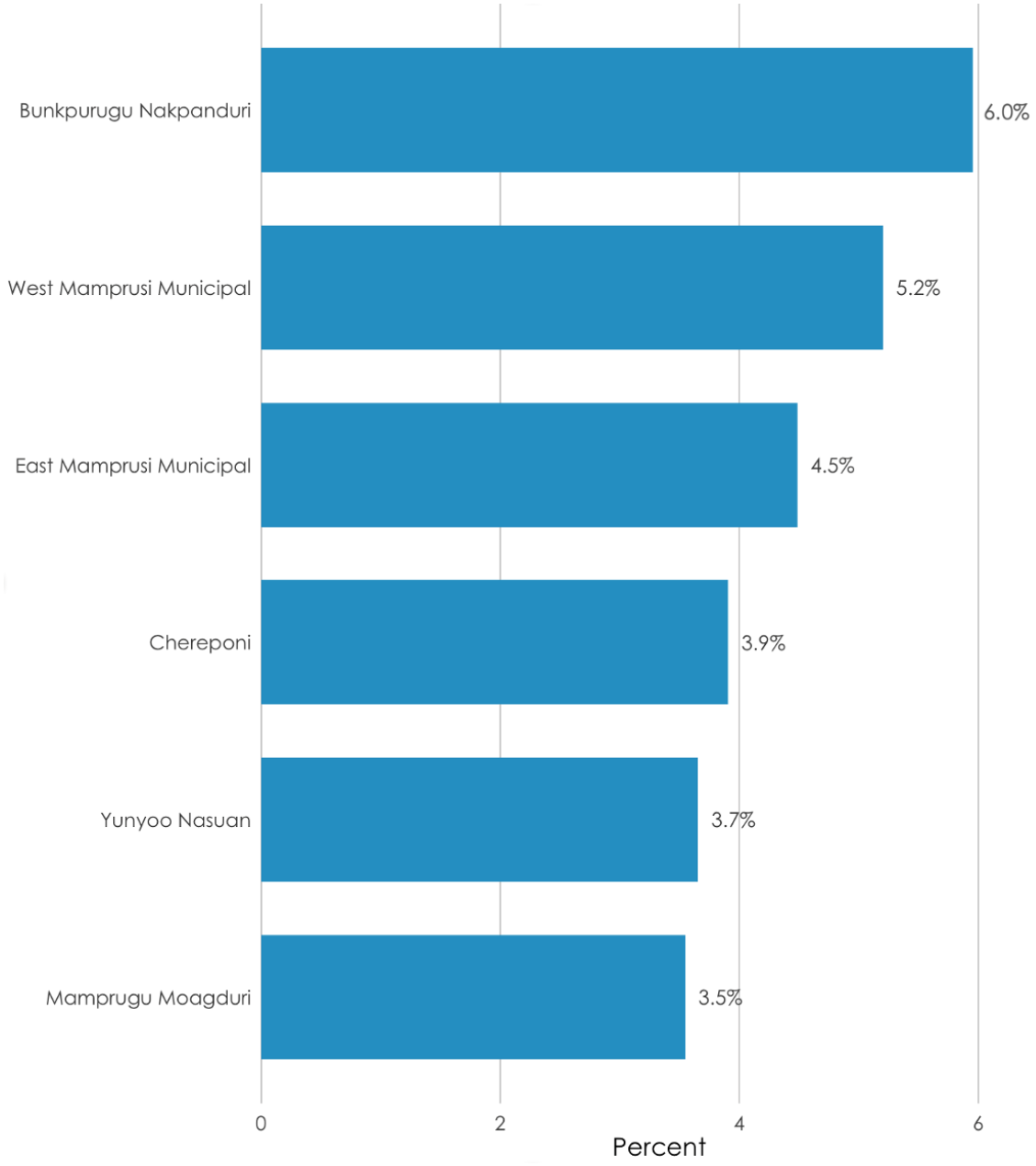
In the Savannah Region, West Gonja (6.9%) district had the highest cervical cancer screening rate, while North East Gonja (3.0%) reported the lowest.

FIGURE 4.2.15: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER IN THE SAVANNAH REGION



