

MATERNAL MORTALITY ANALYSIS IN AFRICA



TRENDS AND DETERMINANTS OF
MATERNAL MORTALITY IN AFRICA

SDG 3 - SDG 3.1

GROUP 7:
HEALTH FOR HER



OUTLINE

- INTRODUCTION
- DATA ANALYSIS
- VISUALS AND INSIGHTS
- CALL TO ACTION
- REFERENCES



INTRODUCTION

Maternal Mortality: A Major Public Health Issue in Africa

- Global Maternal Deaths (2023): Around 260,000, with 70% occurring in Sub-Saharan Africa (WHO)
- Preventability: Most maternal deaths are preventable with proper healthcare access (World Bank Data)
- Health System Inequalities: High maternal mortality rates reflect significant gaps and disparities in healthcare systems

We aim to explore:

- Trends and correlations between health expenditure and maternal mortality ratios across African countries

Supports SDG Goal 3: Ensure healthy lives and promote well-being for all

- Target 3.1: By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births



DATA DESCRIPTION

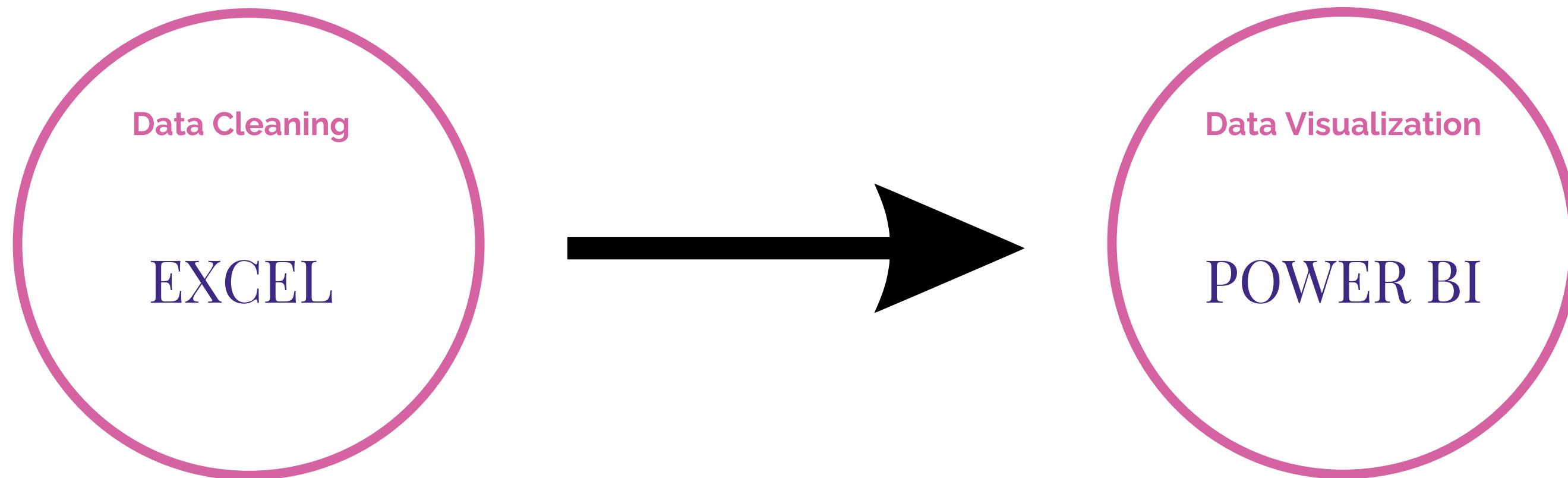
- Data Source: World Bank Open Data
- Coverage: Maternal health indicators across countries from 2012 to 2022 (10 years)

Key Variables

- **Maternal Mortality Ratio (MMR)**
Deaths per 100,000 live births from pregnancy-related causes.
- **Number of Maternal Deaths**
Total maternal deaths – highlights the scale of the issue.
- **Lifetime Risk of Maternal Death**
The chance a 15-year-old girl will die from a maternal cause.
- **Current Health Expenditure (% of GDP)**
Shows how much of a country's budget is allocated to health.



TOOLS FOR DATA ANALYSIS





DATA CLEANING & ANALYSIS

- ☐ Merged different datasets
- ☐ Filtered the data to obtain only African Countries
- ☐ Managed Missing Values
- ☐ Checked for Duplicates

