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Current strategies are inadequate to curb the rise of tobacco use in Africa

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Recently, there have been significant advances in the battle against tobacco use in Africa, with achievements including ratification of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) and the passing of tobacco control legislation in several countries. Many African countries have achieved measured success, while Uganda, South Africa and Mauritius have accomplished significantly more in their efforts to curb tobacco use. Nevertheless, few African countries meet the standards of the individual WHO FCTC articles with regard to comprehensive implementation. Africa has lower rates of tobacco taxation, weaker smoke-free policies and fewer restrictions on tobacco advertising compared with other world regions. These shortcomings have enabled the tobacco industry to expand its markets on the continent by capitalising on economic growth, changing social norms and population demographics. Consequently, tobacco use is increasing in Africa, with smoking prevalence having risen 57% between 1990 and 2009 compared with western Europe, where it decreased substantially during the same period. Rapid smoking uptake in Africa has led to tobacco-related conditions emerging as increasingly important public health problems. African nations are unlikely to meet the 2025 goal of a 30% relative reduction in tobacco use, as advocated by the World Health Assembly in 2013 and identified as the 'most urgent and immediate priority' intervention to reduce non-communicable diseases (NCDs). While there has been some progress, the current commitment of most African countries to the WHO FCTC has not translated into effective delivery of tobacco control policies and programmes. Strong tobacco control policies, which are among the most effective population-based strategies for NCD prevention, are needed. These include introducing higher tobacco excise taxes, stronger smoke-free policies, graphic warnings on cigarette packages, bans on tobacco advertising, promotion and sponsorship, and anti-smoking mass media campaigns. Furthermore, tobacco industry interference needs to be actively addressed by monitoring its activities and exposing misconducts, thereby changing attitudes to the industry. Technical support, capacity building and adequate financing are needed in Africa to enable countries to competently manage legal challenges to tobacco control and deal with the subversive tactics of the industry. Civil society and the media – major players in holding governments accountable for responsible stewardship – need to educate and pressurise African politicians and governments to implement and enforce effective tobacco control policies. Otherwise, if unchecked, the widespread uptake of tobacco use will be a threat not only to health but also to sustainable human development in Africa.

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Tobacco use has become a huge and growing public health burden worldwide, with the threat to global health greater today than ever before.^[1] Even in Africa, where smoking prevalence has increased only recently, lung cancer is now the most common cause of cancer-attributable mortality in men.^[2] This underscores the rapidity of smoking uptake in Africa that has led to tobacco-related conditions emerging as an increasingly important public health problem on the continent.^[3]

Although Africa had the lowest smoking prevalence (12%) compared with other world regions,^[4] it has increased by 57% between 1990 and 2009.^[5] This contrasts with western Europe, the area with the highest smoking prevalence, which witnessed a decrease of ~26% in tobacco use during the same period.^[5] Of further concern is the smoking prevalence in African youth, as it was not significantly lower than that in all other World Health Organization (WHO) regions, unlike in adults. It is also a reflection of the tobacco industry's success in promoting tobacco uptake in the region.^[6]

Current trends predict that African nations are unlikely to meet the 2025 World Health Assembly 2013 goal of a 30% relative reduction in tobacco use, which was identified as the 'most urgent and immediate priority' intervention to reduce non-communicable diseases (NCDs).^[7] Although it is projected that global tobacco smoking prevalence will decrease, it is expected to be 3.5 percentage

points above target. This represents a 14% relative reduction compared with the desired 30% relative reduction in smoking prevalence. Disconcertingly, however, in Africa and the Eastern Mediterranean WHO regions, smoking prevalence is expected to increase between 2010 and 2025. In Africa, smoking prevalence is predicted to increase by 41% – from 12.8% in 2010 to 18.1% in 2025, compared with the prediction of 26% for the Eastern Mediterranean.^[7] Therefore, although global targets for smoking reduction will not be achieved, in the latter two regions there is a trend towards increased smoking prevalence, which warrants an appraisal of the situation.

Tobacco-related morbidity and mortality in Africa will not only have a devastating impact on health but also on development and economic growth of the continent. In addition to the suffering and loss of life, there are far-reaching social and financial repercussions as breadwinners succumb to tobacco-related illnesses, thereby perpetuating the vicious cycle of poverty.^[3] In low-resource settings, healthcare costs for these conditions, including prolonged and expensive treatment, together with the loss of breadwinners, rapidly drain household incomes and force families into poverty.

Therefore, it is crucial that African countries urgently target tobacco use, implement measures to curb its uptake and halt the use of tobacco products. This article discusses the current tobacco

control strategies in Africa, highlighting the difficulties associated with the implementation of such initiatives, and deliberates on the way forward.