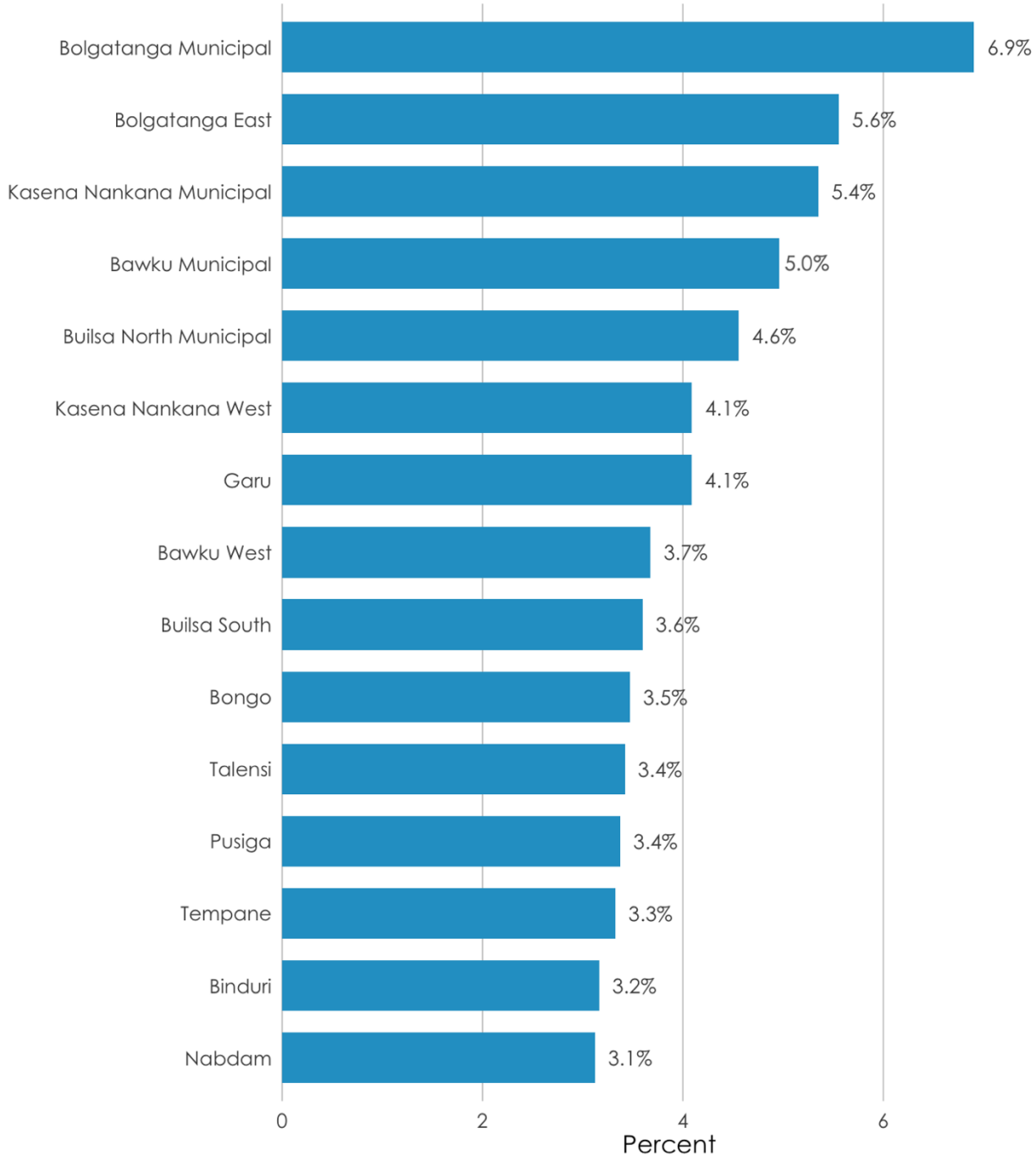
In the North East Region, Bunkpurugu Nakpanduri recorded the highest cervical cancer rate (6.0%), while Mamprugu Moagduri reported the lowest at 3.5 percent.

FIGURE 4.2.16: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE NORTH EAST REGION



Bolgatanga Municipal (6.9%) recorded the highest cervical cancer screening rate in the Upper East Region, while Binduri (3.2%) and Nabdam (3.1%) had the lowest.

