

Divergent Risk Factor Trajectories Across Six African Countries: Evidence For Context-specific Policy From The African Brain Health Atlas

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Background: The 2024 Lancet Commission identifies 14 modifiable dementia risk factors, yet their relative burden varies by epidemiological context. We utilized the African Brain Health Atlas to compare longitudinal risk factor trajectories across six African nations to inform targeted prevention strategies

Methods: We analysed longitudinal trajectories (1990-2024) from the African Brain Health Atlas, drawing on 17 indicators representing 12 of the 14 Lancet Commission risk factors (WHO, World Bank, NCD-RisC, GBD). Countries were grouped by age structure: Younger (Tanzania, Nigeria, Kenya), Transitioning (South Africa), Older (Morocco, Mauritius). We present age-standardised prevalence trajectories with care cascades and treatment coverage where available.

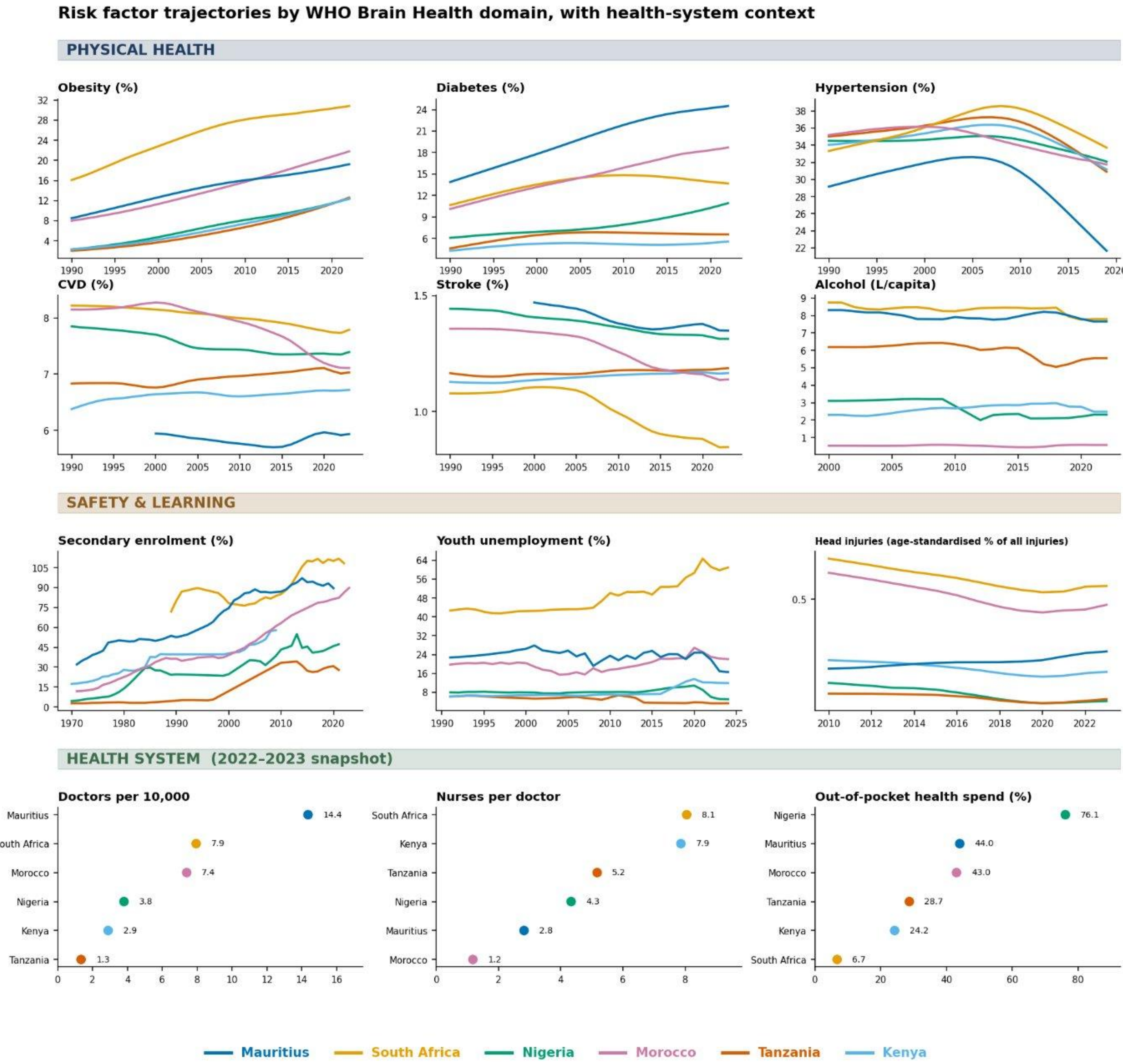
Results: The six countries differ in economic development, age structure, and health-system financing (Table 1), yet their risk-factor profiles do not follow these gradients (Figures 1-3). Obesity rose in every country, most steeply in the youngest (four to five-fold in Tanzania, Kenya, and Nigeria). Physical inactivity ranged from 4% (Tanzania) to 44% (South Africa).HIV prevalence ranged from 0.1% (Morocco) to 17.6% (South Africa). Vision and hearing loss were stable but varied (vision 8-21%, hearing 17-25%). Health-system capacity and workforce structure also diverged (Figure 1); South Africa and Kenya were nurse-led. Social and environmental factors also diverged: youth unemployment from 3% (Tanzania) to 60% (South Africa), and PM2.5 was highest in Nigeria (56 ug/m3). Only clean-fuel access tracked development (Tanzania 10%, Mauritius 99%).