Tobacco control strategies: WHO Framework Convention on Tobacco Control

The WHO Framework Convention on Tobacco Control (WHO FCTC), adopted by the World Health Assembly in May 2003, requires state parties to adopt and implement tobacco control measures, and guides governments with regard to suggested policies and programmes for reducing tobacco use.^[8] Among the key strategies advocated are banning tobacco advertising, promotion and sponsorship, introducing smoke-free policies by prohibiting smoking in public and workplaces, imposing high taxes on tobacco products, introducing health warnings on cigarette packages, implementing anti-tobacco media campaigns and promoting smoking cessation. All of these approaches are effective, involve minimal costs and should be easy to execute.^[9] Nevertheless, numerous obstacles exist worldwide, particularly in Africa and other developing regions. Consequently, what should be a simple endeavour, becomes rather difficult to achieve.

Tobacco control strategies in Africa

Recently, there have been significant advances in the battle against tobacco use in Africa, with achievements including ratification of the WHO FCTC and passing of tobacco control legislation in several countries. In the WHO African Region, 44 of the 47 countries have ratified the WHO FCTC.^[10,11]

However, the implementation of the WHO FCTC in Africa has been variable, as illustrated by Husain *et al.*^[12] They described the status of tobacco control and prevention efforts in 23 African countries and reported that implementation rates of the WHO FCTC ranged from 9% in Sierra Leone to 78% in Kenya.^[12] Notably, the overall implementation rate of 43% in the WHO African Region was lower than the 53% in the remaining five WHO regions, which comprised data from 107 countries.^[12] This highlights that although the majority of African countries have ratified the treaty, they have not optimally fulfilled their obligations under the WHO FCTC provisions^[12] and lag behind other world regions. Bilano *et al.*,^[13] who analysed global trends in tobacco use, concur. Of the 178 countries for which projections were made in their analysis, the outlook for African countries, together with those in the Eastern Mediterranean Region, was among the worst for achieving tobacco control targets by 2025.^[13]

There was modest progress in the WHO FCTC implementation in many African countries with legislation or policies covering some aspects of the treaty. However, only a few countries meet the standards of the individual WHO FCTC articles with regard to comprehensive implementation; no African country complies with best practice guidelines across all key areas. The focus of tobacco control strategies in Africa includes raising tobacco taxes, protection from exposure to tobacco smoke with smoking restriction in certain venues, packaging and labelling of tobacco products with the introduction of warning messages on cigarette packaging, and restricting or banning tobacco advertising, promotion and sponsorship.^[14]

The lack of compliance with best practice guidelines for tobacco control strategies will possibly lead to their ineffective or suboptimal implementation. For example, in Kenya, smoke-free laws comply only partially with the WHO FCTC recommendations; consequently, measures are ineffective to protect non-smokers from tobacco smoke

exposure in bars and restaurants.^[15] Brathwaite *et al.*^[16] questioned the effectiveness of current taxation policies in curbing tobacco use in African countries. Although taxation policies of any kind to reduce tobacco consumption were present in 8 of the 9 African countries they surveyed in 2014, taxes on tobacco products were <70% in most of the countries.^[16] According to a WHO analysis, in 2014 Madagascar and Seychelles were the only nations in Africa with a sufficiently high tax of >75% of the retail price of cigarettes.^[17]

That tobacco taxes are one of the most effective ways to reduce or stop tobacco use among current users or to prevent the uptake among non-smokers, has been shown in South Africa (SA), where total taxes on cigarettes increased from 32% to 52% of the retail price between 1993 and 2009.^[17] This led to a sizeable reduction in tobacco use; a 10% increase in the real price of cigarettes led to a 6 - 8% decrease in consumption.^[18] Also, government tobacco tax revenues increased ninefold.^[17] In contrast, Sierra Leone, which has no policy on taxation, an absence of comprehensive bans on tobacco advertising, promotion and sponsorship,^[16] and a low WHO FCTC implementation rate (9%),^[12] had the highest prevalence of smoking among men in sub-Saharan Africa (33.3%).^[4]

Of the countries examined, Brathwaite *et al.*^[16] found that cigarette prices increased only in Congo and Nigeria, but declined in Senegal and SA, while remaining the same in 4 other African countries (Ghana, Kenya, Togo and Uganda) for about 2 years. Cigarettes may become more affordable if their price decreases or remains steady, while simultaneous economic growth results in greater disposable incomes. The WHO confirmed this supposition, reporting that SA and Botswana were among the countries where income and purchasing power had grown rapidly to the extent that tobacco had become increasingly affordable.^[17] This resulted in an escalation in consumption, despite rises in tobacco taxes, because the resultant price increases were not large enough to counter growth in real incomes. Therefore, it is not only important to introduce tobacco excise taxes but also to ensure that they are sufficiently high to be optimally effective.