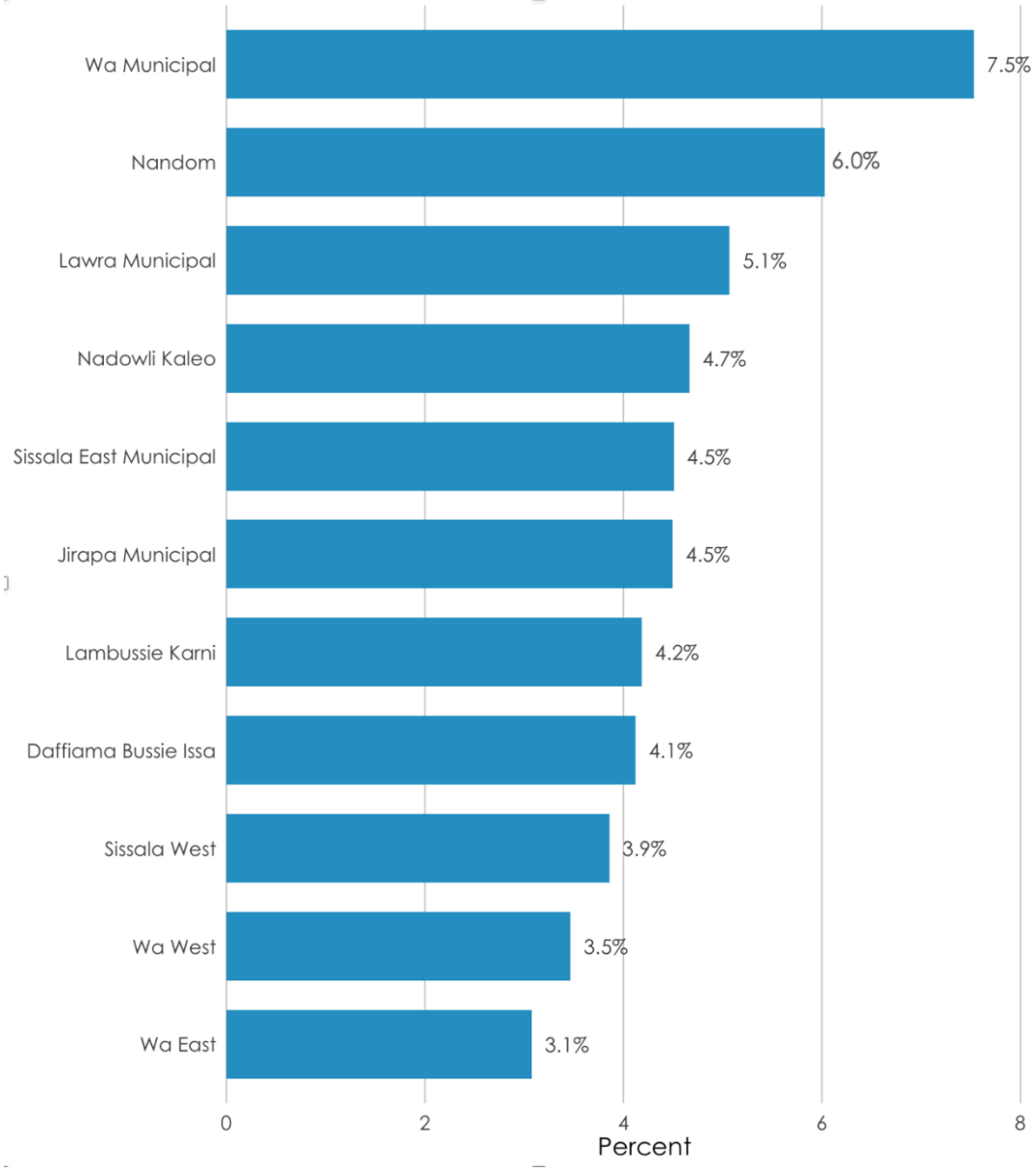
FIGURE 4.2.17: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER IN THE UPPER EAST REGION



Wa Municipal had the highest cervical cancer screening rate of 7.5 percent while Wa East (3.1%) had low participation.

