The socio-economic impact of disease burden due to smoking in Malawi

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List of acronyms

ACBF	African Capacity Building Foundation
FCTC	Framework Convention on Tobacco Control
EHP	Essential Health Package
GICOD	Group Ideas for Community Development
NGO	Non-Governmental Organisation
NDCs	Non-communicable diseases
USD	United States Dollar
YES	Youth Enterprise Services
WHO	World Health Organisation

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Executive Summary

Introduction

- ✓ Malawi is one of the top ten largest producers of tobacco in the world with the Malawian economy being the world's most tobacco-dependent economy. This, coupled with the increasing usage of tobacco products, has led to the country experiencing consequences of tobacco-related death and diseases.
- ✓ Developing tobacco policies that are coherent and consistent with the health and economic sectors has been a challenge for the country.
- ✓ There exists little or no evidence of the economic costs of smoking for the country. This study contributes to this gap by unpacking the socio-economic costs of smoking to affected individuals and their families in Malawi. It also provides insights from the general public.
- ✓ Tobacco usage is prevalent in both rural and urban Malawi, but the most current prevalence rates is not clear due to the lack of a recent national statistical database. Data from the 2015/2016 nationally representative sample survey indicates that just over 12 % of men and just under 1% of women smoke cigarettes. Smokers are likely to be older, poorer, less educated and living in rural areas of the country.
- ✓ The disease burden associated with tobacco usage in Malawi is difficult to quantify due to the way in which patient data is captured, transferred and stored in the public health care system.
- ✓ The study provides recommendations for public health policymakers and non-state actors engaged in lobbying and advocating for the design and implementation of effective tobacco control policies.

Key findings

- ✓ Illness related to smoking results in three impacts for smokers and their families: Direct ill health of the smoker and family members; Economic burden for the smoker, their family and the community; and Mental health effects.
- ✓ Costs associated with disease from tobacco usage, spills over to an affected person's family and community. Often eroding the individual's and their family's finances, and pushing them below the poverty threshold or further down, if they had been poor to begin with.
- ✓ Social capital is key for individuals affected by tobacco related diseases and their families, as it mops up both social and economic excessive costs.
- ✓ Tobacco related diseases contribute to burdening the public health care system, as evidenced by affected individuals having to pay, either directly or indirectly, for the free health care services in the country.

Recommendations

- ✓ Government should work to put in place public policies to control the usage of tobacco and smoking. This however will only be effective if the policy is consistently implemented, has budgetary commitment and enforced via local stakeholders.
- ✓ Government and other stakeholders to put in place nation-wide initiatives aimed at preventing smoking initiation, and those aimed at sensitizing and educating the general public about the risks associated with tobacco use.
- ✓ Establish a national databank on smoking and smoking cessation which also captures occurrence of diseases linked to smoking.
- ✓ Government, through the Ministry of Health should establish a public (free or low cost) stop smoking service. In addition, medical practitioners should be trained to provide advice on smoking cessation as part of regular health screenings.
- ✓ Improve the public health care system, which is free for all Malawians, to ensure that it is indeed 'free' by tackling corruption in the system.

Introduction

Chronic non-communicable diseases (NCDs) are becoming significant causes of morbidity and mortality, particularly in sub-Saharan African countries although local, high-quality data to inform evidence-based policies are lacking (Msyamboza et al., 2011). The World Health Organisation (WHO) projected that by 2015, NCDs accounted for over 70% of all deaths globally with 80% of these deaths occurring in developing countries (Msyamboza et al., 2011). Chronic NCDs and their risk factors are major public health problems in Malawi with at least one in four men smoking tobacco (Msyamboza et al., 2011). NCDs are estimated to account for 28% of deaths in Malawi (Gowshall and Taylor-Robinson, 2018).

At the global level, it is estimated that 8 million deaths are caused annually by tobacco use; and this trend is projected to continue over the next decade if current tobacco usage remains the same (WHO, 2020; WHO, 2019). Of these deaths, 80% are projected to occur in low-and-middle-income countries (WHO, 2020). Countries in sub-Saharan Africa are registering an increasing rate of tobacco use as a result of improved economic conditions, a large and growing young population and intensive marketing efforts by the tobacco industry (UNDP, 2016). Malawi has a unique standing as it is one of the top ten largest producers of tobacco in the world (FAO, 2003; Makoka et al., 2016). This, coupled with the increasing usage of tobacco products, has led to the country experiencing consequences of tobacco-related death and disease (Figure 1). Recent data shows that every year, more than 5,700 people are killed by tobacco-caused disease with over 5,000 children between the ages of 10 and 14 and about 920,000 adults using tobacco each day (Drope *et al*., 2018).

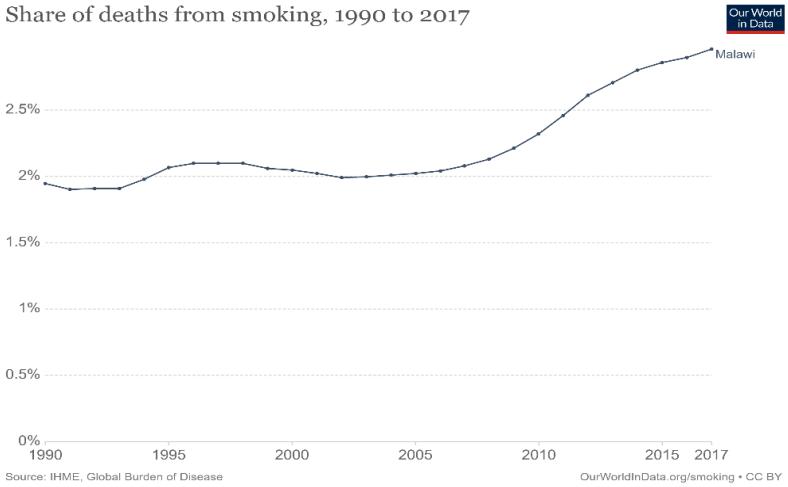

Figure 1: Share of deaths from smoking - Malawi (1990 to 2017)

Source: https://ourworldindata.org/smoking

Furthermore, Malawi is not a signatory to the WHOs Framework Convention on Tobacco Control (FCTC)[1] – the international legal framework that was developed in response to the global tobacco epidemic. The country has no legislation implementing tobacco control policies and the government owns a large proportion of tobacco companies (Malan and Hamilton, 2020). The absence of comprehensive tobacco control policies is the result of the country being the world's most tobacco-dependent economy (Otanez et al., 2009 cited by Makoka et al., 2016). Makoka et al., 2016 further note that policymakers in Malawi and other countries in similar situations have had to weigh the health benefits of tobacco control measures against

[1] The evidence-based WHO Framework Convention on Tobacco Control, with 182 Parties as of September 2020, representing about 90% of the world's population, provides the foundation for the fight against tobacco use. See https://www.who.int/fctc/text_download/en/

the potential economic losses. Developing tobacco production policies that are coherent and consistent with the health and economic sectors is a common challenge for tobacco production countries such as Malawi (Makoka et al., 2016). In part, this is due to the lack of rigorous local evidence from a public health perspective for developing such policies. Readily available studies are those quantifying the economic benefits of tobacco production for Malawi and include studies assessing the livelihood outcomes of tobacco farmers in Malawi including studies by Appau et al., 2019; Makoka et al., 2017, Makoka et al., 2016; and Derlagen, 2012. Fewer studies exist which assess the prevalence of smoking amongst Malawian adults (Gowshall and Taylor-Robinson, 2018; Msyamboza et al., 2013; Muula et al., 2008; Muula and Mpabulungi, 2007; Muula, 2007). An emerging body of literature is focusing on alternatives to tobacco production for smallholder Malawian farmers (Lencucha et al., 2020; Milanzi, 2017).

