JAMAICA CASE STUDY

Financing of NCD Prevention in LMICs: Jamaica Case Study

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Abstract

Objective: The objective of this study is to estimate spending on non-communicable diseases (NCD) prevention in Jamaica and identify the enablers, challenges and dynamics underpinning population-level NCD prevention spending, with particular focus on tobacco use, harmful use of alcohol, unhealthy diets and physical inactivity.

Methods: Primary and secondary data collection was used to examine processes and organizational contexts that shape the formulation of policy and financial frameworks for NCD prevention. The methodology was categorized into three tiers; an academic literature review, scrutiny and analysis of official policy documents and budgetary data on health and NCDs, and in-depth stakeholder interviews with key government officials leading NCD programmes. Government and government-routed donor spending on population level prevention was gauged to estimate NCD prevention spending. Where possible, impact of prevention programmes on disease incidence and risk factors was gauged through available outcome indicators.

Results: Jamaica spent an estimated 1,435 million Jamaican Dollar (JMD) on NCD prevention in 2017-18, constituting around 2.7% of total health spending for the year. Key enablers for NCD prevention revenue mobilization have been earmarked taxes on alcohol, tobacco and gambling, civil society advocacy for prevention efforts, regional cooperation for NCDs, increased prioritization of NCD prevention by the Ministry of Health, awareness campaigns focusing on risk factors, political will and inter-sectoral collaboration. Unhealthy diets remain an underserved area in Jamaica and economic slowdown, opposition from tobacco and alcohol industries remain major barriers to further success at revenue mobilization for NCD prevention.

Conclusion: Jamaica has made considerable progress in reorienting its health system for an inter-sectoral effort for NCD prevention, but still continues to spend a small proportion of its health budget on prevention. Fears of investment relocation and lower taxation commitments present obstacles to increased revenue mobilization and prevention spending.

Keywords: Noncommunicable diseases, tobacco, behaviour, gambling, employees, incidence, Jamaica, risk factors, diet, tobacco, taxes, fear

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Introduction

This is a case study on the financing of NCD prevention in Jamaica as part of a series of 10 case studies from LMIC describing the enablers, challenges and dynamics of financing NCD prevention programmes, aimed at providing promising practices and determining common threads and trends.

In Jamaica, nearly four out of five individuals die from NCDs, and the probability of premature mortality from any of the four main NCDs (cardiovascular disease, diabetes, chronic respiratory disease, and cancer) in the country is 16.9%.[1] The impact of NCDs goes beyond health; it has wide-ranging social and economic consequences. It imposes a direct economic burden on the country – estimated at $18.5 billion over 15 years - and reduces spending on education and physical capital, which are critical to Gross Domestic Product (GDP) in the long run. There are other aspects to the economic burden of NCDs; it affects economic productivity by reducing labor participation due to ill-health. It eliminates years of labor output of individuals who suffer premature mortality. Further, individuals with NCDs are more likely to miss days of work or to work at a reduced capacity while at work.[2]

Jamaica has made progress on NCDs, both in terms of the provision of NCD-related health services and engaging in multi-sectoral action for prevention. The government has taken numerous policy and financing steps to control NCDs. These have included the implementation of national strategic plans for NCD control and prevention, the formation of dedicated NCD financing mechanisms like the National Health Fund, taxation of tobacco, alcohol and the gaming and gambling industries to finance NCD interventions, healthy activities and public campaigns for health promotion and improved nutrition, among others. The interventions have met with considerable success in

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many respects but NCDs continue to pose a massive public health challenge. Premature deaths attributable to NCDs remain as high as 79% and the country does not seem to be on track to meet the regional NCD goal of a 15% reduction in premature mortality by 2030.[3] Perhaps worryingly, expenditure on NCD treatment appears to be rising in proportion to prevention in recent years.