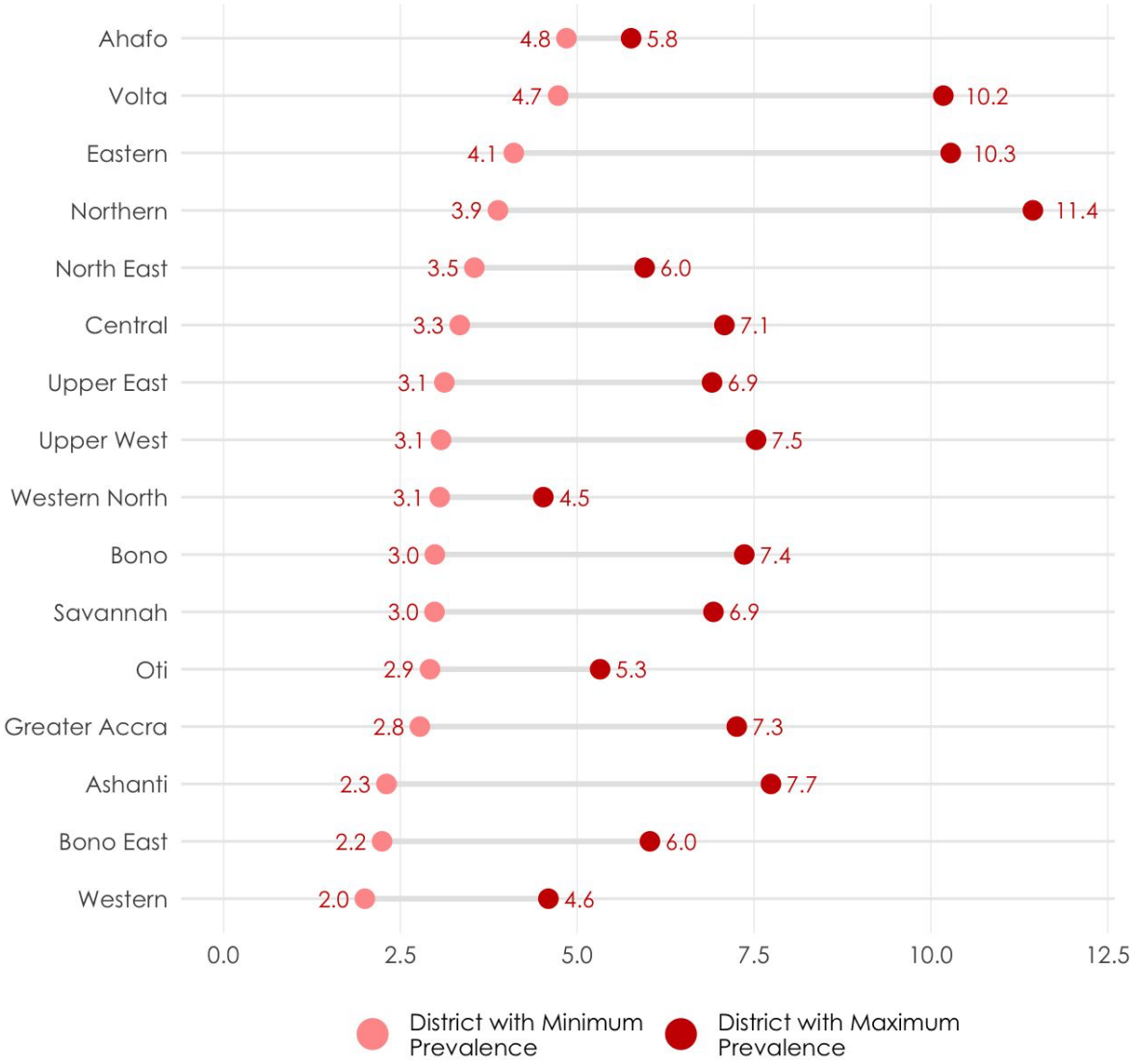
Districts including Nadowli Kaleo, Sissala East Municipal, Jirapa Municipal, Lambussie Karni, and Daffiama Bussie Issa recorded screening rate between 3.0 and 5.0 percent.

FIGURE 4.2.18: DISTRICT-LEVEL ESTIMATES OF CERVICAL CANCER SCREENING IN THE UPPER WEST REGION



Northern Region had the highest intra-regional disparity in cervical cancer screening, recording 9.4 percentage points, while in Ahafo Region it is a 1.0 percentage point difference.

FIGURE 4.2.19: MINIMUM AND MAXIMUM PREVALENCE OF CERVICAL CANCER SCREENING BY REGION



5. CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1. Conclusions

The data paint a simple but urgent picture: breast and cervical cancer screening in Ghana is far too low and deeply unequal.

District-level estimates show that a woman's chances of being screened depend heavily on where she lives. Breast cancer screening ranges from 5.4 percent in North East Gonja to 31.1 percent in Effia Kwesimintsim, while cervical cancer screening ranges from 2.0 percent in Nzema East to 11.4 percent in Sagnarigu. These are not small differences; they represent life-or-death gaps in early detection.

The north–south divide is unmistakable. The five northern regions consistently record screening levels below 20 percent for breast cancer, and below 4 percent for cervical cancer in many districts. Meanwhile, some urban and coastal districts, especially in Greater Accra, Western, and Eastern regions, show significantly higher uptake. Even within the same region, disparities stretch as wide as 15 percentage points, proving that regional averages hide the true scale of inequality.

These gaps reflect broader issues, access to health services, uneven health infrastructure, awareness levels, socioeconomic constraints, and distance to care. They also highlight missed opportunities. Early detection through breast exams, VIA, Pap smears, and HPV testing is among the most effective and affordable strategies for reducing cancer deaths. Yet low and uneven screening rates mean most women are diagnosed late, when treatment is more invasive, more expensive, and less successful.

What the evidence makes clear is that improving screening is not only a public health priority, but also a national equity imperative. Addressing these disparities will save lives, strengthen women's health, and support Ghana's progress toward Universal Health Coverage and the Sustainable Development Goals.

The path forward requires (i)targeted, district-specific action, not one-size-fits-all strategies and (ii) a renewed commitment to bringing screening services closer to women who are being left behind.

5.2 Policy Recommendations

The findings point to actionable steps that government, health institutions, civil society, and partners can take immediately to expand screening and close geographic and socioeconomic gaps.