To the best of the Authors knowledge, studies quantifying the economic costs of smoking for Malawi cannot be easily found in the literature[2]. This study aims to contribute to meeting this gap by estimating the economic costs of tobacco usage using smoking as a proxy, via the documentation of the social and economic costs arising as a result of illness and disease linked to smoking. The research provides evidence to inform policymakers on the design and implementation of evidence-based tobacco control policies that are relevant to the Malawian context. In addition, the study provides information for advocacy and lobbying for improved tobacco control policies.

Research objectives

The aim of the study is to demonstrate the socio-economic costs of smoking on smokers and their families in Malawi. Specifically, the study had two objectives:

Document the social economic costs of smoking	Provide policy recommendations
- Identify and document the socio-economic costs of smoking for smokers and their families in Malawi via the development of detailed case studies. - Gather different **stakeholder perceptions** on **public health policies to control tobacco use and smoking.**	**- Develop policy recommendations** for informing **tobacco control public policies**. **- Inform consumer associations** engaged in **lobbying and advocating for improved tobacco control public policies**

Research methodology

The study employed qualitative approaches to meet the study objectives. This included a rapid review of the literature, and the development of two case studies to identify and document the socio-economic costs of disease burden associated with smoking on individual smokers and their families in Malawi. The rapid evidence review focused on publicly available

[2] This includes direct costs related to healthcare expenditures and indirect costs related to lost productivity due to early mortality and morbidity. Disease, disability and death can arise from a wide variety of illnesses resulting from smoking such has cancer, heart disease, stroke, lung diseases, diabetes, tooth and gum disease, and chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis. Smoking also increases risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis and it is a known cause of erectile dysfunction in males.

evidence and literature from peer-review journals and grey literature from various sources including government documents, program, project and institutional publications.

The two case studies were identified via local district health non-communicable disease centres. The case studies identify and document all direct costs namely healthcare costs due to the need to utilise health services to seek care, manage illnesses and care giving by family members (voluntary care giving). In addition, we document the indirect costs incurred by the individual smoker and their family as a result of illness. Direct medical costs include medical costs such as the cost of diagnostic tests, hospitalisation, outpatient physician office visits, drugs, consultation fees and medical supplies. The direct non-medical costs include costs associated with obtaining care such as the cost of travel, communication, and refreshments. Indirect costs include the loss of productivity (reduced labour and absenteeism), income and time cost of the sick person. In addition, other losses such as work and leisure time lost for caregivers have also been documented. In addition, focus group discussions with different stakeholder groups including women, youth, rural, urban and peri-urban groups were conducted to gather insights on the establishment of public health policies to control smoking and tobacco usage.

Rapid evidence review

Malawi is one of the most prolific tobacco producers in the world. It is the first in burley production and the seventh for overall production in the world. In 2015, Malawi produced 22.6% of all tobacco leaf in Africa and tobacco farming took up more than 5% of the farming land in Malawi, and this was ranked as the highest anywhere in the World at the time (Tobacco Tactics, 2021). In Malawi, tobacco comprises over 70% of export earnings with earnings valued at over 20% times more than the value of tea exports, Malawi's second largest source of export earnings. Despite that tobacco earnings are higher than that of other crops, it is suggested that prospective profits are offset by the high costs of inputs (i.e. fertilizer, pesticides and labour), and thus, reducing the actual profit (Davies, 2003).

Smoking rates in Malawi

National population-based data on the prevalence of smoking in Malawi are sparse (Msyamboza et al., 2013). However the Malawi Demographic and Health Survey (MDHS) collects data regularly (1992, 2000, 2004, 2010, 2015/16) on various indicators including cigarette smoking rates and use of other tobacco products.[3] The survey is a nationally representative sample that provides estimates at national, regional and district level (for some indicators) and covers both urban and rural areas. The 2015-2016 Survey included 26,361 households, with women being the majority responders (24,562 or 93% of all responders).[4]

The latest MDHS (2015-2016)[5] shows that approximately 12.4% of all men between the ages of 15 – 54 years smoke cigarettes (Table 1). Very few women, as compared to men, smoke cigarettes. This is the case with less than one percent of all women between the ages of 15 – 49 smoking cigarettes (Table 2). Men between the ages of 40 – 44 (25%), 45 – 49 (20.2%) and 30 – 34 (19%) are most likely to use cigarettes as compared to other men in the country. The majority of male smokers, use cigarettes daily. Living in rural areas, in the Central Region and being uneducated and poor is highly associated with smoking cigarettes (Table 1). Amongst women that smoke, smoking of cigarettes is most prevalent amongst older uneducated women (aged between 45 - 49 years) (Table 2). Women smokers are most likely to be poorer and living in rural areas with women in the Northern (0.8%) and Southern (0.8%)

[3] See the NSO website for more details: http://www.nsomalawi.mw/index.php?option=com_content&view=article&id=222&Itemid=106

[4] Same as above.

[5] The full report for the 2015-2016 MDHS can be found here: https://dhsprogram.com/pubs/pdf/FR319/FR319.pdf

regions more likely to smoke cigarettes than women in the Central region (0.3%). Previous studies have found that poorer population are more likely to smoke and/or use tobacco products due to lack of knowledge of the risks of tobacco usage.

Table 1: Tobacco smoking amongst men – Malawi

	Percentage who smoke:[1]			Smoking frequency				
Background characteristic	Cigarettes[1]	Other type of tobacco[1]	Any type of tobacco	Daily smoker	Occasional smoker	Non-smoker	Total	Number of men
Age								
15-19	1.8	0.3	1.9	0.9	1.0	98.1	100.0	1,818
20-24	8.4	0.9	8.5	3.8	5.6	**90.6**	100.0	1,408
25-29	12.5	0.5	12.6	**9.6**	4.3	86.1	100.0	1,022
30.34	19.0	2.1	19.0	12.7	7.0	80.3	100.0	925
35.39	17.4	1.1	17.4	12.4	5.6	82.0	100.0	882
40-44	25.0	1.0	25.1	19.2	7.3	73.5	100.0	624
45-49	20.2	0.7	20.3	17.2	4.2	78.6	100.0	450
Residence								
Urban	11.9	0.6	11.9	7.9	4.7	87.4	100.0	1,340
Rural	12.0	0.9	12.1	8.4	4.4	87.2	100.0	5,788
Region								
Northern	10.9	0.7	11.1	7.9	4.1	88.0	100.0	922
Central	14.7	1.3	14.9	10.3	5.3	84.4	100.0	,3 176
Southern	9.4	0.4	9.4	6.4	3.7	89.9	100.0	3.030
Education								
No education	27.3	1.9	27.7	22.3	6.7	71.1	100.0	375
Primary	13.0	1.0	13.1	9.3	4.4	86.3	100.0	4,153
Secondary	8.6	0.5	8.6	4.7	4.7	90.6	100.0	2.249
More than secondary	5.5	0.1	5.5	4.3	1.5	94.2	100.0	351
Wealth quintile								
Lowest	20.1	1.7	20.4	13.7	7.6	78.7	100.0	1,134
Second	14.5	1.7	14.5	10.4	4.8	84.8	100.0	1,325
Middle	9.8	0.5	9.8	7.3	3.6	89.1	100.0	1,409
Fourth	11.1	0.3	11.2	7.8	4.2	88.0	100.0	1,462
Highest	7.4	0.4	7.5	4.6	3.1	92.3	100.0	1,798
Total 15-49	12.0	0.8	12.1	8.3	4.5	87.2	100.0	7,128
5().54	23.9	1.1	24.2	18.6	6.8	74.6	100.0	350
Total 15-54	12.5	0.9	12.6	8.8	4.6	86.6	100.0	7,478

[1] Includes daily and occasional (less than daily) use. [2] Includes manufactured cigarettes and hand rolled cigarettes.[1] Includes pipes, cigars, cheroots, cigarettes, and water pipes. Occasional refers to less often than daily use.