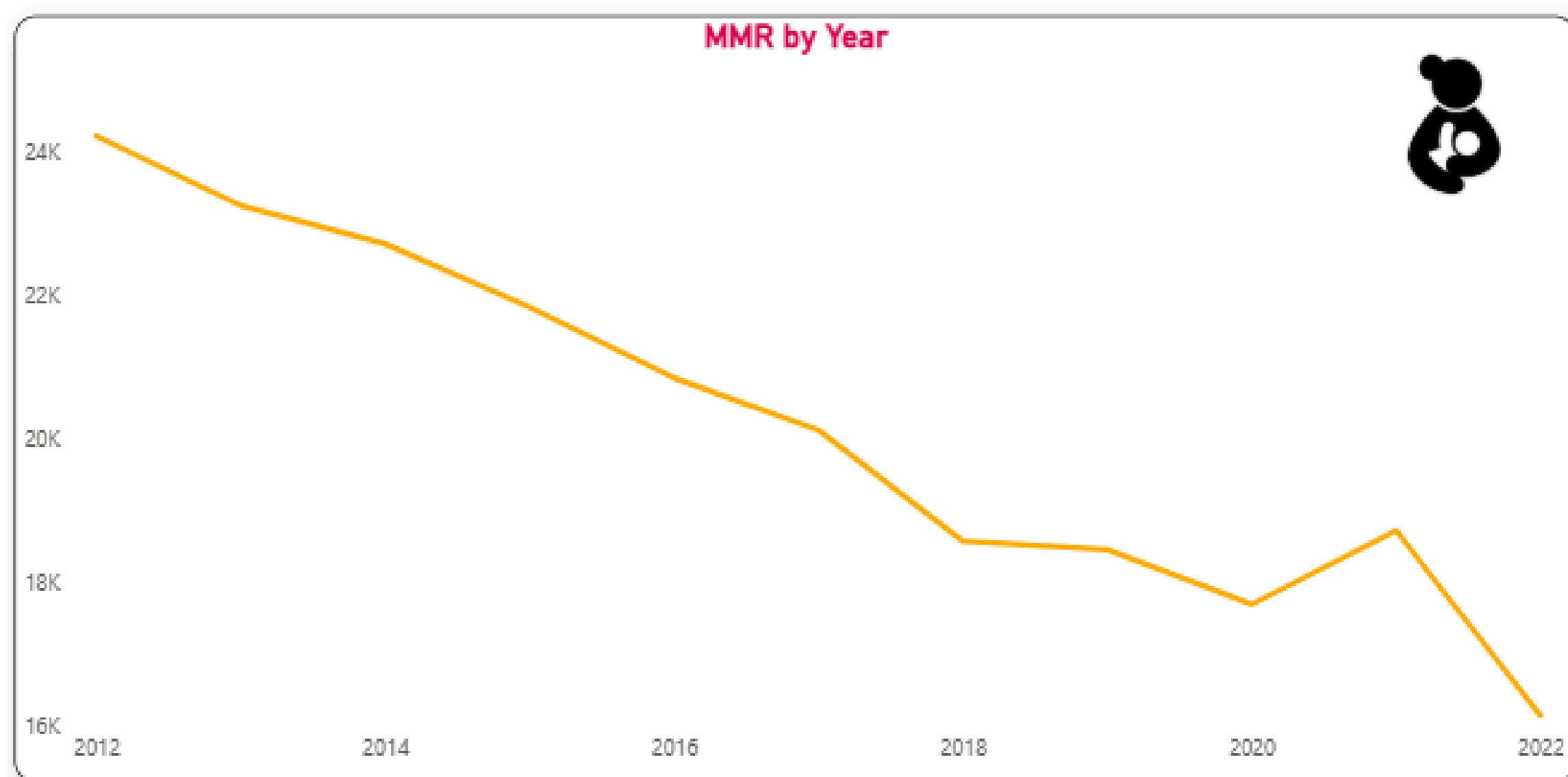
VISUALS AND INSIGHTS



Key summary statistics reveal the severity of maternal health challenges.

- More than 2 million maternal deaths recorded,
- Averaging 3,820 deaths per country over the decade.
- These numbers, combined with regional mortality rates, emphasizes the need for targeted measures in high-risk areas such as West and East Africa.