Conclusion: Metabolic risks are rising in every country. Environmental and social risks are not; each country has its own pattern, and age structure does not explain it. Several countries with rapidly rising obesity have not yet seen diabetes rise, suggesting a coming increase as the metabolic transition matures. Hypertension fell modestly after 2005, and stroke fell with it in several countries, suggesting the decline is real. Much vision loss is presbyopia, which is correctable. Strengths include standardised, harmonised data across countries. Limitations include differing time horizons across indicators, so trajectories are not strictly contemporaneous. No two countries share the same brain health risk signature. By facilitating country-to-country comparison across multiple variables, the Atlas transforms routine surveillance data into accessible profiles that enable researchers and policymakers to develop and implement context-adapted dementia prevention strategies

Table 1. Characteristics of the six study countries

	Population (millions)	GDP per capita (US\$)	Urban (%)	Health exp. (% GDP)	Healthy life exp. (years)	Aged <15 (%)	Aged 65+ (%)
Tanzania	68.6	1,153	36	3.1	57	43	3
Nigeria	232.7	2,369	63	4.2	47	41	3
Kenya	56.4	1,908	32	4.4	55	37	3
South Africa	64.0	5,713	64	8.9	53	26	7
Morocco	38.1	3,644	63	6.1	72	26	8
Mauritius	1.2	12,315	39	5.6	77	15	14

Countries ordered by demographic stage: Younger (Tanzania, Nigeria, Kenya), Transitioning (South Africa), Older (Morocco, Mauritius). Sources: World Bank WDI for population, urban, and age structure (2024), GDP per capita (constant 2015 US\$, 2025), and health expenditure (2023); WEF for healthy life expectancy (2019).

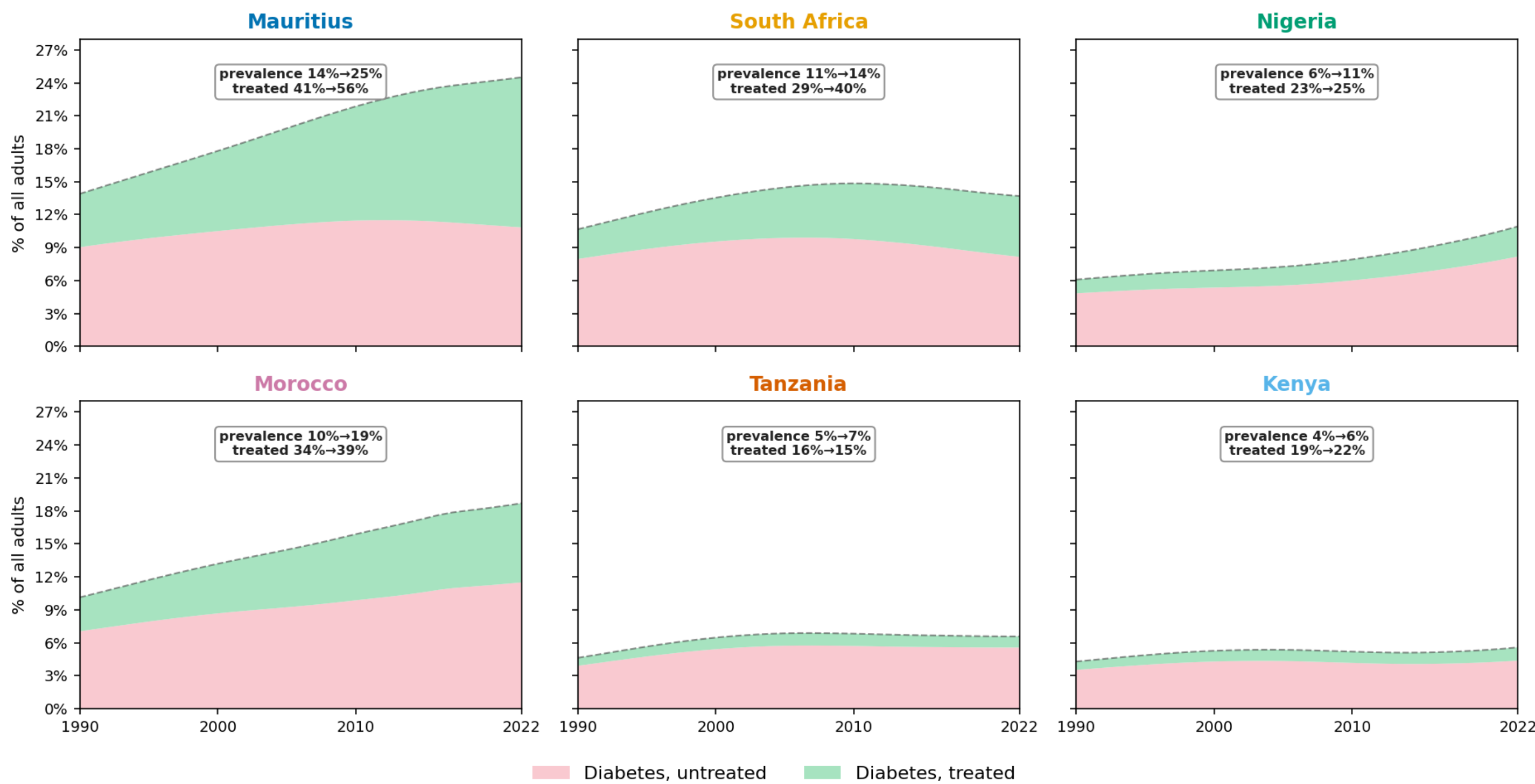


Blood pressure control is low but rising, and the gap is widening



Diabetes prevalence is rising; in most countries, treatment coverage is low and not keeping pace

Total height = diabetes prevalence (% of adults); green = treated share. 1990-2022.



Africa Brain Health Atlas

www.abhatlas.org



TQRCG

Scan to access the Atlas

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