Limited availability of funds for financing NCD control and prevention in particular are an important part of the reason for the continued persistence of chronic NCDs. There is an established tendency for governments to provide more funding for treatment than prevention, almost in inverse proportion to potential impact – that is, while prevention is clearly the best use of limited resources it is often easier to secure resources for treatment instead.

This study will investigate the dynamics of NCD prevention financing in Jamaica to identify the key lessons, challenges and barriers from Jamaica's experience with financing and implementing NCD prevention. It will do so by first examining the socio-economic and institutional context of NCDs in Jamaica and the region, outlining the key policy responses and interventions of the Jamaican government to the NCD crisis, and understanding how financing for NCD prevention is raised and spent, and what kind of economic, social, political and institutional barriers stand in its way. The key lessons and challenges emerging from the Jamaican experience will then be discussed and summarized, and a set of actionable outcomes and recommendations will be presented.

Methodology

The methodology for this assessment consisted of two parts: a review of academic and grey literature and budgetary data and data collection in the form of interviews with key informants. The study adopts the critical theory approach, which acknowledges reality as contextualized and shaped by various social, cultural, economic and political factors and sees the research process as a means to bring about change and transformation. In this study, the critical theory approach was employed to question existing frameworks, organizational hierarchies and red-tape, identify impediments arising from political, economic, systemic and bureaucratic, and largely regional and global contexts, before proceeding to present a set of actionable outcomes and recommendations.

Public financing was defined as resources allocated/mobilized indigenously (revenues) at the country level. This also includes the use of catalytic official development assistance as grants/loans and/or monies from philanthropic sources predicated on the understanding that these are meant to build country capacity and are a stop gap arrangement. This implies that funds from ODA loans and grants, as well as from philanthropic sources, need to go first into the government's resources. The World Bank definition of prevention was employed, as those preventatives and "public health services … designed to enhance the health status of the population as distinct from the curative services which repair health dysfunction."[4]

The investigators used a search strategy involving Medline, Google Scholar, Embase, JStor and Web of Knowledge, databases to identify peer-reviewed articles that examined NCD financing. In addition, the first 20 pages of Google searches were examined to identify articles from the grey literature. The main search terms were 'NCD', 'prevention', 'financing' and 'Jamaica'. Additional search terms related to the topic were: 'health promotion', 'non-communicable disease', and 'budget'. Additional search terms related to policy were: tax, legislation, ban, intervention, labelling, law, and standards. Based on the information in the abstracts, those studies were selected for review that: a) were of an empirical nature; b) examined NCD prevention and its financing; and c) dated from the 21st century onward, when concerted policy efforts to counter NCDs began in the region.

The selected studies were reviewed and organized into categories of analysis that were refined based on the evidence emerging from the literature. Later, a specific search was undertaken for broader literature, including policy frameworks on NCDs in Jamaica and the Caribbean.

The investigators then reached out to the governments and relevant departments/bodies to procure reports, budget plans, policy guidelines and similar material. This data was analysed thematically, to further refine research questions and thoroughly revise interview guides. At the end of the second tier, the investigators shortlisted potential participants to be recruited for in-depth interviews. These included key stakeholders such as officials from the Ministry of Health and Wellness (MOHW), Ministry of Finance, planning ministry or staff from the office of the head of state.

The socio-economic context of NCDs in the Caribbean

The Caribbean consists of a group of small and vulnerable economies, a region that has struggled to achieve desired social and economic development. The small island developing states (SIDS) face multiple challenges including slow uneven economic growth that is

vulnerable to external economic shocks and natural hazards. While the region depends heavily on exports, the small size of the countries of the region and their rather scarce resources limit the scale and range of trade in exports they can undertake. Further, the lower levels of capital accumulation in the small countries lead to chronically high costs of production factors and inputs that present barriers to competitiveness in external markets. All these factors combined constrain both job creation and generation of tax revenue.[5] This weak fiscal position limits Caribbean governments' ability to provide for their populations access to, and quality of, social safety nets, including health and NCD-related service delivery.