Government and Health Institutions:

1. **Integrate screening into routine primary care**: Make breast exams, VIA, Pap smears, and HPV testing standard components of everyday services—family planning visits, outpatient care, ANC and PNC services, child health clinics, and chronic disease management;

2. **Expand mobile and community-based outreach**: Deploy mobile clinics to districts with screening rates below 10 percent, particularly across the Savannah, Oti, Bono East, Western North, and Northern regions. Bring screening to markets, churches, workplaces, and community centres;

3. **Strengthen screening capacity and logistics**: Invest in training nurses, midwives, and community health workers in clinical exams and cervical screening. Ensure facilities have adequate equipment, consumables, and referral pathways; and

4. **Establish real-time district monitoring**: Track screening uptake monthly at district level to identify gaps early. Use district performance dashboards to guide resource allocation, supervision, and corrective action.

Civil Society, Development Partners, and NGOs:

1. **Drive culturally grounded awareness campaigns**: Use local languages, community influencers, radio, social media, and faith-based networks to demystify breast and cervical cancer screening, counter myths, and encourage early testing;

2. **Support community-based prevention models**: Collaborate with women's groups, youth associations, and local leaders to host community screening days and create safe, stigma-free spaces for health education; and

3. **Fund innovations in outreach:** Pilot digital reminder systems, mobile apps, incentive-based screening programmes, and targeted interventions for hard-to-reach populations.

Local Governments and Community Leaders:

1. **Embed cancer screening in district health plans**: Prioritise high-burden districts for mobile outreach, health talks, and facility strengthening. Use district data to tailor solutions to local realities; and

2. **Champion local awareness**: Engage chiefs, queen mothers, assembly members, and opinion leaders to normalise screening and promote early detection as a shared community responsibility.

Ghana can significantly reduce deaths from breast and cervical cancers. The evidence is clear, the tools exist, and the solutions are practical. By expanding screening, strengthening local health systems, and using district-level data to guide action, Ghana can protect more women, save more lives, and move decisively toward a future where early detection is the norm, not the exception.

REFERENCES

Brown, J. S., Amend, S. R., Austin, R. H., Gatenby, R. A., Hammarlund, E. U., & Pienta, K. J. (2023). Updating the definition of cancer. *Molecular Cancer Research*, *21*(11), 1142-1147.

APPENDIX

Methodology

Why Regional Estimates May Not Equal the Average of District Estimates

Introduction

In the analysis of Demographic and Heath Survey (DHS) data, estimates are usually reported at national and regional levels. These estimates, known to as the direct estimates, are calculated directly from the survey sample using appropriate weights and design corrections to ensure representativeness. While such estimates are generally reliable at higher levels of aggregation (national and regional), the survey often does not provide sufficiently large samples to produce stable and precise estimates at lower administrative levels such as districts. This is because the sampling was limited to the regional level, leaving only a few clusters and even in some cases, no cluster included for some districts

The Small Area Estimation (SAE) techniques are the therefore applied to correct the issue of non-representativeness at the district level. SAE combines the DHS data with the 2021 Population and Housing Census data to generate district estimates. This statistical approach produces model-based estimates that are much more reliable than direct district survey estimates.

However, the issue of contention is why the direct regional estimates not always equal the average of the district-level estimates produced by SAE? In our analysis, we observed that for some indicators, the direct regional value does not fall within the range of district-level estimates obtained from the model. This is not an error but rather an expected outcome of the way the two estimation approaches differ explained in the reasons below

1. **Different Sources of Estimation**

a. Regional estimates are computed directly from the DHS data. They are design-based, relying only on the sample within the region and the survey design.

b. While district estimates are obtained using SAE models. These are model-based estimates, which combines DHS data with other data sources to improve precision and accuracy. Because the two approaches rely on different estimation strategies, the two estimates would not converge.

2. **Population Weights vs. Simple Averages**

A regional estimate is not the arithmetic mean of the districts within it. Instead, it is a population-weighted average, where each district's contribution depends on its population size. Larger districts exert more influence than smaller ones. Unless SAE district estimates are explicitly constrained to match population weights, the regional average derived from them will not equal the direct regional estimate.

3. **Differences in Sampling Error**

a. Regional direct estimates are based on larger sample sizes than individual districts. This usually results in smaller sampling errors at the regional level.

b. By contrast, district estimates, even after modelling, can reflect different patterns depending on the predictors used in the model. Therefore, regional estimates may fall outside the modelled district range

Conclusion

The key point is that regional estimates from the DHS (direct) and district estimates from SAE (model-based) are derived from fundamentally different processes. Direct regional estimates summarize the survey sample as collected, while SAE district estimates use statistical models to improve reliability where the survey alone is insufficient.

Therefore, the regional value may not necessarily lie within the range of district values. This should not be viewed as a contradiction but rather as a feature of SAE methodology. The interpretation the results in the district report should be done with this understanding.