Source: Malawi Demographic and Health Survey – 2015 – 2016.

Table 2: Tobacco smoking amongst women

	Percentage who smoke:[1]			
Background characteristic	Cigarettes[2]	Other type of tobacco[2]	Any type of tobacco	Number of women
Age	0.3	0.1	0.3	5,263
15-19				
20-24	0.5	0.2	0.5	5,159
25-29	0.4	0.1	0.4	3,953
30-34	0.4	0.2	0.4	3,668
35-39	0.2	0.0	0.3	2,924
40-44	0.6	0.2	0.7	2,029
45-49	3.2	0.7	3.2	1,567
Residence	0.1	0.1	0.1	4,496
Urban				
Rural	0.7	0.2	0.7	20,066
Region	0.8	0.1	0.8	2,838
Northern				
Central	0.3	0.0	0.3	10,529

Southern	0.8	0.3	0.8	11,194
Education				
No education	1.8	0.7	1.9	2,977
Primary	0.5	0.1	0.5	15,245
Secondary	0.2	0.0	0.2	5,598
More than secondary	0.0	0.0	0.0	742
Wealth quintile	0.9	0.2	0.9	4,745
Lowest				
Second	0.7	0.3	0.7	4,692
Middle	0.7	0.2	0.7	4,635
Fourth	0.4	0.1	0.4	4,680
Highest	0.2	0.1	0.2	5,810
Total	0.6	0.2	0.6	24,562

Note: Percentage of women age 15-49 who smoke various tobacco products, according to background characteristics. 1 Includes daily and occasional (less than daily) use. 2 Includes pipes full of tobacco, cigars, cheroots, cigarillos, and water pipes.

Source: Malawi Demographic and Health Survey – 2015 – 2016.

Smoking and use of tobacco products can affect the economy of a country (Flor et al., 2021) as smoking is one of the main drivers of premature death and disability, as well as increased healthcare expenditure and lost productivity. Due to the adverse effects of smoking on human health and national economies, countries put in place tobacco control policies to curb the effects of smoking use (Flor et al., 2021). The World Health Organization (WHO) in 2003 lead in the development of the Framework Convention on Tobacco Control (FCTC), to help countries that were party in the implementation of tobacco control policies.

Tobacco control policies in Malawi and other African countries

Malawi has not consented to and ratified the WHO FCTC, and it is not a signatory to the same; and thus there is little regulation of tobacco products in the country (Wisdom et al., 2018). The Malawi Tobacco Act (1970, last amended in 1990) and the Tobacco Industries Bill (2012) only regulate the production, buying and exportation of the tobacco leaf (Wisdom et al. 2018). It is thus, not surprising that there are no restrictions on smoking in public places, tobacco advertising, tobacco packaging and sale restrictions (such as minimum age for the purchase of the cigarettes). There are also no laws requiring minimum tobacco excise tax rate.

There are disparities in the way countries in Sub-Saharan Africa have tackled tobacco control policies. This is attributed to three factors. First, not all countries in the region are party to the WHO FCTC with Eritrea and South Sudan as well as Malawi not having signed the convention by 2017 (WHO, 2017). Second, although the majority of the countries in the WHO African region[6] that are party to the convention (forty-four out of forty-seven countries as of 2015) were implementing the FCTC, none had managed to fully implement the compliant legislation, and a third had not yet started working towards it (Tobacco Tactics, 2021). A multi-country policy study of six countries focusing on WHO FCTC legislation and implementation between 1988 to 2015 (Table 3), showed that five of the countries included in the study had implemented at least four policies.[7] Two of the countries, (Cameroon and Nigeria), had implemented all the

[6] More details on the WHO African region, see: https://www.afro.who.int/sites/default/files/2017-06/who-fctc-10-year_report_web.pdf

[7] The six countries in the study and the year of FCTC ratification: Cameroon (2006), Kenya (2004), Malawi (not ratified), Nigeria (2005), Togo (2005), and South Africa (2005). https://doi.org/10.1186/s12889-018-5827-5

seven best buys (Wisdom et al., 2018). Malawi, although not a signatory to the convention, has partially put in place two best buy interventions under taxation. However, this piece meal approach is not effective as the best buys complement each other in reducing tobacco usage and exposure. In addition, Malawi has no specific public health-related tobacco control policies with restrictions on smoking indoors and/or in public places or on advertisement. In addition, it is not mandatory to provide health warning messages or define key terms on tobacco products packages.

Table 3: Mapping of the WHO-recommended tobacco 'best-buy' interventions and country policy status

Best buys	Interventions implemented	Country					
		Cameroon	Kenya	Malawi	Nigeria	South Africa	Togo
Taxation	Taxation on all cigarettes	•	•	Partial		•	•
	Any increase in tobacco taxes since 2011 OR in 2011 country was already at 75%	•	•			•	•
	Tax on tobacco is at least 75% (from FCTC)		•			•	
	Tax applies to all tobacco products. *If only some products = partial*	Partial	•	Partial		•	•
Some free policies	Availability of national smoke free policy that covers all public places. *If only some cities or settings = partial*	Partial	Partial		•	•	•
	Penalties enforced for non-compliance. *If only having penalties but not enforced = partial*				Partial	Partial	Partial
Health warnings on tobacco products	Multiple warnings/images are rotated from time to time, applies to all brands/products		Partial	No	Partial	Partial	
	Large, clear, visible (at least 30% coverage) and legible all brand/all products. *If only some of these words are in the legislation = partial*	•	•		•	•	•
	Health warning includes pictures or pictograms all brands/products		•			•	
	Include constituents and emissions of tobacco (e.g. how much tar) on all brands/products	Partial	•				•
	In official country language on all brands. *If only some brands/products = partial*	Partial	Partial			Partial	•
	Required on all tobacco products. *If only on some products or brands = partial*	Partial	•		Partial	•	•
Advertising ban	Ban advertising, promotion and sponsorship of all tobacco products	Partial	•			•	•
	Ban for all forms of mass media	•	•			•	•
	Disclosure of expenditure on advertising by industry						✓

