Identifying Gaps in Primary Healthcare Access in Nairobi

A case study

Problem Context

Goal: Strategic Resource Allocation

Our aim is to support **strategic resource allocation** by identifying gaps in **primary healthcare access** across Nairobi's sub-counties. This analysis aligns with SDG 3 and national UHC goals.

What Is Primary Care?

Primary care includes Level 2 and 3 facilities, offering **essential health services** such as outpatient visits, immunizations, and maternal care.

Defining Access: Two Key Dimensions:

Availability

Are there enough facilities relative to the population density in a given sub-county?

Affordability

Are services financially accessible, especially for low-income populations within those areas?

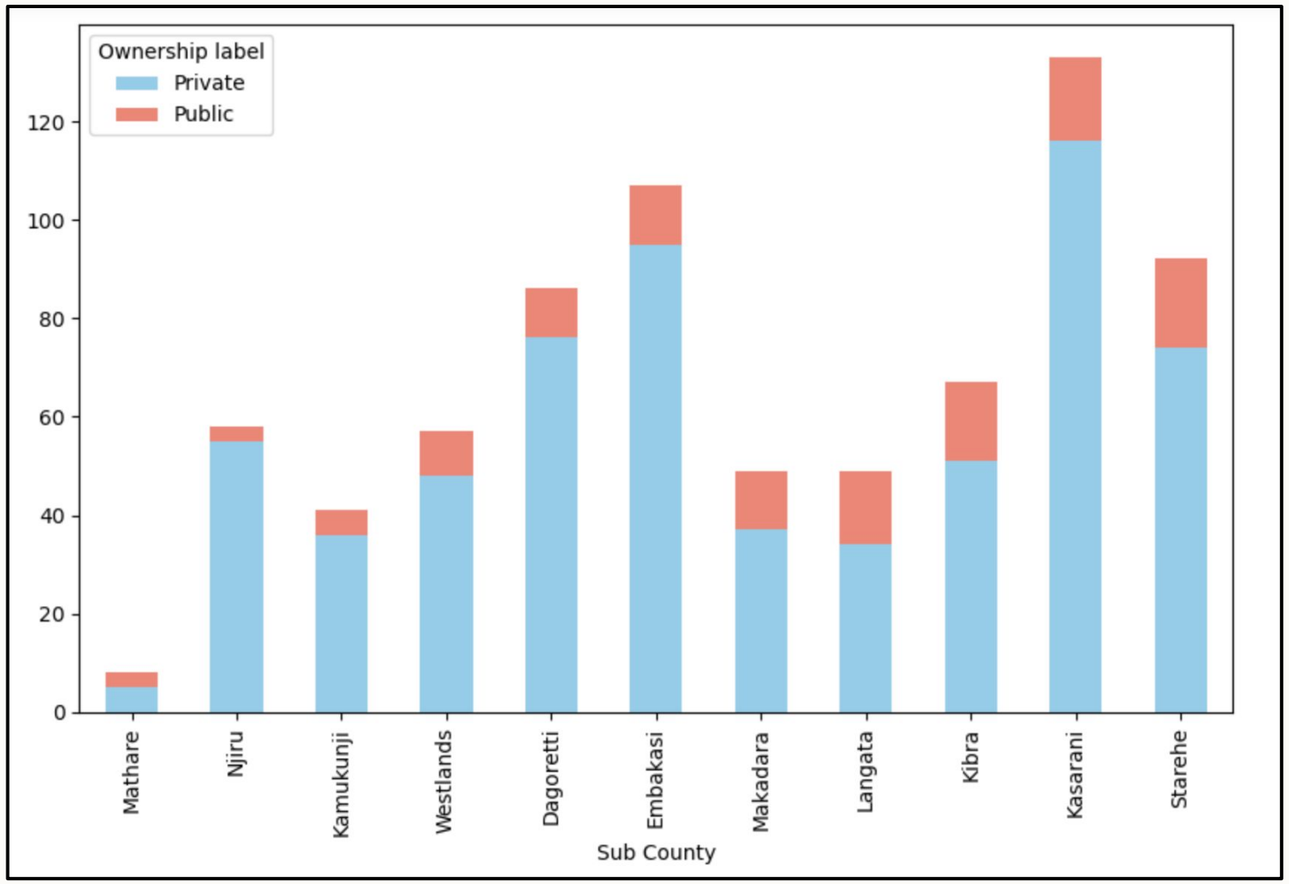
By examining both dimensions, we identify areas where investment in new facilities, partnerships, or affordability measures can make the greatest impact.

Analysis: Public vs. Private Facility Distribution

Even in sub-counties with a high number of health facilities, there is a **strong dominance of private facilities** over public ones.

> This raises a critical concern: Is facility count alone a sufficient measure of healthcare access?

Since private facilities may be **less affordable** for low-income populations, areas with many facilities may still experience limited real access to care in terms of affordability.