MATERNAL MORTALITY RATIO BY YEAR



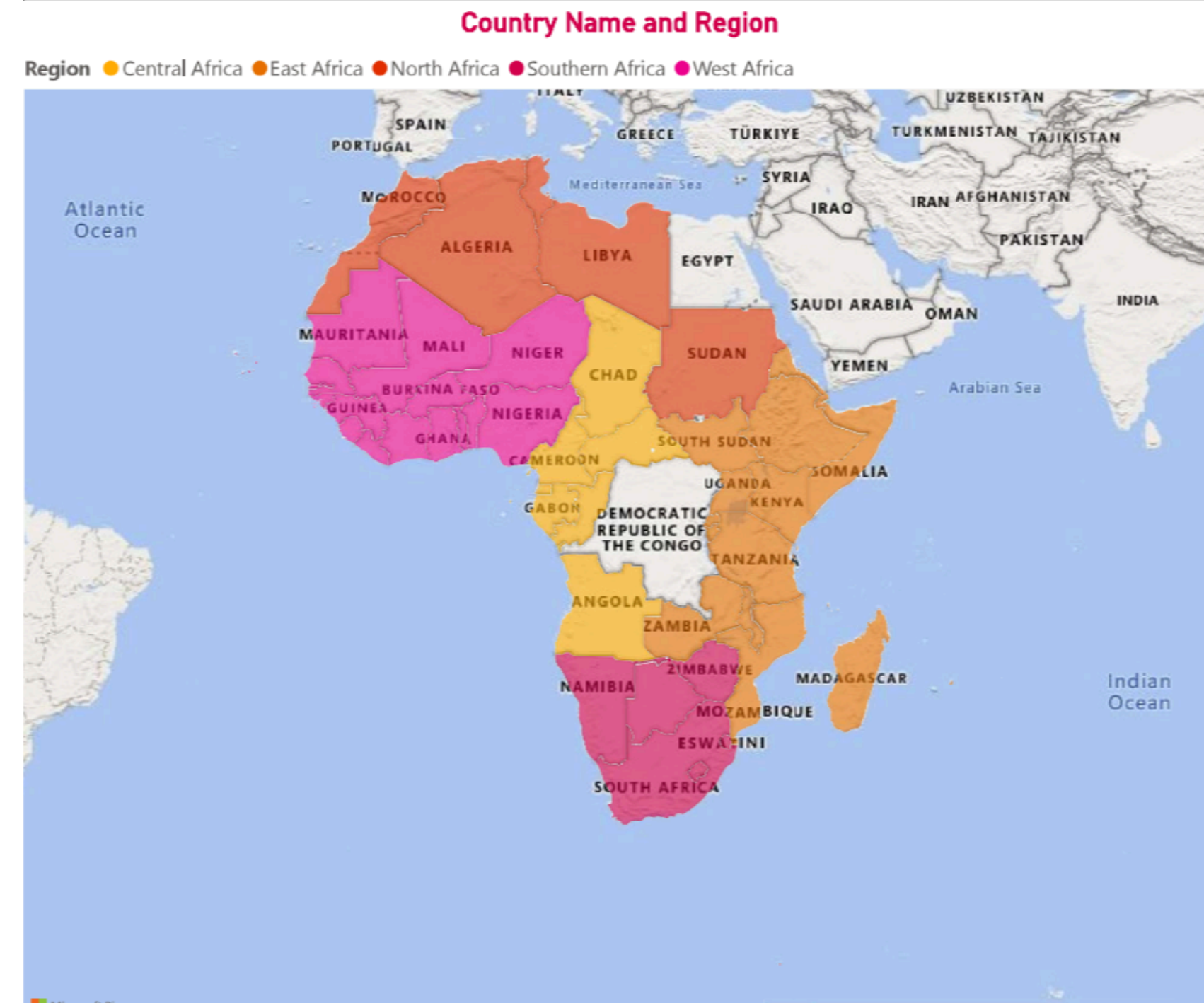
This line graph shows how the maternal mortality ratio has decreased over the years

REGIONAL HOTSPOTS

Geographic breakdown of African countries by region

- North, West, Central, East, and Southern Africa

Regional groupings are essential, as maternal health indicators such as mortality ratio, lifetime risk, and health expenditure show significant variation by region.