Source: Author compilation based on Wisdom *et al*., 2018

The burden of chronic non-communicable diseases and risk factors in Malawi

Chronic non-communicable diseases (NCDs), namely the "big 4": cardiovascular diseases i.e. heart diseases and stroke, respiratory diseases, cancer and diabetes mellitus (Cundale et al., 2017), are increasingly becoming significant causes of morbidity and mortality in low- and middle-income countries (Msyamboza et al., 2011). In Malawi, NCDs are of great public health concern with the big 4 attributing to 31.3% of the burden of disease (Government of Malawi, 2018) and accounting for 28% of deaths in the country (Gowshall & Taylor-Robinson, 2018). These four conditions are generally thought to be related to modifiable and shared risk factors

such as tobacco use, the harmful use of alcohol, unhealthy diets, and physical inactivity (Cundale et al., 2017), however the burden of disease attributable to tobacco use has not been thoroughly assessed (Gordon & Graham, 2006). Much of what is currently known in Malawi regarding NCDs, as well as the interventions targeting them, focus on cardiovascular diseases (Cundale et al., 2017). Although endemic in Malawi, chronic respiratory diseases which include COPD, asthma, and occupational lung diseases are often overlooked, and data are scarce due to much of the focus being on the much larger burden of communicable lung diseases such as Tuberculosis (TB), childhood pneumonia, and HIV-related lung diseases such as pneumocystis pneumonia (Gowshall & Taylor-Robinson, 2018). Cigarette smoking is the major risk factor for developing and progression of COPD (Burney et al., 2014; Magitta, 2018) and hypertension. Smoking-related mortality from cardiovascular diseases in Malawi has increased by 20% in 1990 and 2013 (Gowshall & Taylor-Robinson, 2018). Notably, hypertension is highly prevalent in Malawi with nearly a third (32.9%) of 25 to 64-year-olds having raised blood pressure or taking antihypertensive medications (Msyamboza et al., 2011; Gowshall & Taylor-Robinson, 2018). The major obstacles hindering Malawi from effectively combating smoking and related mortality are the economy's high dependence on income from tobacco coupled with lack of regulation on the sale and advertisement of tobacco products (Gowshall & Taylor-Robinson, 2018). Increased burden of disease threatens to overwhelm the public health care system in the country.

The Malawi public health care system

The health system in Malawi consists of four central hospitals, twenty-three district hospitals across the twenty-eight districts, and a network of health centers through which the bulk of primary care is delivered (Government of Malawi, 2018). NCDs were first recognized in 2011 as part of the Essential Health Package (EHP), which is the minimum package of services mandated to be available at the primary care level (Government of Malawi, 2014). The EHP covers conditions affecting most of the population, with a particular focus on the poor (Government of Malawi, 2014). Following the inclusion of NCDs in the EHP, the Ministry of Health's NCDs and Mental Health Unit was thus established. The government healthcare system is delivered free to the Malawi population. However, Wang et al. (2016) conducted a study in Malawi, which shows that individuals affected by chronic cardiovascular conditions bore high levels of direct, indirect and total medical costs. Additionally, the study found that the economic burden of chronic NCDs remains high, leading households to spend catastrophically and pushing them further into poverty (Wang et al., 2016). This study contributes by further providing insights on the costs that patients incur in the context of a free health care system, with a specific focus on diseases emanating from or linked to smoking.

In terms of the workings of the health care system, we find that upon an illness, at the facility level, a patient's information is captured in 3 ways - i) the patients file that has detailed information regarding a patient's health history, presenting symptoms and management. This record remains with the hospital; ii) the health passport which is a brief and mainly captures diagnosis, presenting symptoms and treatment/management. The health passport is meant to be carried by the patient every time they visit a hospital to ensure continuity of care. This is thus with the patient, and has been challenging with patients at times losing their health passports; and iii) the District Health Information system which is computerized/web-based. The Health Management Information System that only captures a patient's name, age, gender, complaint, diagnosis, treatment. The possible causes of illness, for instance smoking, that may explain the predisposition to the diagnosis of an illness is not captured. Thus, we find that there is a disjoint between the three ways in which patient data is captured. The web-based HMIS which can be easily accessed by policy makers for research does not unfortunately capture key important information (such as a patient's history of smoking , family history) which is only captured and found in the patient's hospital files.

The socio-economic impacts of disease burden of smoking

Two in-depth case studies were developed, both with male smokers who have each been smoking for 30 years or more. Lefani is based in one of the residential areas of Lilongwe city, Area 36; and Mr Yona is from a rural village in the Ntchisi district.[8] The case studies were augmented with six focus group discussions (FGDs) which were conducted to determine community knowledge on effects and impacts on smoking, and to gather the public's perceptions on the enactment of public policies to control smoking in Malawi. Sixty participants from various locations in the country including those in rural (Chikwawa, Salima, Nkhatabay and Kasungu Districts), urban (Mzuzu city) and peri-urban (Lilongwe Phwetekele area) areas were engaged with on average women making up a third of all participants in each FGD. Findings from the case studies and the FGDs are in agreement, with the case studies providing personal insights on what the general public knows anecdotally.

Ill-health of smokers

The general public in Malawi is aware of the negative health effects of smoking in Malawi. Participants of FGDs held in various parts of Malawi indicate that smoking has three impacts:

- ✓ Direct ill health of the smoker and family members
- ✓ Economic burden for the smoker, their family and the community.
- ✓ Mental health effects

Both in-depth case studies developed for this study concur with the general public's views with both cases, the smoker and their family experiencing all of the above, except the ill health of the smoker's relatives. The FGDs identified that smoking was perceived as having the potential to cause various diseases which can result in death. These perceptions were voiced by both smokers and non-smokers in the various FGDs. Various diseases mentioned by the public include lung cancer, tuberculosis which affect the respiratory system directly, by the smoke's effect as well as the effect of nicotinic acid from tobacco, thus making them more susceptible to infections. In addition, other aspects mentioned on direct ill health effects on the reproductive system were impotency and infertility resulting in divorce [examples of this happening in several communities were provided]. This was raised as a concern as it could lead to divorce with the [male] smokers re-marrying several times, thus risking contracting sexually transmitted diseases as well. Other illnesses mentioned in the FGDs included foot diseases, blindness and that smoking weakens a person's general immune system and can cause untimely aging. It has been documented that smoking negatively affects many organs of the body especially tissue due to its interference with vitamin uptake (Martin, 2020).

''Munthu osuta fodya akadwala, zimapereka chiphinjo kwa anthu ena monga achibale pomusamalira zomwe zimatayisa nthawi yopangira chitukuko''.

Translation: When a smoker gets sick, there is a caregiver burden to the family and others and this retards [family and community development]. FGD participant Nkhatabay District, Malawi.

The economic burden on smokers, family members and the community

Economic burden was identified by participants of FGDs as being a problem for smokers. This was linked to the burden of care for the affected. This results in low productivity – both at the

[8] Names have been changed.

family level (i.e. less workforce on the family farm) and in some cases at the community level. There is also time lost in being sick as well as the expenses for the cost of care at the hospital. This may include transport, hospital bills and missed opportunity for work or school. From the two case studies, we also find that the 'free health care'[9] is not free with patients paying a fee under the table to get access to medications from the 'free' government pharmacy. This is a further unforeseen economic burden on affected smokers and their families.

FGDs also stated that the smoking habit requires that there be money to support the habit to buy cigarettes, it was observed that at times there is competition on priorities for smokers on whether to provide for the household and family or buy tobacco. In most cases, participants feel that tobacco consumption wins at the expense of the family needs. Both case studies in our investigations demonstrate that tobacco-related illness results in loss of independence. First, affected smokers are usually weaker after their illness. In the first case study, a stroke resulted in loss of some function of the limbs on one side of the body – creating dependency on others for personal hygiene and dressing. This also resulted in the inability to fully return to economic activity - resulting in loss of income. In both the case studies, relatives, friends, former work mates and other community members have stepped in to provide cash for day-to-day use and/or food items. In addition, in both case studies, relatives provided in-hospital support during the time of hospitalisation. This indirectly entails that close relatives of the smoker and community members incur losses – both in terms of income and time. Further research is required to better understand and quantify such losses. The loss of income by the affected smokers, led to loss of economic independence. In both case studies, the affected smokers indicate feeling 'helpless' after a lifetime of being the main 'breadwinner' in the family. In both cases, this resulted in depression.