District Tables

TABLE 6. 1: PERCENTAGE OF BREAST AND CERVICAL CANCER SCREENING AMONG WOMEN AGED 15 TO 49 YEARS BY DISTRICT

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Western	Jomoro Municipal	19.6	2.3
Western	Ellembelle	19.8	2.4
Western	Nzema East Municipal	17.5	2.0
Western	Ahanta West Municipal	22.0	2.8
Western	Effia Kwesimintsim Municipal	31.1	4.6
Western	Sekondi Takoradi Metropolitan Area (STMA)	29.1	4.2
Western	Shama	22.8	2.9
Western	Wassa East	18.5	2.2
Western	Mpohor	20.7	2.6
Western	Tarkwa-Nsuaem Municipal	24.3	3.3
Western	Prestea/Huni Valley Municipal	21.4	2.7
Western	Wassa Amenfi East Municipal	19.1	2.3
Western	Wassa Amenfi Central	17.9	2.1
Western	Wassa Amenfi West Municipal	20.4	2.5
Central	Komenda Edina Eguafo Abirem Municipal	16.6	4.0
Central	Cape Coast Metropolitan Area (CCMA)	25.4	7.1
Central	Abura Asebu Kwamankese	17.5	4.3
Central	Mfantsiman Municipal	19.4	4.9
Central	Ekumfi	14.6	3.3
Central	Gomoa West	16.2	3.8
Central	Effutu Municipal	23.3	6.0
Central	Gomoa Central	17.6	4.3
Central	Gomoa East	22.6	6.1
Central	Awutu Senya East Municipal	23.6	6.6
Central	Awutu Senya	17.9	4.4
Central	Agona East	17.2	4.2
Central	Agona West Municipal	20.8	5.5
Central	Asikuma Odoben Brakwa	17.4	4.3
Central	Ajumako Enyan Essiam	17.5	4.3
Central	Assin South	15.0	3.6
Central	Twifo Heman Lower Denkyira	16.7	4.2
Central	Twifo Ati Morkwa	16.7	4.1
Central	Assin Fosu Municipal	19.5	5.1
Central	Assin North	15.8	3.8
Central	Upper Denkyira East Municipal	18.7	4.7
Central	Upper Denkyira West	16.2	3.9

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Greater Accra	Ga South Municipal	22.6	5.3
Greater Accra	Weija Gbawe Municipal	25.9	6.4
Greater Accra	Ga Central Municipal	26.5	6.6
Greater Accra	Ablekuma North Municipal	25.7	6.3
Greater Accra	Ablekuma West Municipal	25.3	6.1
Greater Accra	Ablekuma Central Municipal	23.6	5.5
Greater Accra	Accra Metropolitan Area (AMA)	22	5
Greater Accra	Korle Klottey Municipal	23.9	5.6
Greater Accra	Ayawaso Central Municipal	24.2	5.8
Greater Accra	Ayawaso East Municipal	20.6	4.5
Greater Accra	Ayawaso North Municipal	21.9	4.9
Greater Accra	La Dade-Kotopon Municipal	27.3	6.7
Greater Accra	Ledzokuku Municipal	25.4	6.2
Greater Accra	Krowor Municipal	26.2	6.4
Greater Accra	Adentan Municipal	27.3	6.9
Greater Accra	Ayawaso West Municipal	27.9	7.2
Greater Accra	Okaikoi North Municipal	25.8	6.3
Greater Accra	Ga North Municipal	26.2	6.5
Greater Accra	Ga West Municipal	22.7	5.4
Greater Accra	Ga East Municipal	27.5	7
Greater Accra	La Nkwantanang Madina Municipal	26.5	6.6
Greater Accra	Kpone Katamanso Municipal	23.2	5.5
Greater Accra	Ashaiman Municipal	22	5
Greater Accra	Tema West Municipal	28.2	7.3
Greater Accra	Tema Metropolitan Area (TMA)	23.3	5.5
Greater Accra	Ningo-Prampram	22.3	5.2
Greater Accra	Shai-Osudoku	18.7	4.2
Greater Accra	Ada West	14.9	2.8
Greater Accra	Ada East	16.3	3.3
Volta	South Tongu	16.7	6.1
Volta	Anloga	17	6.1
Volta	Keta Municipal	18	6.6
Volta	Ketu South Municipal	16.5	6
Volta	Ketu North Municipal	17.1	6.3
Volta	Akatsi North	13.9	4.9
Volta	Akatsi South Municipal	16.7	6.2
Volta	Central Tongu	14	4.8
Volta	North Tongu	15.8	5.6
Volta	Ho West	16.7	6.2
Volta	Adaklu	13.4	4.7
Volta	Agortime-Ziope	15	5.4
Volta	Ho Municipal	24.6	10.2