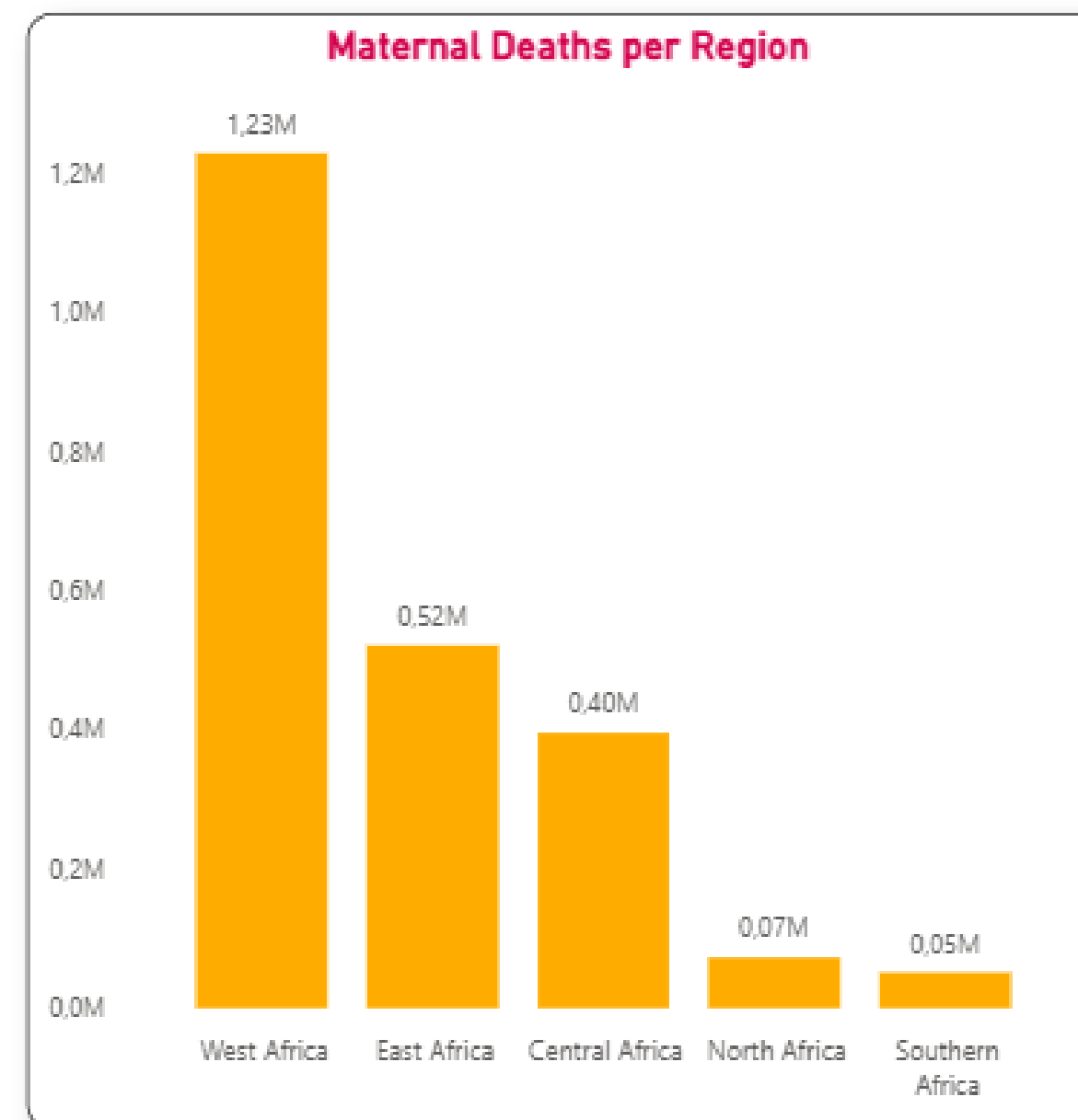


MATERNAL MORTALITY BY REGION

West and East Africa bear the highest absolute number of maternal deaths.

Central Africa also shows a significant burden, while North and Southern Africa report comparatively fewer deaths.

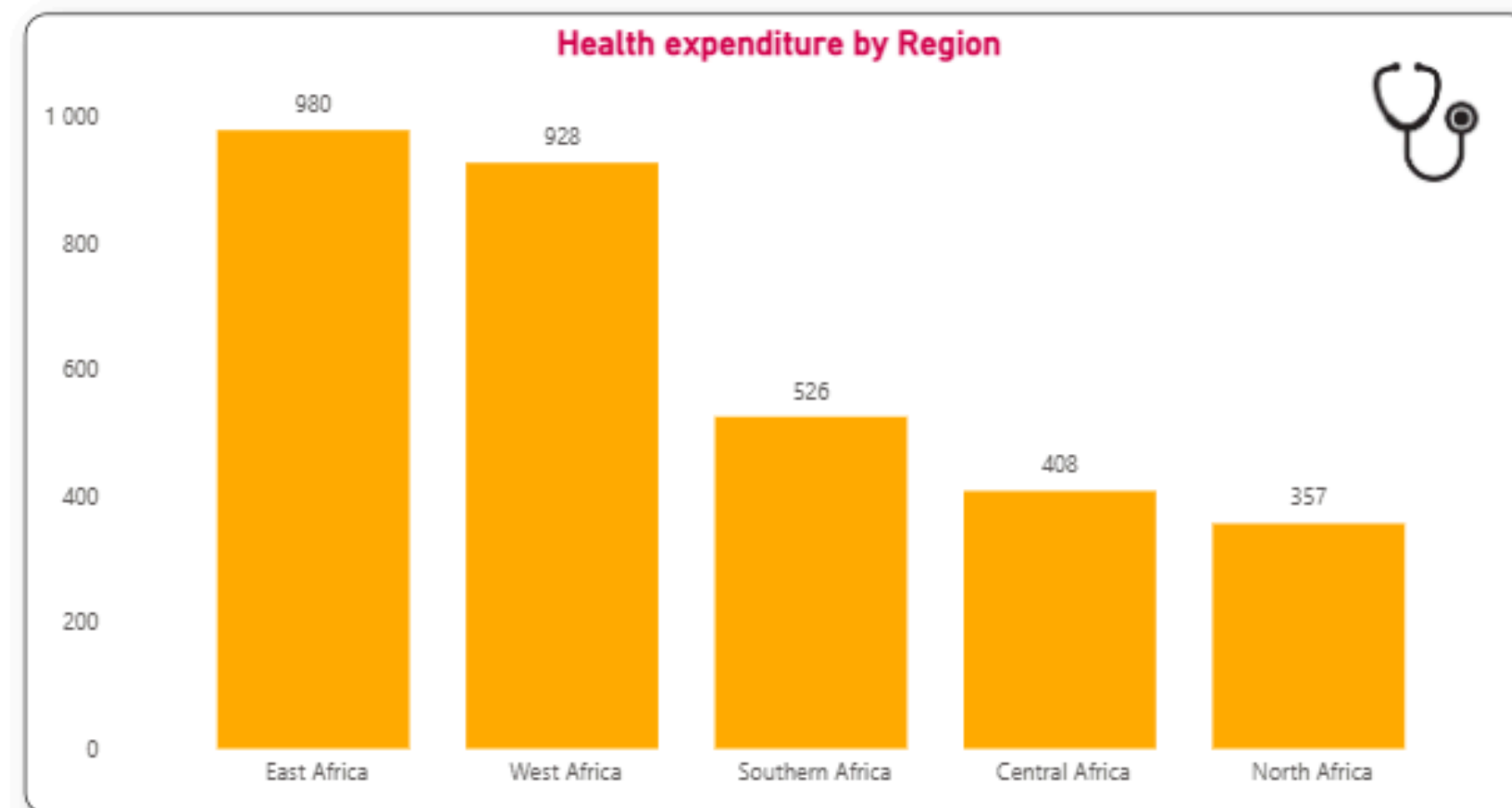
- These differences underscore the need for region-specific health interventions, infrastructure development, and targeted policy responses



HEALTH EXPENDITURE BY REGION

This chart demonstrates uneven health expenditure across African regions.