The global financial crisis since 2007 has also led to a prolonged economic decline in the region, causing falls in exports, remittances, and foreign direct investment in the Caribbean, as well as spiking food prices. The effects of the global financial crisis were further exacerbated by trade liberalization; 87% of trade imports from the European Union were liberalized as a result of the Caribbean EU Economic Partnership Agreement (EPA), which led to reductions in Caribbean governments' revenues from import duties. Further, the graduation from overseas development assistance owing to the region's rise to middle income status led to a reduction in foreign aid to Caribbean states that had long been used by regional governments to supplement national budgets. Caribbean country debts have risen drastically as a result over the past decade; four countries, including Jamaica, have seen gross public debt rise to 100% or more of GDP.[5]

According to the Healthy Caribbean Coalition (2017), trade liberalisation policies in the Caribbean have also contributed to a "nutrition transition" - rapid changes in food availability and consumption patterns in developing countries that are leading to shifts away from diets consisting largely of plant-based and home-cooked foods towards meat-derived and processed foods.[6] This transition has been accompanied by an epidemiological transition from infectious diseases to chronic, non-communicable diseases such as obesity, diabetes and cardiovascular disease. Today, half of CARICOM countries import 80% of what they consume, causing monumental changes in dietary patterns towards greater consumption of processed foods (which constitute the top five food imports in the region), contributing to the 'epidemic of obesity and diet-related NCDs'.[6]

Key industries relevant for NCD prevention

The alcohol industry plays a significant economic role in Jamaica and the rest of the region. Jamaica is the largest alcohol beverage exporter in the Caribbean and, along with Trinidad & Tobago, Saint Lucia, Guyana and Barbados, accounts for 97% of extra-regional exports in the industry.[5] This accords it a high level of political influence due to significance of its export earnings. The alcoholic beverage industry is not supportive of the NCD target of reduction in alcohol consumption and advocates Corporate Social Responsibility (CSR) measures as voluntary self-regulation.

The ultra-processed food industry is also an important economic player in Jamaica, with the country importing the bulk of the food it consumes. Public pressure for reductions in sugar, salt and trans-fat consumption is leading to some companies voluntarily reformulating products to meet changes in market demand. However, attempts by the government to regulate or tax sweetened beverages and processed foods are still being resisted.

Like most other Caribbean Community (CARICOM) countries, Jamaica is a net importer of tobacco products. While the government has introduced tobacco controls over the past 15 years, there has been active resistance from the tobacco industry to delay the development of the Regional Standard for Labelling of Tobacco products. Further, the industry has also attempted to weaken public smoking bans and challenge bans on tobacco advertisement.

NCDs in the Caribbean

NCDs have been the leading causes of mortality and morbidity in the Caribbean region for many years now. Data from the Caribbean Epidemiology Centre (CAREC)[2], show that cardiovascular disease has been the leading cause of mortality in CAREC member countries since 1985, accounting for 15.3–17.5% of deaths in the region. In addition, cerebrovascular disease was the second or third leading cause of death, and hypertension was the fifth or sixth leading cause of death between 1985 and 2000.[7] Data from the Pan American Health Organization (PAHO) suggests that the Caribbean NCD epidemic is the worst in the region of the Americas (5-7). In light of this high burden of NCDs, Heads of Government of the CARICOM member countries met in Port of Spain in September 2007 and issued a declaration entitled "Uniting to Stop the Epidemic of Chronic Non-communicable Disease", now known as The Port of Spain Declaration. This declaration has proved instrumental and has served as a regional rallying cry to address the burden of NCDs and eventually led to the holding of the UN summit on NCDs .

