



Bharatiya Vidya Bhavan's
Sardar Patel Institute of Technology
(Autonomous Institute Affiliated to University of Mumbai)
Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India

Name:	Sahil Shah
UID:	2021300115
Aim:	<p>Design Interactive Dashboards and Storytelling using Tableau/Power BI/R (Shiny)/Python (Streamlit/Flask)/D3.js to be performed on the dataset - Disease spread/Healthcare.</p> <p>Create interactive dashboard - Write observations from each chart given below:</p> <ul style="list-style-type: none">• Advanced – Word chart, Box and whisker plot, Violin plot, Regression plot (linear and nonlinear), 3D chart, Jitter, Line, Area, Waterfall, Donut, Treemap, Funnel• Basic - Bar chart, Pie chart, Histogram, Timeline chart, Scatter plot, Bubble plot

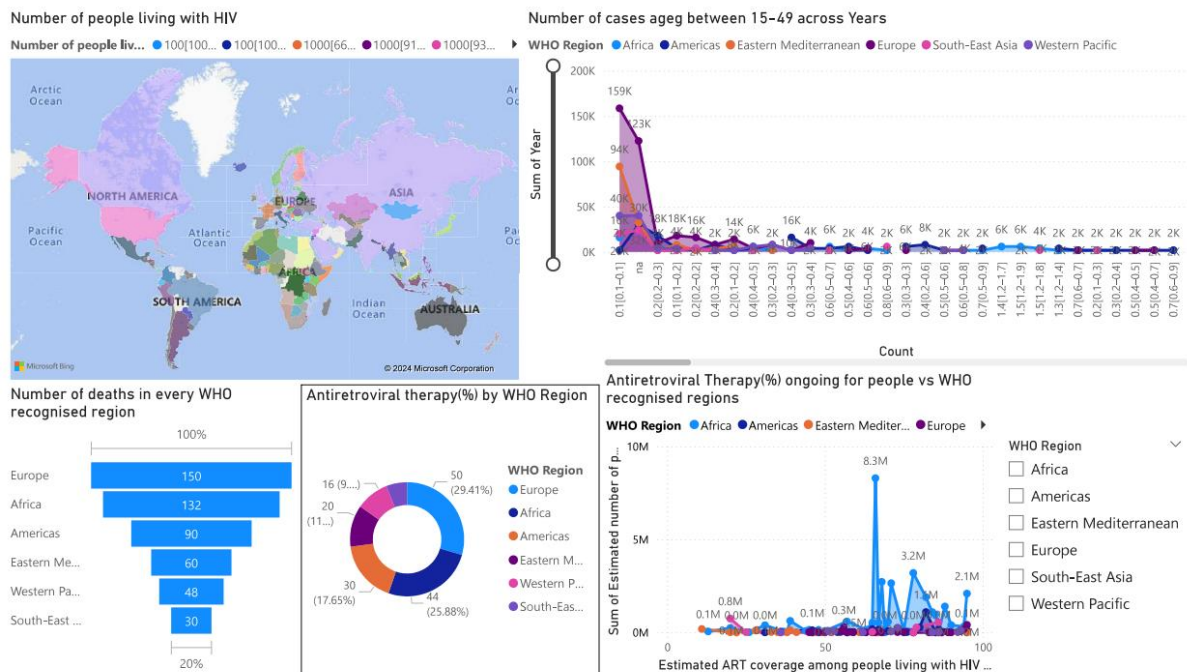
Description of Dataset:

The data set should be helpful to explore much more about HIV status across the world.

The dataset contains data on:

1. No. of people living with HIV AIDS
2. No. of deaths due to HIV AIDS
3. No. of cases among adults (19-45)
4. Prevention of mother-to-child transmission estimates
5. ART (Anti Retro-viral Therapy) coverage among people living with HIV estimates
6. ART (Anti Retro-viral Therapy) coverage among children estimates

Dashboard:



Insights, Observations, and Questions from the Dashboard

Overall Observations

- Global HIV/AIDS Burden:** The dashboard offers a detailed overview of the global HIV/AIDS epidemic, highlighting key metrics such as the number of people living with HIV, new infections, deaths, and antiretroviral therapy (ART) coverage.
- Regional Disparities:** The data reveals significant regional disparities in the prevalence and impact of HIV/AIDS, with Africa bearing a disproportionate burden.
- Progress in ART:** The dashboard indicates increasing ART coverage in many regions, showing progress in treatment and care. However, some regions still have low coverage, emphasizing the need for continued efforts to expand access to these essential services.

Specific Insights and Questions

1. Regional Variations in HIV/AIDS Prevalence:

- **Africa's Dominance:** Why does Africa continue to have the highest number of people living with HIV and new infections? Are there specific factors such as socioeconomic conditions, cultural practices, or healthcare systems contributing to this high prevalence?
- **Lower Prevalence in Europe and the Americas:** What factors have led to the relatively lower prevalence of HIV/AIDS in these regions? Are there effective prevention strategies or public health interventions that could be adapted to other regions?

2. Age-Specific Trends:

- **Youth at Risk:** The dashboard shows a significant portion of new infections among individuals aged 15-49. What are the underlying reasons for this demographic's vulnerability? How can we more effectively target prevention efforts for this age group?

3. Antiretroviral Therapy Coverage:

- **Regional Disparities:** Despite progress in ART coverage, some regions still have significantly lower rates. What are the barriers to accessing ART in these areas? How can we improve access and ensure that those living with HIV receive the treatment they need?
- **Impact of ART on Mortality:** Is there a correlation between higher ART coverage and lower mortality rates among people living with HIV? What factors influence the effectiveness of ART in different regions?

4. Data Gaps and Limitations:

- **Data Quality:** Are there concerns about the quality and completeness of the data used in this dashboard? Are there biases or limitations that might affect the accuracy of the findings?
- **Emerging Variants:** How does the dashboard account for new HIV variants and their potential impact on treatment effectiveness? Is there data on the prevalence of these variants in different regions?

Conclusion

The global HIV/AIDS epidemic remains a significant public health challenge, especially in certain regions. Despite progress in antiretroviral therapy and prevention efforts, disparities in prevalence and access to treatment persist. Africa continues to be the most heavily affected region, with a disproportionate number of people living with the virus and new infections. Youth are particularly at risk, with a significant portion of new infections occurring among individuals aged 15-49. While ART coverage has increased in many regions, leading to improved outcomes for people living with HIV, significant gaps in access to treatment remain, particularly in lower-income countries. Addressing the global HIV/AIDS epidemic requires a multifaceted approach, including prevention strategies, expanded access to treatment, and addressing underlying social and economic factors.