<table>
<tr><th colspan="2">Case study 1: Lefani, Area 36, Lilongwe</th></tr>
<tr><td colspan="2">Age: 47 years
No. of years smoking: 30 years Smoking habit: Four to six cigarettes per day branded tobacco
Disease presentation: High blood pressure, stroke (in 2012), resulting in convulsions and disability</td></tr>
<tr><td>Introduction and smoking habits
Lefani is 47 years of age and has been a smoker for 30 years. When he entered Form 1 secondary school, he was sent to a boarding school where his roommate was a smoker. During this time, he had difficulty sleeping. He however found that inhaling the smoke that his roommate was smoking helped him to fall asleep easily. After sometime, he would ask his roommate for just one cigarette, to aid him with sleeping. from the age of 17, he then started to smoke and has been smoking ever since. His older brother is also a smoker, so upon his return from boarding school, he joined him in smoking. Currently, Lefani smokes between four to five cigarettes per day costing him just under half a dollar a day[10].
Illness and hospitalisation
In 2012, Lefani suffered from a stroke and was admitted to the Lilongwe Central hospital for two months. He was then moved to and stayed for one</td><td>Health care costs
A cocktail of medication costs about USD6.06 per month. The medication is supposed to be free at Central hospital but the people at the Pharmacy have been charging a small fee as the medications are in short supply. Only those that pay, get the medication. He sometimes opts to go to private pharmacies, to cut on transport cost that goes up to 6.31 USD to get to the Central hospital. He is supposed to go for a check-up three times a week for the health personnel to monitor his blood pressure, but he goes once a month, to cut on the costs. In addition, he reduces the times he goes to the hospital as he feels that most of the time his blood pressure goes up when he goes to the hospital for check-ups, he feels it is because he has a phobia for hospitals, since he has been there for a long time.</td></tr>
</table>

[9] Health services in Malawi are provided by public, private for profit and private not for profit sectors. The public sector includes all health facilities under the Ministry of Health, district, town and city councils, Ministry of Defence, Ministry of Internal Affairs and Public Security (Police and Prisons) and the Ministry of Natural Resources, Energy and Mining Health. Services in the public sector are free-of-charge at the point of use for all Malawians. See: GOM, 2017 for further details.

[10] USD1:MK800 as of May 2021

and half months at Kachere rehabilitation center in Blantyre. The rehabilitation center greatly helped to improve the function of his hand, but he still has weakness in his left hand and a limp in his left leg and now walks with the aid of a walking cane. Furthermore, he now suffers from chronic constipation and has been diagnosed with epilepsy – resulting from the stroke. He takes a cocktail of medication for high blood pressure and epilepsy on a daily basis, and is also on regular medication for constipation. Lefani did not incur any direct costs during the admission at Central hospital nor at Kachere rehabilitation center. During this time, his ex-wife was with him in hospital as a guardian. Her relatives and his own relatives visited daily, providing food, support with laundry and other needs. His home was left with this wife's niece, a minor at the time. She feared for her safety and this affected his wife's mental health as she worried persistently about her niece as well as their house and possessions.	The illness has also greatly increased the costs of health care. He currently spends between USD22.50 to USD25 per month. This was not the case prior to his illness. He currently no longer works. Before his illness, Lefani earned between USD500 and USD875 per month. He no longer has this income. He now survives on about USD85 per month, (excluding the cost of health care) provided mainly by his two brothers and well-wishers including his former workmates and other family members. These funds cover his food, utilities and hired carer. His family unit was disrupted as his wife left him because of the change in his livelihood status. Since his stroke, he has been to different hospitals and clinics including both private and government facilities. He has also had physiotherapy treatments. He is convinced that the stroke was not due to smoking, because he has been to different hospitals and in all these places no single medic has asked him if he smoked, and none of them linked the stroke to smoking. Despite this, he has made efforts to quit after he got sick, but this has not worked as he still smokes. He has tried several ways to quit smoking but none of these have worked.

Mental health effects

Both case studies indicate that sometime after their illness the smoker and/or family members had mental health issues that included depression, anxiety and excessive worry all resulting in stress. With Lefani his marriage was affected resulting in divorce. For Mr Yona, his wife took on extra work having to continue with domestic as well as provide financially for the family via entrepreneurial activities. FGD participants agree with this finding as most groups indicated that in their communities, they have seen that psychosocial issues can arise for smokers and their families. An example given was of cases of adolescents who copy their parents smoking habit thus resulting in a disruption in their growth and development, and failure to attain some developmental tasks – such as getting an education. In several FGDs it was mentioned that adolescents have dropped out of school and/or engaged in criminal activity to find cash to buy cigarettes. In addition, it was also stated that in most cases, adolescents who smoke are considered 'irresponsible' by the community.

Smoking initiation and quitting

Most chronic smokers in Malawi start at a young age – in their late primary school years or early secondary school. Peer pressure and emulating close relatives/friends seem to be the main influence of smoking initiation. The two case studies in this study fit this profile, with both having started smoking before the age of 17 and both being influenced by others at the onset. For the rural case, the smoking habit was further maintained via shared or gifted cigarettes. In the rural areas as well as in many high dense urban and peri-urban areas, Malawian smokers are known to send young children, even those under 10 years of age, to purchase cigarettes on their behalf from grocery stores and/or market stalls. This culture of 'respect' of serving one's elders can result in children smoking leftover cigarettes or 'borrowing' one of the cigarettes they have been sent to buy. This is further worsened by the lack of a national policy prohibiting the sale of cigarettes to the underaged. Hence this practice is on-going. Often young children end up trying to smoke with a left-over cigarette. Anecdotal evidence from

FGDs with the public for this study shows that many communities feel that even if government enacted a policy prohibiting the sale of cigarettes to children, it would not be adhered to due to lack of enforceability and unscrupulous business people who would choose profits over public health. The latter would be further fuelled by the knowledge that enforceability would be near impossible, based on the difficulty of enforcement of other [health or otherwise] public policies, such as the prohibition of vending in public places.

Smokers attempt to quit mainly after an illness and as advised by health care practitioners. Cessation seems to be an individual effort with support from the public health care system being mainly in the form of advice and counselling. In some cases, smokers attempt to quit many times over their lifetime and fail to do as in the case of Lefani (see Case study 1). Support to quit smoking was not mentioned by either case study nor by FDG participants. This is largely due to the fact that cessation services in Malawi are few and privately operated, thus unaffordable to the ordinary Malawian. A key recommendation is that the government should set up a low-cost community cessation service that works via local health care centres to support people making efforts to quit smoking. This service would require providing training for health care practitioners throughout the country. The costs of such training have not been quantified, but these can be kept low if the smoking cessation training is added into other regular on-going training programmes for health practitioners.

Case study 2: Mr. Yona, Ntchisi District, Malawi

Age: 69
No of years smoking: 43 years **Smoking habit:** 4 cigarettes a day of traditional unprocessed tobacco
Disease presentation: Chronic cough, episodic vomiting, loss of appetite and weight loss

Introduction

Mr Yona was born in 1952 in a village in T/A Malenga in Ntchisi district. He has a primary school leaving certificate and is married with 8 children ranging in age from 41 to 20 years of age. All his children are either engaged in business or are farmers. In addition, he has 8 grandchildren. He was raised in a large family of 10 children; and currently lives in his family compound with his mother, brothers and sisters. He has been a farmer for his entire life, and in the last 20 years he has farmed tobacco, in addition to growing maize, soya beans and irrigated vegetables.