NCDs in Jamaica

NCDs are the largest driver of morbidity and mortality in Jamaica and a leading cause of death. In 2015, an

estimated seven out of ten Jamaicans died from the four major NCDs, cancer, cardiovascular disease, diabetes, and chronic lower respiratory disease [Ministry of Health and Wellness 2018].[8] The United Nations Interagency Task Force on NCDs (2018) estimated the economic loss from all NCDs and mental health conditions in Jamaica over the period 2015–2030 to be US$ 18.45 billion; this amounts to a 3.9% reduction of annual GDP over this period and is 18 times Jamaica's total health spending in 2013. Cardiovascular disease alone accounts for 20.8% of the total economic loss, followed by cancer.[2]

The NCD burden in Jamaica

NCDs are the predominant cause of mortality and morbidity in Jamaica and are responsible for the top 10 causes of death in the country (Figure 1). In 2019, cardiovascular disease claimed 6,456 out of the 20,346 lives lost in Jamaica, or roughly 32% of all deaths.[9] This includes deaths from stroke and ischemic heart disease, which have both increased in contribution to death by over 14% between 2009 to 2019. Diabetes and kidney diseases accounted for 3337 deaths in Jamaica in 2019, or around 16.4% of all deaths.[11] The overall prevalence of diabetes was 12% among persons aged 15 and older.[10] Among adults older than 25, an estimated 9.5% of men and 13.3% of women have diabetes. Diabetes prevalence increases significantly with age, with around 16% of individuals in Jamaica aged 45-54 years having diabetes, compared to 22% of those aged 55-64 years and 31.3% of those aged 65-74 years.[2] According to the International Diabetes Federation of North America and the Caribbean, Jamaica is among the top five countries for diabetes prevalence in the PAHO region, with 231,300 cases of diabetes in Jamaica in 2020 (out of 1,842,000), amounting to a prevalence of 11.6% of diabetes in Jamaican adults.[11] Cancers are another leading cause of death in Jamaica and are rising in significance, with an estimated 4338 deaths occurring in 2019, constituting around 21% of total deaths in the country.[9] The leading types of cancer in the country include prostate cancer among men, and breast and cervical cancer among women. Chronic Respiratory Diseases were responsible for 641 or 3% of Jamaican deaths in 2019.[10] Some of the most common chronic respiratory diseases in the country are asthma, chronic obstructive pulmonary disease (COPD), occupational lung diseases and pulmonary hypertension.

NCD risk factors in Jamaica

Death and disability from NCDs in Jamaica is driven by a number of metabolic, behavioral and environmental risk factors including unhealthy diets, hypertension, overweight and air pollution among others (Figure 2).

Tobacco use

Tobacco use is a risk factor common to all four main NCDs.