The tobacco industry in Africa

A major obstacle that African countries face in their efforts to implement tobacco control policies, is strong obstruction from the tobacco industry, which is vocal and relentless in its opposition to effective policies globally.^[19] Tactics employed include lobbying policymakers to prevent future policies by presenting misleading economic arguments, rebranding political activities as corporate social responsibility, drafting weak laws and using litigation to weaken, postpone or prevent strong tobacco control legislation.^[14,20]

For example, the tobacco industry succeeded in preventing advertising bans in Sierra Leone and Uganda.^[20] In Kenya, their challenge of the Tobacco Control Act led to the suspension of the public smoking ban and their lobbying of policymakers resulted in weak tobacco control legislation.^[14] Furthermore, British American Tobacco (BAT) succeeded in delaying regulations aimed at restricting the promotion and sale of cigarettes in Kenya for 15 years.^[21] Bribery and corruption are widespread and BAT is currently under formal investigation over claims of bribing officials in east Africa to subvert anti-smoking legislation.^[22] In Mauritius, the industry used delay tactics to undermine the law for implementing graphic health warnings on packaging.^[14] Tobacco industry interference delayed the ratification of the WHO FCTC in Namibia; this is a key step in tobacco control, which provides support to governments and enables the strengthening of tobacco control legislation.^[23] When this eventually failed, BAT used intimidation tactics and threatened

to take the Namibian government to court if the Tobacco Products Control Act was implemented. BAT cited violations of their 'rights to property' and 'rights to freedom of expression', as provided by the Namibian constitution.^[23] The tobacco conglomerates increasingly use litigation to intimidate African nations from implementing effective policies,^[20] and it was recently reported that they have threatened at least 8 African governments.^[21] However, in Uganda, BAT unsuccessfully appealed against the ban on public smoking, and in SA, the tobacco industry went to court on grounds that the ban on tobacco advertising and promotion was unconstitutional, but their application was dismissed.^[14]

The tobacco industry further encourages ineffectual tobacco control policies in Africa, such as promoting voluntary regulation of smoke-free zones to avert strict regulation through legislation.^[14] Consequently, the tobacco industry's unremitting efforts on multiple fronts to undermine tobacco control measures have led to slow and uneven implementation of the WHO FCTC.^[20] These tactics highlight that tobacco industry interference with tobacco control initiatives of governments remains one of the greatest challenges to curbing this epidemic in Africa.

Tobacco companies falsely convince African governments that tobacco production leads to economic development.^[24] They have agricultural lobbies, such as the International Tobacco Growers Association (ITGA), which promote tobacco farming as a lucrative income source. However, in-depth scrutiny reveals a negative environmental impact, exploitive contracting practices and negative health effects^[24] that present an economic threat. As an example, tobacco farmers, including their children who work in the fields, may absorb nicotine each day, with the amount as high as that found in 50 cigarettes.^[25] This leads to nicotine poisoning, known as green tobacco sickness; children are particularly vulnerable because of their smaller size compared with the amount of nicotine absorbed. In Malawi, ~80 000 children work in tobacco farming, which has a devastating effect on their health and their ability to receive adequate schooling.^[25] The cycle of poverty is perpetuated, and it is not surprising that African countries dependent on tobacco farming are among the world's poorest nations.^[24]

While legislation restricts tobacco-promoting activities in high-income countries,^[2] in Africa, unfortunately, tobacco companies are able to use aggressive marketing tactics to promote smoking in previously underexploited markets. They successfully target potential growth markets such as women and the youth, who are vulnerable groups with traditionally low tobacco use.^[20] The tobacco industry exploits the economic growth, changing social norms and population demographics in Africa to maximally expand its consumer base.^[16] The pivotal role that it plays in escalating the worldwide use of tobacco has, unsurprisingly, led to it being appropriately labelled the vector of the tobacco epidemic.^[20]

The tobacco industry undermines the usefulness of tobacco excise taxes to curb smoking by introducing cheaper brands in response to higher taxes.^[26] Furthermore, they under-report their product pricing for tax valuation, thereby maintaining the affordability of cigarettes.

Civil society, other stakeholders and tobacco control in Africa

Civil society has a major role to play in holding governments accountable for responsible stewardship, and their influence and importance should not be underestimated. Advocacy efforts aim to de-normalise smoking, increase awareness of the harmful effects of tobacco use and overall promote the anti-tobacco agenda.

In Uganda, for example, where there was no comprehensive national tobacco control legislation, smoke-free legislation was introduced as a result of public interest litigation.^[14] This was possible because of the country's favourable legal system, which allows an individual or organisation to bring an action against the violation of the human rights of another individual or group. Unfortunately, these smoke-free regulations were poorly enforced, and underlined the need for continued public awareness campaigns to gain public support and become self-enforcing.^[14] Nevertheless, great advances have been made in Uganda after the efforts of several stakeholders, including the Ministry of Health and civil society organisations, despite strong resistance from the tobacco industry.^[27,28] The Ugandan parliament introduced the Tobacco Control Act 2015, which is in keeping with the strongest tobacco control policies globally, and positioned the country as a leading example of tobacco control in the region.