Picture 1: Mr YL with his mother in their family compound – April 2021

Smoking habit

Costs of illness

During the time of his two-week hospitalization at the district hospital, he had three guardians – his wife, his daughter-in-law and his brother. They all shared his hospital ration of food and supplemented by the women cooking at the 'guardians shelter' using maize meal and relish which they had brought from home upon his admission. Additional supplies were regularly provided by neighbours and other family members who visited them regularly from their home village.

During his stay in hospital, his harvest activities were delayed, fortunately nothing was stolen by opportunistic thieves. Upon returning home, he has not had the strength to return to his farm. Family members together with a group from the community, helped to harvest his tobacco, maize and soya bean fields for free.

After he is discharged at the end of April, he has to go back to the hospital once a month for medical check-up. He has to make a 20-kilometer round trip to reach Ntchisi district hospital. The trip takes 2 hours to make and upon arrival, he normally queues for hours. So far he has travelled to the hospital via a hired motorcycle. Since his discharge in April, he has been to the hospital three times. Often he goes alone but on some occasions, he is accompanied by his son.

Mr. Yona started smoking in 1978 when he was in the final year of his primary school. He started smoking due to peer pressure and he typically smokes 4 cigarettes a day of traditional unprocessed tobacco. In addition, he also periodically smokes processed branded tobacco, shared with him by other smokers such as friends, family and neighbours. Since he started smoking he has not been able to stop smoking and he has not attempted to quit. **Illness and hospitalization** In 2017 he developed a chronic cough, which persists to date. In November 2020, he started having a loss of appetite which resulted in weight loss (currently weighs 46 kg with a height of 152 cm. Upon admission in April he weighed 53kgs). He also started having episodic vomiting. On 7th April 2021, he was taken to the hospital due to headache, excessive vomiting and loss of consciousness. After extensive hospital investigations, it was found that he has hypertension and needed to start taking medication. He was also given counselling and provided with information to help him to change his lifestyle to enable him to quit smoking. He was also given counselling on how to take his medication and advised to ensure he keeps his regular hospital visits for check-ups. After two weeks in the government hospital in Ntchisi Boma he was discharged and he has not smoked since then. He believes he will never smoke again.	Due to costs his son is not always able to go with him. Hospital visits cost him an average of USD12.50. Approximately 70% of this cost is travel costs and the remainder is used for food and refreshments. This money is hard for him to find since he does not have a job and farm earnings from tobacco come after the closure of the tobacco marketing season later in the year. His total monthly medical costs are now at about USD25 including the travel and transport and cost of buying medication – as sometime the government pharmacy which provides free medication to all patients does not always have the drugs in stock. These costs also include additional medical exams like routine Liver Function Tests (LFTs) and X-Ray Barium Swallow which were part of his hospitalisation. He thus anticipates that going forward his monthly medical costs will reduce to just under USD15 all things being equal i.e. not needing additional medical exams and the government pharmacy being able to provide his medications for free. **Other outcomes** His source of income has greatly reduced which has made him dependent on his wife and children for financial support. Previously he operated a small irrigation farming business in the *dimba* (wetlands). This business allowed him to get cash income throughout the year – not just during the rainy season. Since his illness, he has not been able to do this. Thus his family has fallen into poverty with food shortages being the order of the day since the onset of his illness. This has affected him mentally as since his youth, he has been able to provide for himself and his family, albeit in a hand-to-mouth fashion. Furthermore, his wife is now double burdened with carrying out all household chores and also contributing towards their daily upkeep. This, she mostly does through her engagement in a local women's village savings and loan activities. The only advantage of the illness has been that he has given up smoking.

Enactment of public health policies – public perspectives

All stakeholders consulted agree that government should put in place policies that focus onpreventing people from smoking in public places. This should be the case despite the recognition that enforcement would be difficult.

Reasons to put in place tobacco control policies

Public health, as well as three other factors, were provided by FGDs as reasons for the need of public health policies:

- ***Environment***: Unrestricted smoking contributes to air pollution thus making other uncomfortable. Furthermore, smoking litters the environment with smoking stubs discarded haphazardly.
- ***Society***: Smoking in public places violates the human rights for non-smokers. In some cases, quarrelling and fighting has broken out between smokers and non-smokers.
- ***Influence***: Smoking in public influences children who see it as cool thus leading to imitation. This is further worsened with children picking up haphazardly discarded stubs and attempting to smoke.
- ***Economic***: To reduce money spend in hospitals on treating people due to diseases from smoking. And to reduce poverty as the money used to buy cigarettes can be used for other important things.

A few of the participants did not agree with the need for the enactment of policies to curb smoking in Malawi. They stated that such policies would be a **violation of the human rights of smokers** i.e. their right to smoke anywhere anytime as needed. **The general consensus however was reached in the groups where this was raised that the greater good of public health far outweighed the right of an individual to smoke unrestricted**.

Policies to curb smoking in public

Various public health policies to curb smoking were suggested by FGDs participants as follows:

- ✓ ***Designated smoking areas***: All businesses and government offices to designate smoking areas. This should go hand-in-hand with the enactment of penalties for anyone smoking in non-designated areas i.e. put in place stringent monetary fees.
- ✓ ***No smoking in dwelling houses with traditional enforcement***: Within villages, smokers should smoke outside their dwelling houses, with those refusing to comply reported to the local traditional leaders for disciplining. This should go hand-in-hand with a traditional reporting systems with communities empowered to report offenders to the group village level (GVH). This should be anonymous where needed.
- ✓ **Age-restrictions:** Age should be a limiting factor with sales of tobacco products restricted to adults. Any businesses selling tobacco products to under-age persons should have their business license revoked. Currently, the Malawi law does not specify a minimum age for the purchase of tobacco products.[11] This could explain why 3.5 % of Malawian youth aged between 13- and 15-years smoke cigarettes.[12]
- ✓ ***Anti-smoking messaging***: Government should involve the existing youth groups in communities to engage in advocacy through health talks, dramas/theatres to discourage the youth as well as elders from the smoking behaviour and to inform them of the effects of smoking.
- ✓ ***Increased taxation on tobacco products***: Government should raise taxes on tobacco and cigarettes so that prices are higher which may discourage people from smoking.

These policies must be enacted along with budgetary support for on-going civic education and awareness-raising on the dangers of smoking for the public. The educational system should also include anti-smoking messaging as part of the normal academic curriculum from the third year of primary school. Finally, the youth must be engaged in public health policy processes to ensure that their voice is heard, and that policies are developed that will take into account youth challenges in relation to smoking initiation.