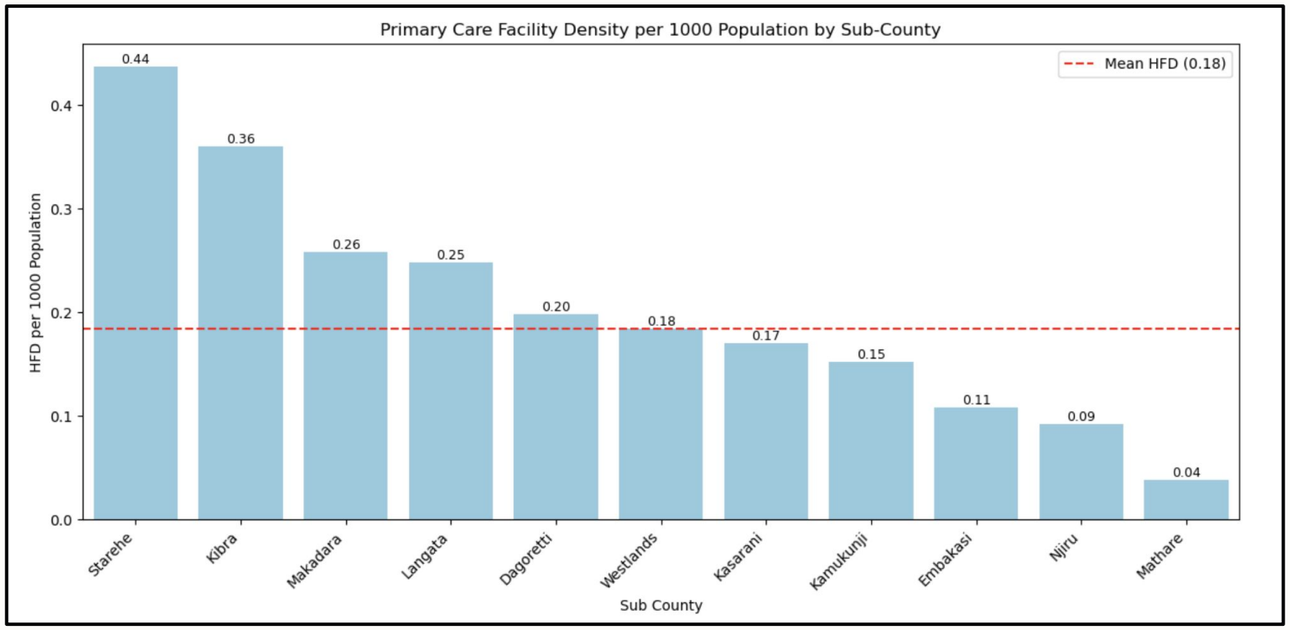


Analysis: Health Facility Density (HFD) per Sub-county

- To move beyond raw facility counts, we calculated **Health Facility Density (HFD)** — the number of primary care facilities per 10,000 people — as a more meaningful measure of healthcare access, based on population needs.
- **Underserved areas** are defined as sub-counties with HFD below the Nairobi HFD median.

Mathare ranks as the **most underserved** sub-county, indicating a critical need for intervention.

Kasarani, despite having a **high number of facilities**, still falls below the median HFD — showing that high facility count alone does not guarantee access.



- These findings confirm the **importance of considering population size** when evaluating healthcare access and planning resource allocation.

Strategic Recommendations for Primary Care Access

Based on the analysis, Nairobi County can pursue a phased strategy to enhance primary healthcare access:

1

Leverage Private Infrastructure

Partner with private providers to subsidize primary services for low-income populations and explore Public-Private Partnerships (PPPs) to integrate private clinics into public healthcare delivery for short-term affordability relief.

2

Revive Non-Operational Public Facilities

Investigate dormant facilities, especially in underserved areas. Where feasible, rehabilitate or upgrade these centers to expand coverage more cost-effectively.

3

Prioritize Underserved Sub-Counties

Use Health Facility Density (HFD) to guide expansion, focusing on Mathare, Njiru, and Embakasi which are the most underserved. Incorporate division-level data to identify high-need zones within these sub-counties for new facility development.

Next Steps for Deeper Analysis

Target Underserved Sub-Counties

Focus on Mathare, Njiru, and Embakasi for in-depth, localized analysis to pinpoint specific community needs.

Analyse Secondary Care

Map Level 3 and 4 facilities and calculate bed-to-population ratios to understand higher-level care access.

Assess Maternal Health Access

Compare maternal service density to the female population, identifying gaps in critical care for mothers.

Map Specialized Services

Align distribution of specialized services with local health needs to ensure equitable access to advanced care.

Filter Operational Facilities

Include only operational facilities offering 24-hour services for a more accurate representation of accessible care.

Conclusion

- This analysis offers a strategic foundation for improving primary healthcare access in Nairobi.
- It shows that high facility count does not always mean better access — population needs and affordability matter.

> By identifying underserved areas and distinguishing structural from financial barriers, it provides clear direction for investment.

- Future analysis can expand to secondary care and specialized services, supporting a more holistic, data-driven healthcare strategy for Nairobi.