Another illustration of the importance of the role played by civil society is in Niger, where tobacco control legislation allows tobacco control organisations to initiate action against violators of the law. A non-governmental tobacco control organisation successfully sued two tobacco companies for violating the advertising ban.^[14]

Furthermore, the media may exert pressure on governments to promote tobacco control legislation, and in resource-constrained African nations serve as government 'watchdogs'.^[23] For example, the Cancer Association of Namibia engaged with the media to follow up with government on the pending tobacco control legislation. This pressure from news media that frequently highlighted the issue might have contributed to the introduction of Namibia's Tobacco Products Control Act in 2010.

Civil society organisations also serve as gatekeepers and collaborating platforms. For instance, Vision for Alternative Livelihood Development in Ghana increases awareness of the harmful effects of tobacco use among the public.^[24] They also build capacity to ensure effective implementation and enforcement of national tobacco control policies.

Bloomberg Philanthropies, the Bill and Melinda Gates Foundation and the Canadian International Development Research Centre are the largest international development partners to offer financial and technical support for tobacco prevention and control in Africa.^[24] The former two partnered in 2008 to commit USD500 million to tobacco control initiatives in developing countries. They also assist, among other initiatives, in implementing effective tobacco control policies, with a specific goal to prevent a tobacco epidemic from 'taking root' in Africa.

The Centre for Tobacco Control in Africa (CTCA), established in 2011, is funded by the Bill and Melinda Gates Foundation and supported by the WHO. Its mandate is to support African governments with advancing tobacco control policies and legislation through the provision of technical support and creation of a platform for dialogue, among other measures.^[29] The CTCA has provided technical and financial resources to develop comprehensive tobacco control policies and has played a significant role in promoting the anti-tobacco agenda in Africa.

Use of tobacco products apart from cigarettes

The use of smokeless tobacco products that may be sniffed, chewed, sucked or applied to teeth and gums, is common in some African countries. There is limited information on the prevalence of their use, but it varies widely across countries – from as high as 28.3% in Mauritanian women and 22.6% in Madagascan men to as low as 0.5% in Nigerian and Zimbabwean women and 0.2% in Zambian men.^[30]

Smokeless tobacco products are generally cheaper than cigarettes and consequently used more widely by poorer populations, as well as by older compared with younger adults. In some regions, tobacco companies are using these factors to market the use of smokeless tobacco products to specific target groups, such as women and young individuals, as an alternative to cigarette smoking and as 'starter' products.^[30]

Most African countries have not extended their tobacco control legislation to encompass the use of smokeless tobacco products, and there is generally an absence of public health education or cessation programmes. For example, in SA, excise taxes apply to cigarettes but not to smokeless tobacco products, making the latter cheaper than cigarettes.^[30] Smokeless tobacco products are not harmless; therefore, their regulation needs to be integrated into tobacco control policies.^[2] This is essential to manage the harm caused by these products, as well as the need for Africa-specific research to inform future policy action on smokeless tobacco. Nevertheless, the WHO FCTC should guide the development of policies for smokeless tobacco products. These may include graphic health warnings covering 50% of the package display area, banning the use of flavourings in these products to reduce their appeal to the youth, prohibiting advertisements, promoting cessation and increasing public awareness and education campaigns.^[30]

Another tobacco product, once confined to India, North Africa and the Middle East, which has spread beyond these regions and become integrated into the global tobacco market, is the smoking of water pipes.^[2] Its use is popular and rising in adolescents and young adults.^[2] In SA, almost two-thirds of university students in the Western Cape reported having ever smoked a hookah pipe.^[31] Knowledge of the dangers of water-pipe smoking was poor among students,^[32] and water-pipe smokers are frequently under the false impression that their form of tobacco use is safer than smoking cigarettes.^[2] Considering that the tobacco industry intentionally misrepresents the harmful health effects of smoking water-pipe tobacco, comprehensive and aggressive awareness campaigns and educational efforts are necessary to dispel these false beliefs. Otherwise, individuals who explicitly refuse to smoke cigarettes, are likely to continue to use water pipes.^[2]

Strict tobacco control policies, predominantly tailored for cigarette use, have allowed water-pipe smoking to thrive.^[2] Exemptions on water-pipe smoking in public places have led to its increase in popularity as a social practice.^[2,32] Therefore, there is an urgent need to regulate water-pipe use in the same way as cigarette smoking; use of the former in public should not be exempt from smoke-free laws.^[2] Research quantifying the harmful health effects of water-pipe smoking is needed to increase awareness and thereby curb the rise in its use. Nonetheless, based on the current scientific evidence, a number of African countries, including Rwanda, Tanzania and Kenya, have banned the use of water pipes.^[33]

The introduction of and rise in uptake of the electronic cigarette (e-cigarettes) have created a conundrum on the harmful or beneficial effects of this product in the absence of adequate research. While the long-term effect of e-cigarettes is not yet known, evidence from limited short-term studies found that their use is less harmful than smoking.^[34] Although the efficacy of e-cigarettes as a smoking cessation aid has not been proven, Nansseu and Bigna^[35] propose that the use of e-cigarettes may contribute to smoking reduction or cessation in sub-Saharan Africa.^[35] Importantly, the use of e-cigarettes should be strictly limited to current and/or ex-smokers to assist them to quit smoking or prevent relapse; never-smokers should not use these devices.