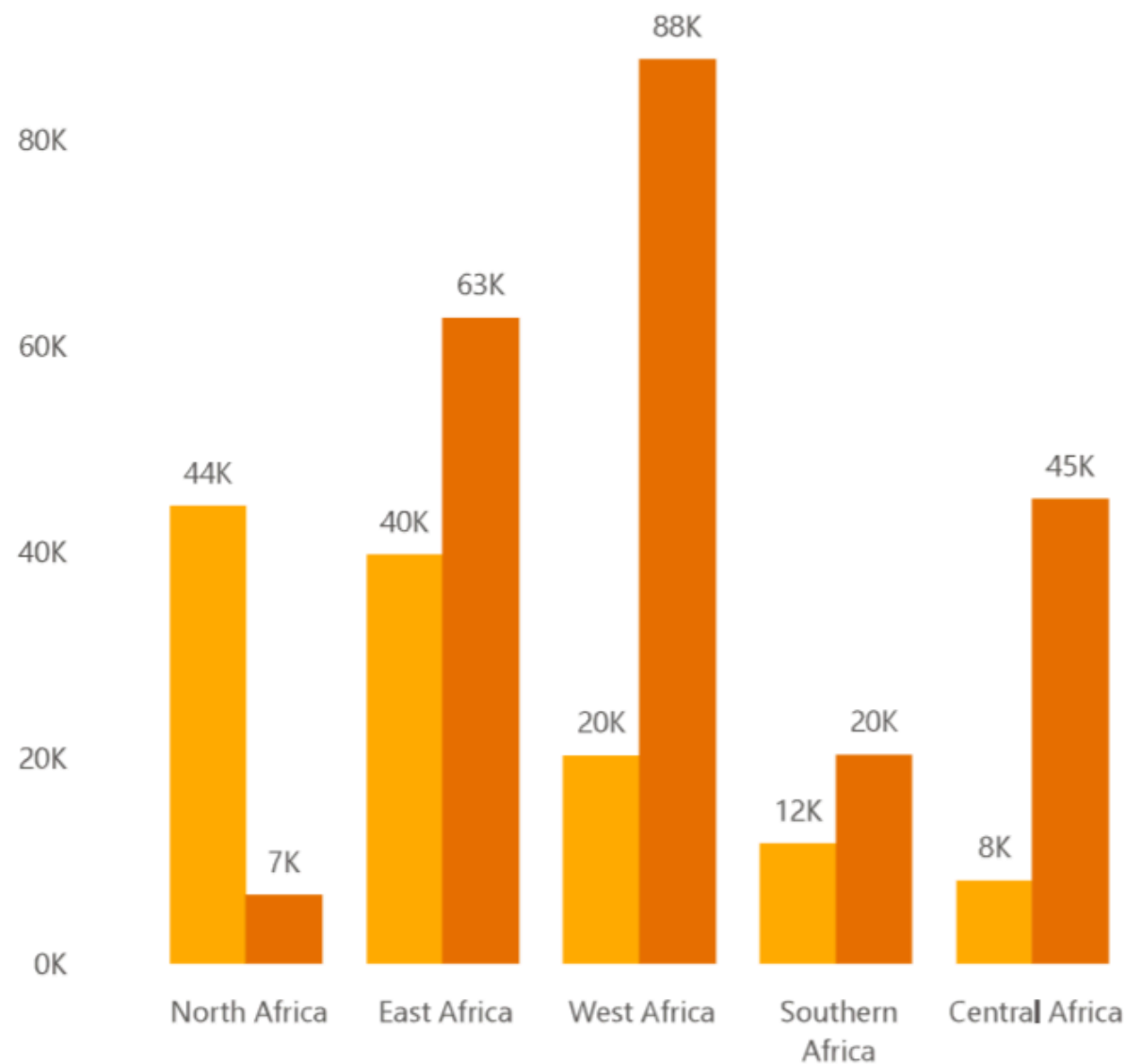
- Despite Eastern and Western Africa bearing the highest number of deaths, they invest more in health relative to their GDP contrary to Central, South, and North Africa who spend less yet have lower maternal deaths.
- This underinvestment and poor prioritization of investment may contribute directly to higher maternal mortality rates by limiting access to skilled care, emergency services, and antenatal programs.