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Volta	South Dayi	16.4	5.9
Volta	Afadzato South	16.0	5.8
Volta	North Dayi	15.4	5.7
Volta	Kpando Municipal	19.0	7.4
Volta	Hohoe Municipal	21.0	8.3
Eastern	Birim South	21.8	6.6
Eastern	Birim Central Municipal	26.6	8.5
Eastern	Achiase	20.0	5.8
Eastern	Asene Manso Akroso	20.7	6.1
Eastern	West Akim Municipal	22.3	6.8
Eastern	Upper West Akim	18.6	5.3
Eastern	Ayensuano	19.1	5.5
Eastern	Nsawam Adoagyiri Municipal	24.6	7.9
Eastern	Akwapim South Municipal	22.5	7.1
Eastern	Akwapim North Municipal	25.4	8.2
Eastern	Okere	19.7	5.7
Eastern	New Juaben South Municipal	30.6	10.3
Eastern	New Juaben North Municipal	27.6	9.0
Eastern	Suhum Municipal	22.8	7.2
Eastern	Abuakwa North Municipal	26.1	8.4
Eastern	Abuakwa South Municipal	22.2	6.7
Eastern	Denkyembuor	22.7	7.0
Eastern	Akyemansa	19.3	5.6
Eastern	Kwaebibirem Municipal	22.0	6.8
Eastern	Birim North	21.6	6.6
Eastern	Atiwa West	20.2	6.1
Eastern	Atiwa East	21.9	6.7
Eastern	Fanteakwa South	21.7	6.6
Eastern	Yilo Krobo Municipal	21.6	6.6
Eastern	Lower Manya Krobo Municipal	23.2	7.2
Eastern	Asuogyaman	20.9	6.4
Eastern	Upper Manya Krobo	18.1	5.2
Eastern	Fanteakwa North	20.3	6.2
Eastern	Kwahu South Municipal	20.5	6.0
Eastern	Kwahu West Municipal	23.6	7.3
Eastern	Kwahu East	19.3	5.5
Eastern	Kwahu Afram Plains South	15.3	4.1
Eastern	Kwahu Afram Plains North	15.3	4.1

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Ashanti	Amansie South	13.0	3.8
Ashanti	Amansie Central	12.8	3.8
Ashanti	Akrofuom	12.3	3.6
Ashanti	Adansi South	14.3	4.4
Ashanti	Adansi Asokwa	12.8	3.8
Ashanti	Obuasi East	18.2	5.9
Ashanti	Obuasi Municipal	19.8	6.5
Ashanti	Adansi North	15.7	4.9
Ashanti	Bekwai Municipal	15.9	4.9
Ashanti	Amansie West	14.7	4.5
Ashanti	Atwima Kwanwoma	18.9	6.3
Ashanti	Bosomtwi	18.4	6.0
Ashanti	Bosome Freho	12.2	3.6
Ashanti	Asante Akim Central Municipal	18.3	6.0
Ashanti	Asante Akim South Municipal	14.5	4.5
Ashanti	Asante Akim North Municipal	16.1	4.9
Ashanti	Sekyere Kumawu	15.6	4.7
Ashanti	Sekyere East	17.8	5.7
Ashanti	Juaben Municipal	15.2	4.6
Ashanti	Ejisu Municipal	18.4	6.0
Ashanti	Oforikrom Municipal	21.5	7.2
Ashanti	Asokwa Municipal	22.0	7.5
Ashanti	Kumasi Metropolitan Area (KMA)	21.6	7.3
Ashanti	Kwadaso Municipal	22.5	7.7
Ashanti	Suame Municipal	20.8	7.0
Ashanti	Old Tafo Municipal	19.9	6.5
Ashanti	Asokore Mampong Municipal	18.2	5.7
Ashanti	Kwabre East	19.4	6.3
Ashanti	Afigya Kwabre South	18.1	5.9
Ashanti	Atwima Nwabiagya North	18.1	5.9
Ashanti	Atwima Nwabiagya South Municipal	19.2	6.3
Ashanti	Atwima Mponua	12.6	3.7
Ashanti	Ahafo Ano South West	12.9	3.8
Ashanti	Ahafo Ano North Municipal	14.6	4.5
Ashanti	Ahafo Ano South East	12.6	3.7
Ashanti	Offinso North	13.2	3.7
Ashanti	Offinso Municipal	15.2	4.6
Ashanti	Afigya Kwabre North	15.5	4.8
Ashanti	Sekyere South	16.9	5.2
Ashanti	Mampong Municipal	16.9	5.2
Ashanti	Ejura Sekyedumase Municipal	13.2	3.7
Ashanti	Sekyere Central	13.2	3.8
Ashanti	Sekyere Afram Plains	9.1	2.3