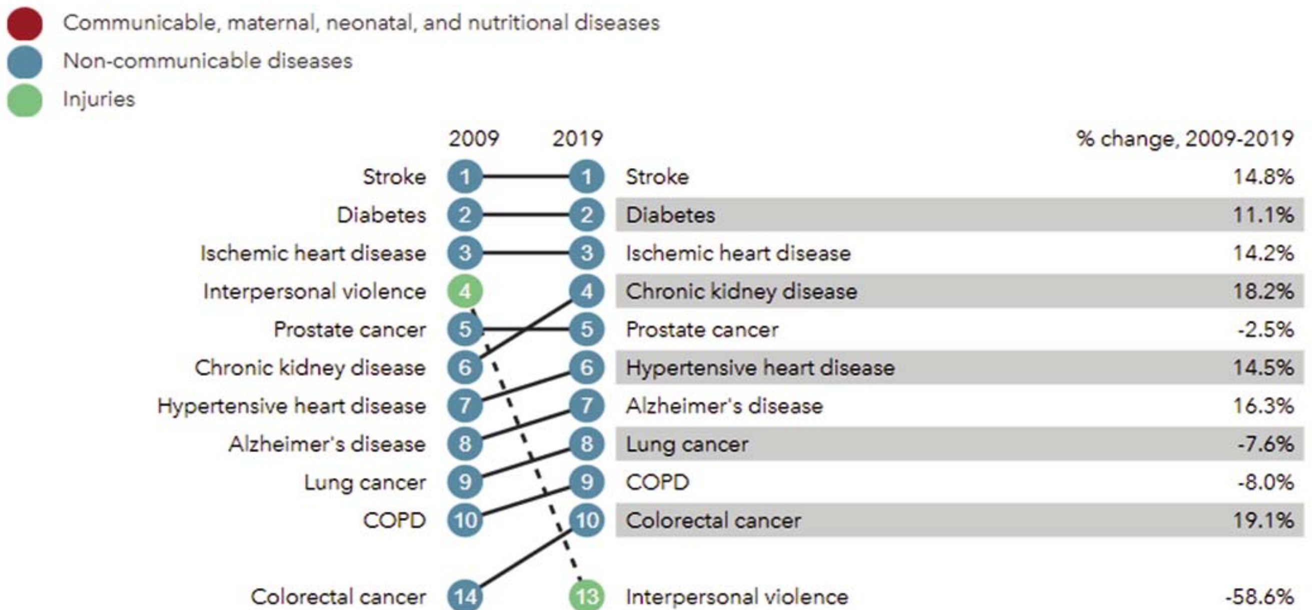

Figure-1: Top 10 causes of mortality in Jamaica and percent change, 2009-2019. Source: Institute of Health Metrics and Evaluation

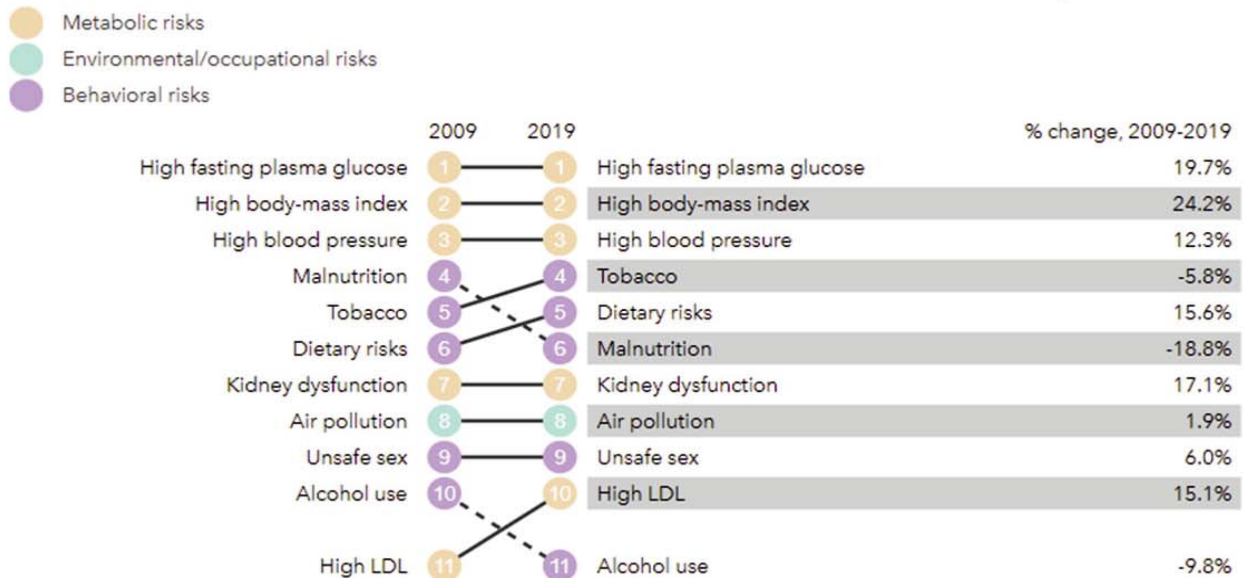

Figure-2: Top 10 risks contributing to total number of DALYs in Jamaica in 2019 and percent change 2009–2019