MATERNAL MORTALITY: RISK AND IMPACT

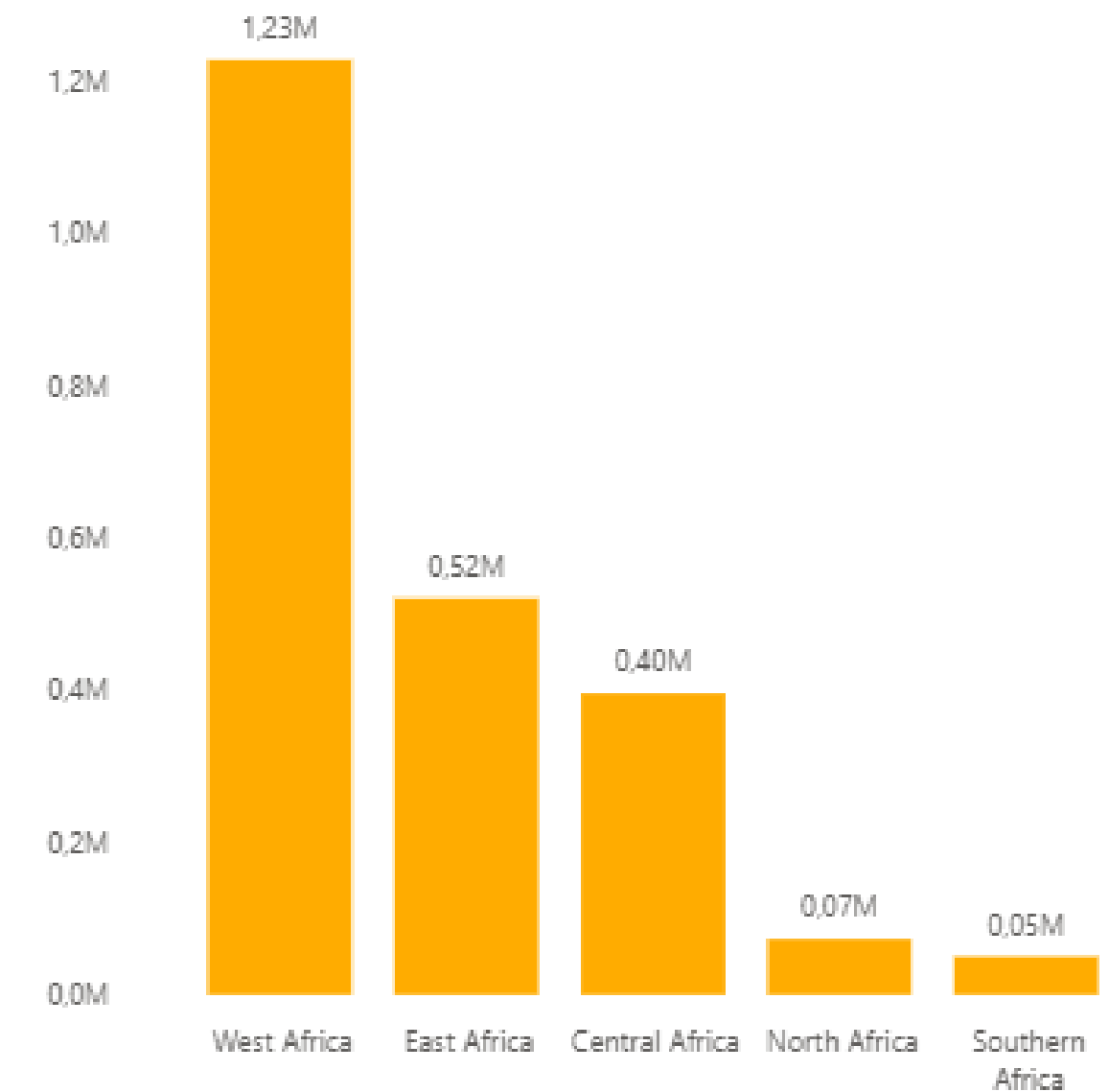
Lifetime Risk of MMR per Region

● Sum of Lifetime Risk of Maternal Mortality ● Sum of Maternal mortality ratio



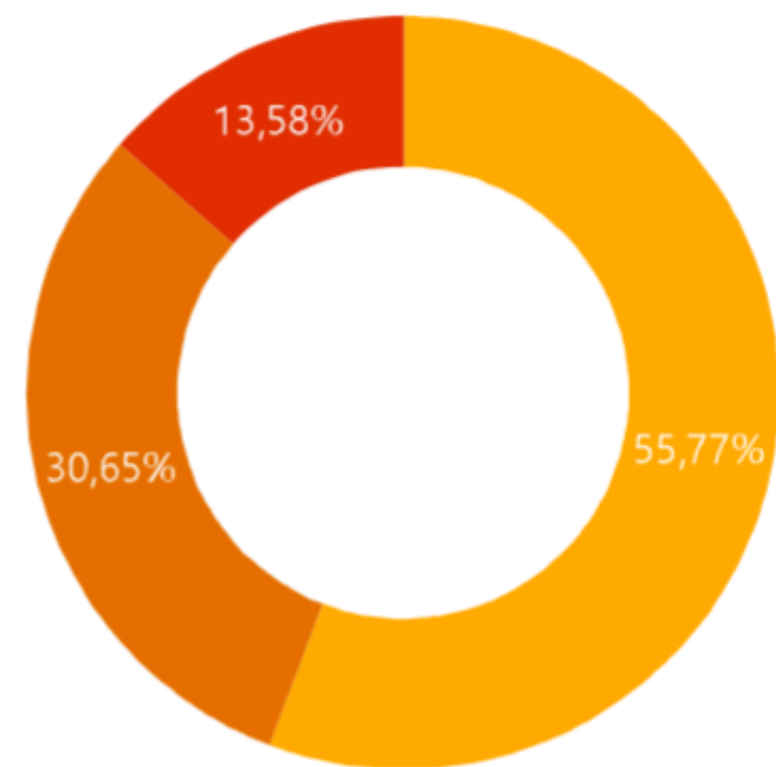
These two charts show the risk of maternal mortality rate in comparison to the maternal deaths.