Further research is urgently needed to aid governments globally, including in Africa, to decide how to regulate e-cigarettes.^[2] In SA,

the minister of health is keen to include the use of e-cigarettes in smoking legislation, similar to the US Food and Drug Administration (FDA), which has classified e-cigarettes under 'tobacco products'.^[36] There is also a need to regulate the production of e-cigarettes and ensure that safety guidelines are met, as these contain varying ingredients, some of which may be toxic.^[37]

The tobacco industry is investing heavily in the e-cigarette trade to ensure their share of this growing market, which is expected to surpass traditional cigarettes by 2024.^[2] In September 2017, Philip Morris established the Foundation for a Smoke-Free World, with annual funding of ~USD80 million for 12 years, and a previous WHO official, Dr Derek Yach, as the Foundation's president.^[38] In response, the WHO reiterated the United Nations' stand of a 'fundamental conflict of interest between the tobacco industry and public health' and recommended that governments and the public health community 'not accept financial or other contributions from the tobacco industry or those working to further its interests, such as this Foundation'. Philip Morris, together with other players in the tobacco industry, subvert every tobacco control effort and have a history of misleading the public with regard to the risks associated with tobacco products. Their interests are contradictory to those of tobacco control initiatives and, therefore, their research and advocacy cannot be accepted at face value.^[38]

The way forward for Africa

Despite the huge obstacles that African nations face in their quest to introduce comprehensive tobacco control policies, many countries have achieved measured success, while others such as Uganda, SA and Mauritius have accomplished significantly more in their efforts to curb tobacco use. Nevertheless, Africa still needs to urgently intensify efforts to implement effective tobacco control policies that are fully compliant with the WHO FCTC.^[12,14] Otherwise, the current tobacco trends will continue, with potential devastating consequences. The overall smoking prevalence in Africa will increase by more than a third (37.5%) over 2 decades, i.e. from 16% in 2010 to 22% in 2030, and the number of smokers will triple by the end of this century.^[2] The American Cancer Society reported that by 2100, 'without action, Africa will grow from being the fly on the wall to the elephant in the room'.^[6]

The powerful tobacco industry, with its vast resources and predatory practices, is irrefutably the driving force behind the global tobacco pandemic and the major barrier to WHO FCTC implementation in Africa.^[14] Therefore, in the battle against rising rates of tobacco use on the continent, a prerequisite is to actively address tobacco industry interference by monitoring its activities and exposing its misconducts, thereby changing attitudes to this industry.^[20] It is no coincidence that countries with the most successful tobacco control policies across all income categories are those that most rigorously monitor industry activities.

The tobacco industry frequently encourages the opposition of certain government ministries to the introduction of comprehensive tobacco control legislation. These may include the agricultural and trade and industry departments, which might have competing priorities to that of the health ministry, and consequently influence the drafting of ineffective tobacco control legislation. A whole-of-government approach is required, with tobacco control integrated in all government programmes, including the taxation and commerce sectors.^[39]

Considering that the tobacco industry generally exerts more power and influence at national than sub-national levels, it may be prudent and perhaps more feasible to introduce tobacco legislation at sub-national levels.^[14] Although this may not offer protection to the

entire population, enacting and enforcing tobacco legislation at local, state, provincial or municipal levels may be easier and more effective. Whether the enforcement of current sub-national legislation in Africa is effective, has yet to be determined.^[14]

Technical support and capacity building are needed in Africa to enable countries to competently manage legal challenges to tobacco control and deal with the subversive tactics of the industry.^[20] Further, African nations need to prioritise resources to build capacity for drafting comprehensive WHO FCTC-compliant legislation.^[14] As demonstrated in Namibia, key obstacles to the introduction of tobacco control legislation, together with competing priorities and administrative delays, were insufficient staff and legal capacity.^[23] The lack of legal expertise within the ministry to challenge the false information that BAT provided to the Namibian health ministry, i.e. that it could not ratify the WHO FCTC prior to passing national tobacco control legislation, possibly also delayed its ratification. Consequently, it took nearly 20 years for the country to pass the Tobacco Products Control Act.

Resources are also needed to generate locally relevant research on tobacco use.^[14,40] Importantly, economic studies should be undertaken to conclusively refute the negative impact of tobacco control policies in Africa. Tobacco is grown in >125 countries globally, including Africa, and the role it plays in employment, tax-revenue generation and trade balances in some countries is highly promoted by the tobacco industry.^[41] However, independent studies demonstrated that, even with very strong tobacco-control policies, there will be a minimal negative impact on economic growth, employment, tax revenues and foreign trade balances over the medium and long term in most countries.