[11] Tobacco Control Laws, Legislation by country, Malawi profile. https://www.tobaccocontrollaws.org/legislation/country/malawi/summary

[12] WHO report on the global tobacco epidemic, 2019. Malawi country profile. https://www.who.int/tobacco/surveillance/policy/country_profile/mwi.pdf

Enforcement of public health policies

For these policies to be effective, FGD participants stated that they must be grounded enforcement in local and community structures. For example, there must be efforts to raise awareness about the policies to educate the general public. This would best be done by local Health Surveillance Assistants (HSAs) as well as other key local and community workers including those in other sectors such as agricultural extension workers - the Agriculture Extension Development Officers (AEDOs) and Agriculture Extension Development Coordinators (AEDCs) who already cover all part of the country. This would ensure the availability of man-power. At the local government, District Councils should be empowered to support the Ministry of Health to also raise awareness and provide civic education of any public health policies Most importantly District Councils should be mandated with enforcement of the public policies. Other key stakeholders including religious leaders & faith-based organizations, local traditional leaders, educational institutions, community-based organizations should be empowered and engaged for community mobilisation, awareness raising and feedback on challenges of the public policies put in place. Other key stakeholders mentioned specifically:

- NGOs: Introduction of tobacco substitute crops and provision of messages of effects of smoking.
- Police and judiciary: Law enforcement sentencing of offenders, respectively.
- International organisations: provision of financial and technical assistance for community awareness and civic education.
- Local traditional leaders: as the custodian of culture they will be in the fore front monitoring that the policies that will be put in place are being adhered to and followed in their jurisdiction. This will include ensuring that community policing systems are used to facilitate the reinforcement of public health policies to eradicate or minimize smoking at different levels. They should also be engaged as the first line of entry for raising awareness of the risks of smoking.
- Youth organizations: should be empowered to ensure that anti-smoking messages reach the youth through the arts and creativity i.e. dramas or theatres. Furthermore they should work to encourage youth to join youth clubs and participate in different activities that will empower them.

Effects on the Malawi economy

There is a prevailing belief that policies to curb smoking will negatively affect Malawi's earnings from tobacco production, resulting in loss of income for small businesses selling tobacco products and earnings for tobacco farmers. This perception is prevailing amongst FDG participants as well as in concerned stakeholders and individuals (Picture 1). It is clear to see that there is difficulty in separating the supply side and the demand side of tobacco. The supply of the green leaf, for which Malawi is known for; differs from the consumption of the finished product – mainly imported cigarettes, which affect public health. The latter provides limited income for the country; and any such income is offset by growing disease burden from smoking.

Picture 1: Example of public perception on effects of tobacco control policies on Malawian economy

To respond to these concerns and bring forth alternative pathways [without tobacco production] for Malawi's future agricultural development, numerous research has been conducted (Mataya and Tsonga, 2001; Lencucha et al., 2020; Shah et al., 2021).

The strategies proposed by various experts and tobacco control policies have potential to contribute to helping the country achieve its medium- and long-term goals. For example tobacco control policies have potential to accelerate inclusivity in society and contribute to environmental sustainability – both of which are part of the Malawi 2063 vision.[13] Expert calls to diversify the economy and agricultural production away from tobacco, resonate with the nation's vision for agricultural diversification and improved air quality as enshrined in the National Resilience Strategy (2018 – 2030) and the National Environmental Policy. All of these changes will contribute to improved health and lessen disease burden – thus contributing to the country's National Community Health Strategy and National Health Policy. Political will is however required to take force of these alternative agricultural development pathways and to ensure the enactment and enforcement of tobacco control policies. Recently there has been a movement towards this in the political arena.[14] This should go hand-in-hand with making the public aware, not only of the negative consequences and costs of smoking on the economy of the country, but also of diversification strategies to ensure that the Malawian agricultural sector quits tobacco production, while its people quit using tobacco products.

Conclusions and recommendations

Establish a national databank on smoking and smoking cessation for Malawi. Malawi lacks a national data set/ sample survey that captures the prevalence of smoking, associated health effects and costs. Existing surveys have limited coverage. We recommend the annual collection of national statistics smoking prevalence, quit attempts, what people use when they try to quit, actual quit rates, districts differences, as well as the availability and use of smoking cessation support services. This would ensure accurate monitoring of smoking patterns and health effects – thus help policy makers in planning. Such data would also go far in allowing

[13] Malawi 2063 Vision

[14] Malawi President Proposes Switch from Growing Tobacco

future studies to document and estimate the costs of smoking and tobacco usage to communities and even at the national level – which was not possible in this current study.

Government, through the Ministry of Health should establish a public (free or low cost) stop smoking service, to aid smokers that want to quit smoking, but are failing to do on their own. This service should be available in all local clinics with the district hospital acting as the anchor hospital providing capacity building of clinicians operating this service in local clinics. A key recommendation is that government set up a low-cost community cessation service that works via local health care centres to support people making efforts to quit smoking. This service would require providing trainings for health care practitioners throughout the country. The costs of such training have not been quantified, but these can be kept low if the smoking cessation training is added into other regular on-going training programmes for health practitioners.

Nation-wide prevention campaigns, sensitization and education: Government and other stakeholders should put in place nation-wide initiatives aimed at preventing smoking initiation, and those aimed at sensitizing and educating the general public about the risks associated with tobacco use. These should include community level campaigns as well as information sharing via all health care facilities.

Improve the public health information system to ensure that patient information is documented and digitally stored. This also requires ensuring that all information captured in a health facilities patient record and a patient's health passport are also captured in the web-based health management information system. This will help public health policymakers to easily study and make the links between illness and causes of those illnesses such as smoking. Thus, making it easier to quantify impacts on the public health system for better planning. There is also a need to root out corruption in the public health system to ensure the free health care systems remains free. This is especially critical for the poor.

Government should work to **put in place public policies to control usage of tobacco and smoking.** This however will only be effective if the policy is consistently implemented and **enforced via local stakeholders**. Furthermore, enforcement should be multi-sectoral with existing local community structures and traditional leaders engaged. Furthermore, there should be considerations to put in place penalties, such as the person's removal from the beneficiary list of the Farm Input Subsidy Programme (FISP) or from receiving social cash transfers. Care needs to be taken with such penalties as they affect entire households, not just the smoker who does not comply with the tobacco control policies. Most importantly for tobacco control policies to work, there is need for budgetary commitment from Government with finances from other sources being mobilized to supplement.

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Annexes

Annex 1: Data collection tool

ANALYZING THE SOCIO- ECONOMIC IMPACT OF DISEASE BURDEN DUE TO SMOKING IN MALAWI

Data collection sheet – case study

PLEASE CONVEY THE FOLLOWING INFORMATION TO THE RESPONDENT:

Explain that we are conducting this study for Youth Enterprise Services (YES) Malawi supported by the Africa Capacity Building Foundation (ACBF), in order to establish the burden of disease due to smoking. The study will contribute towards advocacy efforts to improve public health policy in the country, with specific focus on public policies pertaining to smoking and tobacco usage.

This interview is expected to collect data pertaining to your smoking history, diseases incurred as a result of smoking as well as any other effects. You can stop at any time.

All your answers will be held in confidence. The answers which you provide will only be used by the YES Malawi Team and will be anonymised.

Before I start, do you have any questions or is there anything that I have said for which you would like further clarification? May I proceed with the interview?