Maternal Deaths per Region



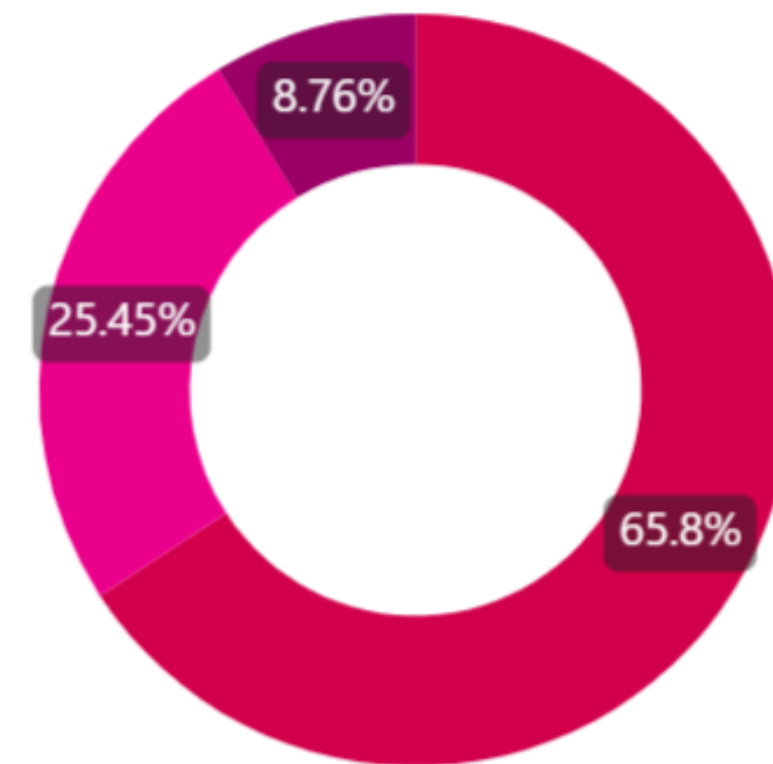
MMR COMPARISON: TOP 3 HIGHEST VS. LOWEST MMR

Top 3 Countries by MMR



● Uganda ● Zimbabwe ● Zambia

Lowest 3 Countries by MMR



Country Name ● Benin ● Angola ● Algeria

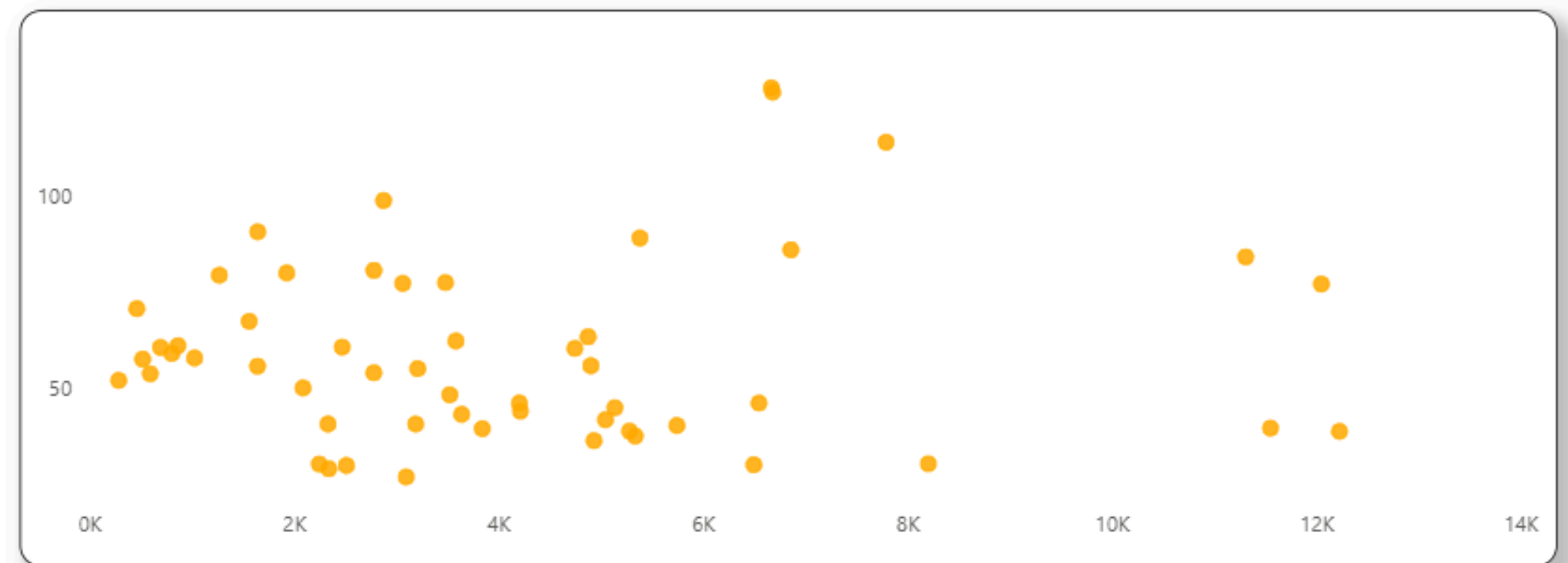
These pie charts show the top 3 countries with the highest mortality ratio as compared to the top 3 countries with the lowest maternal mortality ratio,