Tobacco control should be integrated in the implementation of the Sustainable Development Goals. There is a need to switch from tobacco farming to other crops, which has been successfully achieved in a programme in Brazil with a change to fruit or vegetable cultivation.^[25] A government programme that encourages the use of locally grown fruit and vegetables for school lunches ensures a market for their produce. In this way a country's economic dependence on tobacco farming and the negative health consequences of tobacco are reduced, and the cycle of poverty is broken.

Financial resources for tobacco control in Africa are challenging in the face of competing priorities. Nevertheless, by failing to fully implement the WHO FCTC, many African countries that signed the treaty breach their legal obligations under international law to implement it in good faith.^[14] More concerted and innovative approaches, together with a strong will, are needed for governments to invest in tobacco control measures. For example, governments need to ensure efficient collection of tobacco-related taxes and direct such revenue to tobacco-control initiatives. Kenya is one of a few countries globally that is able to monitor local cigarette production and collect related taxes.^[42] Consequently, there has been a substantial increase in tax revenue from local tobacco manufacturers and a marked decrease in illicit tobacco trade.

The use of tax revenue for tobacco control activities, if framed as an economic problem v. a health concern only, is likely to garner more support, as shown in Thailand.^[26] Tobacco control advocates in Thailand presented evidence to cabinet that a small investment in health promotion would translate into a reduced financial burden for the treatment of NCDs. Furthermore, the health promotion bill required that tobacco and alcohol companies fund the health promotion programme, which was enacted into law in 2001. Such changes are only possible with well-planned advocacy and lobbying by non-governmental organisations (NGOs).^[26] Therefore, the role

played by NGOs in Africa, such as Bloomberg Philanthropies, the Bill and Melinda Gates Foundation and the Canadian International Development Research Centre, mentioned above, is critical for accelerating the tobacco control agenda on the continent.

Relevant research from Africa will inform policies and may increase political will by generating vital political attention for tobacco control. Moreover, tobacco control measures based on locally garnered evidence are likely to be more effective, with such research also potentially refuting tobacco industry myths. High-quality research in all sub-Saharan African countries, of which there is currently a dearth, should also include data on the incidence, prevalence, trends and uptake facilitating factors of cigarette smoking and other tobacco products, including e-cigarettes, water pipes and smokeless tobacco products, and evidence of the implementation and effectiveness of tobacco control policies.^[16] Such data will demonstrate the degree of success of strategies implemented with regard to tobacco use patterns and underscore shortcomings in existing policies. Civil society, NGOs and researchers need to educate and pressurise African politicians and governments to implement and enforce effective tobacco control policies.

Expecting African countries to implement comprehensive and effective tobacco control policies with efficient monitoring and enforcement of such activities, is not unrealistic. Some countries on the continent have already shown that they not only have the ability to implement effective tobacco control strategies but are also able to be at the forefront of global tobacco control initiatives. SA and Mauritius, together with Bahrain, are the world's first three countries to ban smoking in vehicles carrying children.^[2] Furthermore, when Mauritius introduced graphic health warning labels on packaging, their warnings were the third largest in the world, covering 60% of the front and 70% of the back package display areas.^[14] At that time, Mauritius was the only African country with graphic health warning labels on packaging;^[14] there are now 8.^[43] Chad's health warnings cover 70% of the main display areas and are now the largest in Africa.^[43] Therefore, with sufficient political will, African nations have the potential to meet their commitment to the WHO FCTC and prevent a full-scale escalation of the tobacco epidemic.^[20]

Conclusions

The lower rates of tobacco taxation, weaker smoke-free policies and fewer restrictions on tobacco advertising in Africa compared with high-income countries are key factors driving the tobacco epidemic on the continent.^[16] These shortcomings, enabled by the tobacco industry thwarting anti-tobacco initiatives, have allowed it to expand its markets in the region by capitalising on economic growth, changing social norms and population demographics. Consequently, while there has been progress, the current commitment of most African countries to the WHO FCTC has not translated into effective delivery of meeting the WHO Global NCD Action Plan goal of a 30% relative reduction in tobacco use by 2025 compared with 2010.^[9] This is of great concern, as tobacco use is not only a threat to health but also to sustainable human development.