Date of interview: _____

Name of data collector: _____

Place of interview (include locality, district): _____

Name of interviewee (please note this is required for data collection but maybe anonymised for confidentiality) : _____

Sex: *1) Female* *2) Male*

DOB: _____

Instructions to interviewer: Ensure all information is captured in the responses box. If more space is required, capture on back of questionnaire. For all questions, probe accordingly and record other interesting and important findings in the 'Any other information box'

a) Smoking history:

Please complete table with as much information as possible

Question 1	Responses
a. When did you start smoking (month and year)	
b. Why did you start smoking?	
c. How many cigarettes per day did you smoke? d. How many cigarettes per day do you smoke now?	
e. What brand of cigarettes do you smoke? Specify	
f. What is the cost of smoking per day? Or per week in MK?	
g. How many cigarettes per day did you smoke a year ago?	
h. Have the COVID-19 pandemic affected your smoking? 1.*Yes 2. No*	

i. If yes, specify in response box	
Do you have other family members that smoke or previously smoked? *1. Yes, 2. No.* If yes, give details	
Have you made effort to quit smoking? *1. Yes 2. No.* If Yes, when? *1. Before illness, 2. After illness, 3. During illness, 4. All* What has been the outcome of your smoking cessation? *1. Successful (no longer smoking), 2. Not successful (continuing to smoke)*	
Any other comments	

b) Illness and disease history

Question 2	Responses
a) What illness are you diagnosed with?	
b) When were you diagnosed with the illness?	
c) What symptoms are you experiencing as a result of the illness	
d) What treatment are you receiving for the illness?	
e) What are the estimated costs of each treatment?	
f) How often do you go to the health facility/clinic/hospital for check-up? *Detail the history of hospital admissions*	
g) How much does it cost you to get to the health facility/clinic/hospital	
h) Is there anyone else in your family with a history of this illness? (grandparents, parents, siblings) If Yes, Who?	
i) How has this illness affected your livelihood? (e.g. work, social)	
j) Are you receiving any counselling regarding your illness from the health providers? If Yes, How often?	
k) Do you have a health passport?	

If No, what do you use for record keeping of your treatment?	
l) Have you used the same health passport since being diagnosed with the current illness? *If No, are previous records available*	
m) Do you have any support system to help with daily activities since the illness? *If Yes, Who?*	

c) Personal information

Question 3	Responses
Highest level of education: *1. No education, 2. Primary school, 3. Secondary school (MSCE), 4. Degree level, 5. Post degree level*	
Marital status: *1. Married, 2. Separated, 3. Divorced, 4. Never married*	
Do you have children? *1. Yes, 2. No.* a) If yes, number of Children?	
What is your employment status *1. full time employment, 2. Part time employment, 3. Business person, 4. Retired 5. Not employed*	
Has your employment status changed as a result of illness? *1. Yes, 2. No.* b) If yes provide details.	
Do you have any other source of income *1. Yes, 2 No.* If Yes, list the source of income. How much income were you getting? before illness: …… (2) After illness: ……..	
Has your other sources of income changed as a result of your illness? *1. Yes, 2. No* If Yes, give details.	
How many people live with you (members of your household)? *Specify number*	
Is there any member of the household that smokes too? 1. Yes, 2. No If yes, does the person have an illness as a result of smoking? *1. Yes, 2. No* If yes, what are the issues affecting the member?	
Have the members of your household been affected in any way with your illness? *1. Yes, 2. No* If yes, how have they have been affected	
Has the illness affected the cost of health care? *1. Yes, 2. No* If yes, provide details	

Annex 2: Letter of Introduction and Informed Consent

Youth Enterprise Services (Yes) Malawi

The socio-economic impact of disease burden due to smoking in Malawi

April, 2021

Dear Participant,

You are invited to participate in a policy research study conducted by Youth Enterprise Services (Yes) Malawi, Lilongwe, Malawi funded by the African Capacity Building Foundation (ACBF). .

The purpose of the study is to demonstrate the socio-economic costs of smoking to smokers and their families in Malawi using case studies. The study findings will be used to develop recommendations for health policy makers working on putting in place tobacco control public policies and consumer associations that are engaged in lobbying and advocating for the design and implementation of more effective tobacco control health policies.

Please note the following:

- ✓ All information collected will be made anonymous and your name will not appear in the final case study. The answers you give will be treated as strictly confidential and you cannot be identified in person based on the answers you give.
- ✓ The case study requires that we access your medical records in order to document the disease burden. As with all other information collected, these medical records will be kept anonymous and will only be used for the purpose of this study.
- ✓ Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- ✓ Please note the interview will be conducted by trained professional who if in person will adhere to all COVID-19 preventive measures including distancing, the wearing of a face mask and the use of hand sanitizer. Other follow up conversations can be arranged via telephone calls.
- ✓ The results of the study will be used for policy recommendations and will be published in an edited book by the Africa Capacity Building Foundation (ACBF) and may also be published in an academic journal. We will provide you with a summary of our findings on request.

Please contact the YES Malawi Board Chairperson and overall study leader, Professor Eta E Banda via email: bcrfmw@yahoo.com, if you have any questions or comments regarding the study.

Please sign the form to indicate that:

- You have read and understand the information provided above.
- You give your consent to participate in the study on a voluntary basis

_____ _____

Signature Date

Annex 3: Focus group discussion checklist

Youth Enterprise Services (YES) Malawi

Study on: The socio-economic impact of disease burden due to smoking in Malawi

*Stakeholder engagement and consultation – FGD checklist – **ENGLISH***

Opening by local government personnel present or organizing partner

- Opening prayer, Opening Remarks
- Self-introductions – all

Introduce Youth Enterprise Services – facilitator or notetaker to do this

- YES Malawi is:
    - A social enterprise that **promotes initiatives to serve the youth** in Malawi.
    - Works by taking urgent action in order to **raise public awareness** about some of the **most pressing issues hindering** youth participation in the economy and society.
    - Offices in Lilongwe area 47 sector 2, but working throughout the country.
    - Currently YES Malawi is working on a research study to understand the disease burden of smoking in Malawi.

Introduction of topic – facilitator talking points

- Smoking has negative health effects with smokers likely to get illnesses and disability from various diseases - cancer, heart disease, stroke, lung diseases, diabetes, tooth and gum disease, and chronic obstructive pulmonary disease (COPD).
- Smoking can increase the risk for tuberculosis, certain eye diseases, and problems of the immune system, including rheumatoid arthritis and erectile dysfunction in males.
- Apart from direct smoking, second hand smoke also has negative health effects affecting household members - spouses, children and the general public who are exposed to second hand smoke.
- Many countries have put in place public policies, to reduce the smoking to prevent smokers from causing harm to others via second hand smoke. **NOTE: provide example of smoking outside a hospital window, with patient inside hospital suffering or other relevant to the context.**
- These types of policies are important because as of 2018, data showed that 28% of all deaths in Malawi were caused by diseases that are related or linked to smoking and tobacco usage. **NOTE**: **Use flip chart – show pie chart or other to illustrate that a third of all deaths**
- Malawi does not have these policies.

Objective of the FGD:

- To hear your thoughts and views on the establishment of such public policies in Malawi.
- This will be a dialogue, we want to hear your voices, so that YES Malawi can provide recommendations to policy makers.
- ***Note: individuals comments will not be linked to your name, so don't fear speaking openly.***

Guiding questions to get the conversation going

Note to facilitator and notetaker: ensure that other issues that arise as a result of these questions are probed and notes taken for reporting. All discussions will add value!

1. What are your thoughts/knowledge about the negative health effects of smoking? To the smoker? To others via second hand smoke? To the family members of the smoker?

2. Should the government put in place policies to prevent people smoking in public places i.e. smoking in or near public buildings and work spaces such as offices, shops, hospitals, hotels, schools, markets, bus stands, pubs, bars, pachiwaya, pa bawo? ***Note: probe to ensure both sides of the debate speak***
    a. If yes, tell us a bit more why you think so?
    b. If no, tell us a bit more why you think so?

3. Should the government put in place policies and strategies to completely stop smoking in the country? ***Note: problem to ensure both sides of the debate speak***
    a. If yes, tell us a bit more?
    b. If no tell us a bit more?

4. If such policies are to be put in place, what should be the steps/ strategies? ***Note: go around the group and get everyone (where possible to give input)***

5. Apart from government who else can take action against smoking? Against starting smoking amongst youth? ***Note: List of all stakeholders mentioned***
    a. What actions can each [stakeholder group] mentioned take