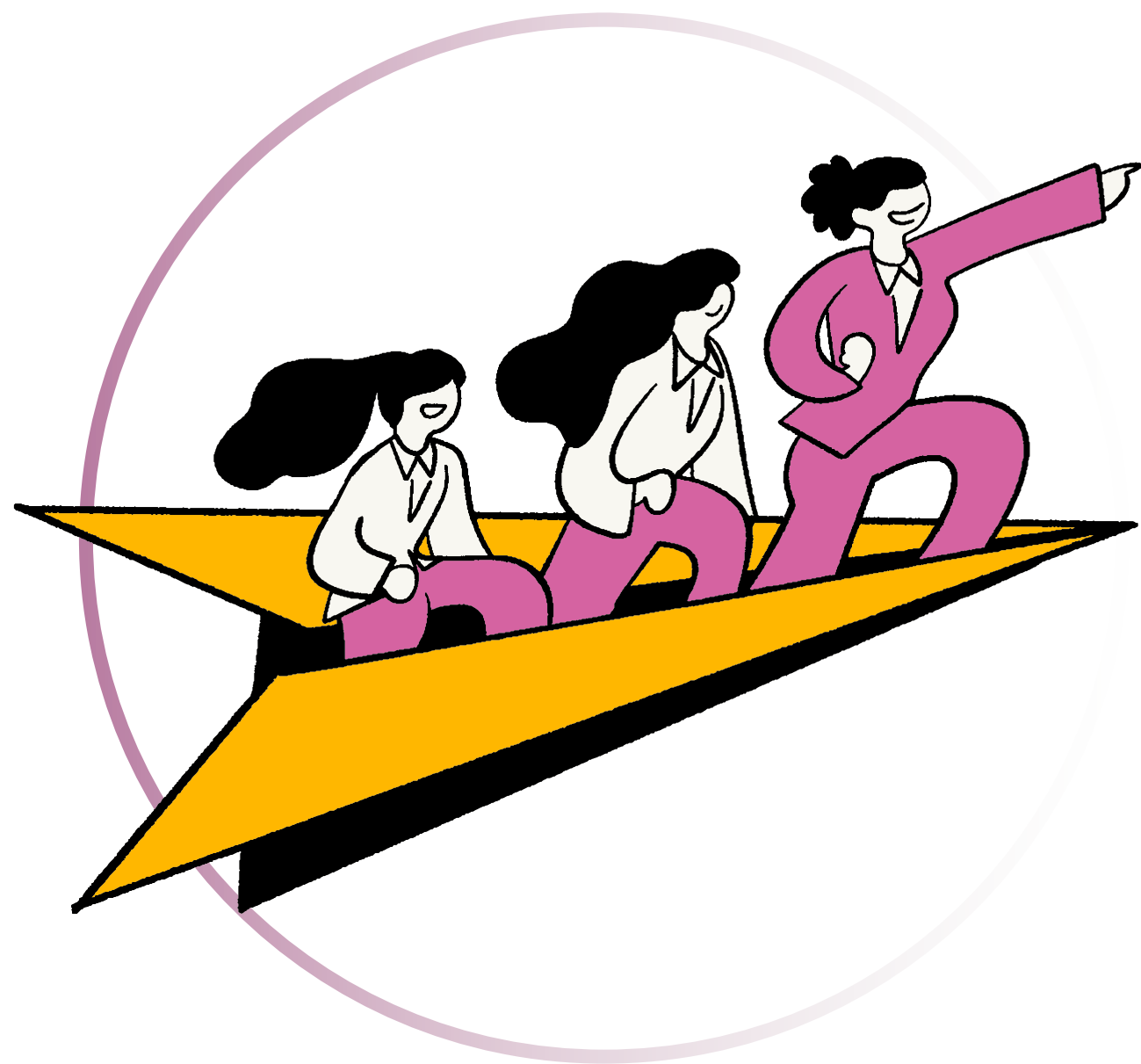
HEALTH EXPENDITURE ACROSS COUNTRIES

Country Name	Sum of Current health expenditure (% of GDP)
Botswana	67,55
Burundi	89,23
Central African Republic	77,26
Eswatini	80,80
Guinea-Bissau	86,16
Lesotho	127,21
Liberia	114,17
Malawi	77,64
Mozambique	80,14
Namibia	98,99
Rwanda	77,42
Sao Tome and Principe	79,56
Sierra Leone	128,32
South Africa	90,86
South Sudan	84,30
Tunisia	70,85






Health Expenditure vs MMR





CALL TO ACTION

The data is clear—maternal mortality in Africa remains unacceptably high, with millions of preventable deaths over the past decade. To change this trajectory, we must act decisively:

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 - Invest Smarter, Not Just More
Focus on efficient, targeted spending that prioritizes maternal health services, especially in underserved communities.
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 - Strengthen Maternal Care Systems
Expand access to skilled birth attendants, emergency obstetric care, and antenatal services—particularly in rural and high-risk areas.
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 - Promote Education and Awareness
Improve female literacy and community awareness to empower women with the knowledge and resources needed for safe pregnancies.

REFERENCES

- 
- A large, solid pink bookmark icon with a pointed bottom, positioned on the left side of the slide.
-  <https://www.who.int/news-room/fact-sheets/detail/maternal-mortality>
 -  <https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS>
 -  <https://data.worldbank.org/indicator/SH.MMR.RISK>
 -  <https://data.worldbank.org/indicator/SH.STA.MMRT>
 -  <https://data.worldbank.org/indicator/SH.MMR.DTHS>



THANK YOU!



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