The rapid expansion of tobacco use in Africa needs to be counteracted by strong tobacco control policies, which is one of the most effective population-based strategies for NCD prevention. African countries need to intensify efforts to implement effective tobacco control policies that are fully compliant with the WHO FCTC.^[14] These should include higher tobacco excise taxes, stronger smoke-free policies, bans on tobacco advertising, promotion and sponsorship, graphic warnings on cigarette packages and anti-smoking mass media campaigns.^[40] Otherwise, the recent increases

in economic development and population growth will spur the widespread uptake of tobacco use and lead to the loss of hundreds of millions of lives in this century owing to tobacco smoking.^[2]

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1. Pampel F. Tobacco use in sub-Saharan Africa: Estimates from the demographic health surveys. *Soc Sci Med* 2008;66(8):1772-1783. <https://doi.org/10.1016/j.socscimed.2007.12.003>
2. Eriksen MP, Mackay J, Schluger N, Islami F, Drope J. The Tobacco Atlas. 5th ed. Atlanta, GA: American Cancer Society, 2015.
3. Madu EC, Richardson KD, Ozigbo OH, Baugh DS. Improving cardiovascular disease prevention and management in Africa: Issues to consider for the 21st century. *Ethn Dis* 2003;13(2 Suppl 2):S71-S76.
4. World Health Organization. Global Status Report on Noncommunicable Diseases 2014. Geneva: WHO, 2014.
5. Eriksen M, Mackay J, Ross H. The Tobacco Atlas. 4th ed. Atlanta, GA: World Lung Foundation/American Cancer Society, 2011.
6. Bletcher E, Ross H, American Cancer Society. Tobacco Use in Africa: Tobacco Control Through Prevention. Atlanta, GA: American Cancer Society, 2013.
7. World Health Organization. Global Report on Trends in Tobacco Smoking 2000 - 2025. Geneva: WHO, 2017.
8. World Health Organization. Framework Convention on Tobacco Control. Geneva: WHO, 2003.
9. Britton J. Progress with the global tobacco epidemic. *Lancet* 2015;385(9972):924-926. [https://doi.org/10.1016/S0140-6736\(15\)60498-6](https://doi.org/10.1016/S0140-6736(15)60498-6)
10. World Health Organization. Tobacco Control - Overview. Geneva: WHO, 2015.
11. United Nations Treaty Collection. United Nations, Treaty Series: WHO Framework Convention on Tobacco Control. New York: UN, 2017.
12. Husain MJ, English LM, Ramanandraibe N. An overview of tobacco control and prevention policy status in Africa. *Prev Med* 2016;91:S16-S22. <https://doi.org/10.1016/j.ypmed.2016.02.017>
13. Bilano V, Gilmour S, Moffiet T, et al. Global trends and projections for tobacco use, 1990 - 2025: An analysis of smoking indicators from the WHO Comprehensive Information Systems for Tobacco Control. *Lancet* 2015;385(9972):966-976. [https://doi.org/10.1016/S0140-6736\(15\)60264-1](https://doi.org/10.1016/S0140-6736(15)60264-1)
14. Tumwine J. Implementation of the framework convention on tobacco control in Africa: Current status of legislation. *Int J Environ Res Public Health* 2011;8(11):4312-4331. <https://doi.org/10.3390/ijerph8114312>
15. Karimi KJ, Ayah R, Olewe T. Adherence to the Tobacco Control Act, 2007: Presence of a workplace policy on tobacco use in bars and restaurants in Nairobi, Kenya. *BMJ Open* 2016;6(9):e012526. <https://doi.org/10.1136/bmjopen-2016-012526>
16. Brathwaite R, Addo J, Smeeth L, Lock K. A systematic review of tobacco smoking prevalence and description of tobacco control strategies in sub-Saharan African countries; 2007 to 2014. *PLOS ONE* 2015;10(7):e0132401. <https://doi.org/10.1371/journal.pone.0132401>
17. World Health Organization. Report on the Global Tobacco Epidemic, 2015: Raising Taxes on Tobacco. Geneva: WHO, 2015.
18. Van Walbeek C. [Tobacco control in South Africa]. *Promot Educ* 2005;(Suppl 4):25-28,57.
19. Beaglehole R, Bonita R, Yach D, Mackay J, Reddy KS. A tobacco-free world: A call to action to phase out the sale of tobacco products by 2040. *Lancet* 2015;385(9972):1011-1018. [https://doi.org/10.1016/S0140-6736\(15\)60133-7](https://doi.org/10.1016/S0140-6736(15)60133-7)
20. Gilmore AB, Fooks G, Drope J, Bialous SA, Jackson RR. Exposing and addressing tobacco industry conduct in low-income and middle-income countries. *Lancet* 2015;385(9972):1029-1043. [https://doi.org/10.1016/S0140-6736\(15\)60312-9](https://doi.org/10.1016/S0140-6736(15)60312-9)
21. Boseley S. Threats, bullying, lawsuits: Tobacco industry's dirty war for the African market. *The Guardian*, 12 July 2017. <https://www.theguardian.com/world/2017/jul/12/big-tobacco-dirty-war-africa-market> (accessed 15 December 2017).