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Western North	Aowin Municipal	12.4	3.2
Western North	Sefwi Akontombra	13.0	3.4
Western North	Suaman	14.7	4.0
Western North	Bodi	13.8	3.6
Western North	Sefwi Wiawso Municipal	16.2	4.5
Western North	Bibiani Anhwiaso Bekwai Municipal	16.5	4.5
Western North	Juaboso	14.5	3.9
Western North	Bia West	13.9	3.8
Western North	Bia East	11.6	3.1
Ahafo	Asunafo South	17.3	4.8
Ahafo	Asunafo North Municipal	19.7	5.8
Ahafo	Asutifi South	18.8	5.4
Ahafo	Asutifi North	19.5	5.7
Ahafo	Tano North Municipal	19.7	5.8
Ahafo	Tano South Municipal	19.3	5.6
Bono	Dormaa West	16.7	4.3
Bono	Dormaa Central Municipal	19.1	5.2
Bono	Dormaa East	19.3	5.2
Bono	Sunyani Municipal	24.8	7.4
Bono	Sunyani West Municipal	21.4	6.0
Bono	Berekum East Municipal	22.1	6.1
Bono	Berekum West	18.4	4.8
Bono	Jaman South	17.9	4.8
Bono	Jaman North	17.7	4.4
Bono	Tain	15.4	3.7
Bono	Wenchi Municipal	17.0	4.5
Bono	Banda	13.0	3.0
Bono East	Nkoranza South Municipal	15.5	5.0
Bono East	Techiman Municipal	18.0	6.0
Bono East	Nkoranza North	11.7	3.4
Bono East	Techiman North	16.3	5.3
Bono East	Atebubu Amantin Municipal	12.1	3.4
Bono East	Sene West	10.8	3.1
Bono East	Sene East	8.6	2.2
Bono East	Pru West	10.5	2.8
Bono East	Pru East	11.4	3.1
Bono East	Kintampo South	12.2	3.7
Bono East	Kintampo North Municipal	14.0	4.2

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
Oti	Biakoye	11.2	4.7
Oti	Jasikan Municipal	12.0	5.3
Oti	Kadjebi	11.5	5.1
Oti	Krachi East Municipal	9.4	3.7
Oti	Krachi West Municipal	9.7	3.9
Oti	Krachi Nchumuru	8.6	3.2
Oti	Nkwanta South Municipal	9.9	4.0
Oti	Nkwanta North	8.3	2.9
Oti	Guan	11.2	4.9
Northern	Kpandai	11.6	4.8
Northern	Nanumba South	11.1	4.4
Northern	Nanumba North Municipal	12.5	5.3
Northern	Zabzugu	12.1	5.0
Northern	Tatale Sanguli	11.9	5.2
Northern	Saboba	11.9	5.0
Northern	Yendi Municipal	15.2	6.8
Northern	Mion	9.9	3.9
Northern	Nanton	11.7	4.7
Northern	Tamale Metropolitan Area (TMA)	19.8	9.4
Northern	Sagnarigu Municipal	22.4	11.4
Northern	Tolon	11.0	4.2
Northern	Kumbungu	12.2	5.1
Northern	Savelugu Municipal	14.3	6.1
Northern	Karaga	11.0	4.3
Northern	Gushegu Municipal	11.4	4.7
Savannah	Bole	9.1	6.2
Savannah	Sawla Tuna Kalba	8.7	6.2
Savannah	North Gonja	7.2	4.5
Savannah	West Gonja	10.2	6.9
Savannah	Central Gonja	7.0	4.3
Savannah	East Gonja Municipal	7.7	5.1
Savannah	North East Gonja	5.4	3.0

Region	District	Percent of Breast Cancer Screening	Percent of Cervical Cancer Screening
North East	Mamprugu Moagduri	14.4	3.5
North East	West Mamprusi Municipal	18.4	5.2
North East	East Mamprusi Municipal	16.7	4.5
North East	Bunkpurugu Nakpanduri	18.9	6.0
North East	Yunyoo Nasuan	13.2	3.7
North East	Chereponi	14.9	3.9
Upper East	Builsa South	11.0	3.6
Upper East	Builsa North Municipal	12.9	4.6
Upper East	Kasena Nankana Municipal	14.8	5.4
Upper East	Kasena Nankana West	12.1	4.1
Upper East	Bolgatanga Municipal	18.3	6.9
Upper East	Talensi	10.8	3.4
Upper East	Bolgatanga East	15.2	5.6
Upper East	Bongo	10.9	3.5
Upper East	Nabdam	9.8	3.1
Upper East	Bawku West	11.2	3.7
Upper East	Binduri	10.3	3.2
Upper East	Bawku Municipal	14.5	5.0
Upper East	Garu	12.0	4.1
Upper East	Tempane	10.5	3.3
Upper East	Pusiga	10.8	3.4
Upper West	Wa West	9.3	3.5
Upper West	Wa East	8.7	3.1
Upper West	Wa Municipal	17.7	7.5
Upper West	Nadowli Kaleo	11.7	4.7
Upper West	Daffiama Bussie Issa	10.6	4.1
Upper West	Sissala East Municipal	11.7	4.5
Upper West	Sissala West	10.4	3.9
Upper West	Jirapa Municipal	11.0	4.5
Upper West	Lawra Municipal	12.2	5.1
Upper West	Lambussie Karni	10.6	4.2
Upper West	Nandom	13.7	6.0

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