22. Sullivan C. BAT investigated by serious fraud office over bribery allegations. *Financial Times*, 1 August 2017. <https://www.ft.com/content/fd6eb592-7682-11e7-90c0-90a9d1bc9691> (accessed 15 December 2017).
23. Tam J, van Walbeek C. Tobacco control in Namibia: The importance of government capacity, media coverage and industry interference. *Tobac Control* 2014;23(6):518-523. <https://doi.org/10.1136/tobaccocontrol-2012-050725>
24. Academy of Science of South Africa. Preventing a tobacco epidemic in Africa. Consensus study report. 2014. <http://hdl.handle.net/20.500.11911/57> (accessed 28 May 2018).
25. Kulik MC, Bialous SA, Munthali S, Max W. Tobacco growing and the sustainable development goals, Malawi. *Bull World Health Organ* 2017;95(5):362-367. <https://doi.org/10.2471/BLT.16.175596>
26. Vathesatogkit P, Charoenca N. Tobacco control: Lessons learnt in Thailand. *Ind J Public Health* 2011;55(3):228-233. <https://doi.org/10.4103/0019-557X.89938>
27. The Union. Uganda passes tobacco control law in line with the world's most stringent policies. *The Union*, 15 June 2015. <http://www.theunion.org/news-centre/news/uganda-passes-tobacco-control-law-in-line-with-the-worlds-most-stringent-policies> (accessed 15 June 2017).
28. TTC Mobile. Tobacco control law passed in Uganda. 2015. <https://ttcmobile.com/tobacco-control-law-passed-in-uganda/> (accessed 15 June 2017).
29. Kellen N. CTCa: A resource centre for advancing tobacco control in Africa. 2014. <https://www.phasa.org.za/ctca-resource-centre-advancing-tobacco-control-africa/> (accessed 28 May 2018).
30. National Cancer Institute and Centers for Disease Control and Prevention. Smokeless Tobacco and Public Health: A Global Perspective. Bethesda, MD: US Department of Health and Human Services, CDC, National Institutes of Health, NCI, 2014.
31. Kruger L, van Walbeek C, Vellios N. Waterpipe and cigarette smoking among university students in the Western Cape, South Africa. *Am J Health Behav* 2016;40(4):416-426. <https://doi.org/10.5993/AJHB.40.4.3>
32. Van der Merwe N, Banoobhai T, Gqweta A, et al. Hookah pipe smoking among health sciences students. *S Afr Med J* 2013;103(11):847-849. <https://doi.org/10.7196/samj.7448>
33. Merab E. Kenya joins Rwanda, Tanzania in shisha ban. *The East African*, 30 December 2017. <http://www.theafrican.co.ke/scienceandhealth/Kenya-bans-shisha/3073694-4244126-1mlqsvz/index.html> (accessed 15 January 2018).
34. Zborovskaya Y. E-cigarettes and smoking cessation: A primer for oncology clinicians. *Clin J Oncol Nurs* 2017;21(1):54-63. <https://doi.org/10.1188/17.CJON.54-63>
35. Nansseu JR, Bigna JJ. Electronic cigarettes for curbing the tobacco-induced burden of noncommunicable diseases: Evidence revisited with emphasis on challenges in sub-Saharan Africa. *Pulm Med* 2016;2016:4894352. <https://doi.org/10.1155/2016/4894352>
36. National Occupational Safety Association (South Africa). Where does the law lie with vaping? 2017. <http://blog.nosa.co.za/blog/where-does-the-law-lie-with-vaping> (accessed 28 May 2017).
37. Varga P. Is South Africa's strong stance on smoking set to cover e-cigarettes, too? *News24*, 11 August 2016. <https://www.news24.com/MyNews24/is-south-africas-strong-stance-on-smoking-set-to-cover-e-cigarettes-too-20160811> (accessed 28 May 2018).
38. World Health Organization. Statement on Philip Morris Funded Foundation for a Smoke-Free World. Geneva: WHO, 2017. <http://www.who.int/mediacentre/news/statements/2017/philip-morris-foundation/en/> (accessed 15 December 2017).
39. Munzer A. The WHO FCTC: The challenge of implementation. *Lancet Respir Med* 2013;1(3):182-184. [https://doi.org/10.1016/S2213-2600\(13\)70048-1](https://doi.org/10.1016/S2213-2600(13)70048-1)
40. Jha P. Deaths and taxes: Stronger global tobacco control by 2025. *Lancet* 2015;385(9972):918-920. [https://doi.org/10.1016/S0140-6736\(15\)60464-0](https://doi.org/10.1016/S0140-6736(15)60464-0)
41. Wipfli H, Samet JM. Global economic and health benefits of tobacco control: Part 1. *Clin Pharmacol Ther* 2009;86(3):263-271. <https://doi.org/10.1038/clpt.2009.93>
42. Ntiabang T. Africa Moves to Improve the Tobacco Control Fight. Pretoria: Africa Centre for Tobacco Industry Monitoring and Policy Research, 2016. <https://www.atim.co.za/contacts/> (accessed 15 December 2017).
43. World Health Organization. Pictorial Health Warnings Gain Ground in Africa. Geneva: WHO, 2017. <http://www.who.int/ctc/mediacentre/news/2015/africapictorial/en/> (accessed 15 December 2017).

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