According to the 2016 National Drug Use Prevalence Survey, 11 % of Jamaicans are considered current smokers, i.e., they have smoked tobacco within the previous month, while 7% are considered daily users. While only 5.3% of women are considered current smokers, 16.8% of men are current smokers. Tobacco consumption prevalence among youth aged 13-15 in Jamaica is the highest in the Caribbean Region, at 28.7%.[2]

Harmful Alcohol Use

Alcohol remains the most widely used drug in Jamaica according to the 2016 National Drug Use Prevalence Survey. Approximately 40% of the Jamaican population report that they currently use alcohol and 75% report that they have used alcohol at some point in their lifetime. A significantly larger proportion of males compared to females, report lifetime, past month, and past year use of alcohol. The same was true for the practice of binge drinking in the past two weeks; about 23% of males vs. 9.9% of females indicated that they had participated in “binge” drinking in the previous two weeks, suggesting a high risk of harmful alcohol use.[12,2]

Unhealthy diet, physical inactivity and obesity

Unhealthy diets are one of the main risk factors for high blood pressure, raised blood glucose, and overweight or obesity, and are associated with cardiovascular disease, cancer, and diabetes. According to the latest Jamaica Health and Lifestyle Survey, 99% of Jamaicans currently consume below the recommended dietary serving of vegetables daily. Furthermore, over half of the population consumes one or more bottle or glass of sugar-sweetened beverage per day.[2] As a result, 12% of the population had raised blood glucose in 2016[1], which is the highest ranked risk factor for mortality and morbidity in the country (Figure 2).[9] Much of the current dietary patterns are a result of rapid changes in food availability and consumption patterns which have lead to shifts from diets consisting largely of plant-based and home-cooked foods toward meat-derived and processed products.[13]

The prevalence of insufficient physical activity in Jamaican adults was estimated at 31.8% in 2010.[14] According to the Jamaica Health and Lifestyles Survey 2016-17, 82% of Jamaicans were engaged in low physical activity (according to minimum WHO recommendations), 16% in moderate activity and 2% in high level activity. Physical activity prevalence did not differ significantly in age or sex. Furthermore, according to the Survey, 52% of Jamaicans had made no attempt to increase their level of physical activity in the past year.[10]

All this contributes to the rising problem of obesity and other diet related NCDs in Jamaica. One in two Jamaicans (over 54%) were classified as either obese or overweight according to the Jamaica Health and Lifestyles Survey

2016-17. Women were considerably more affected, with two thirds of Jamaican women over 15 classified as overweight or obese.[10]

Hypertension

According to the Jamaica Health and Lifestyles Survey 2016-17, 33.8% of Jamaicans suffer from hypertension, which is a major predictor of cardiovascular disease. Hypertension prevalence is higher in women (35.8%) than men (31.7%). Hypertension is among the fastest growing risk factors in the country, having grown from 20.9% prevalence in 2001 to 31.5% in 2017.[10]

Air pollution

Indoor air pollution from Solid Fuel Use (SFU) continues to be a problem with 45% of households using SFU. Outdoor air pollution also continues to be at unsafe levels, with annual average fine particulate matter (PM2.5) concentrations at 43 ug/m^3, far higher than the WHO guideline of 10 μg/m^3.

Jamaican health system and financing context

Jamaica has a two-tiered system, wherein the public sector is primarily involved in primary care, public health and hospital care (which comprises 94% of the country's hospital bed capacity) while the private sector mainly provides outpatient (ambulatory) services (75% of all outpatient care) and pharmaceuticals (82% of all sales).[15]

The majority of health spending comes from the government, with a small share coming from the prepaid private spending and out of pocket payments (Figure 3).

The public sector in Jamaica includes the national Ministry of Health and Wellness (MOHW), Regional Health Authorities (RHAs) and a broad network of primary, secondary and tertiary care facilities as well as the country's medical school.[15] Some functions of the MOHW were decentralized in 1997. Thereafter, the MOHW retained responsibility for policy, planning, and regulatory action and purchasing, while the four Regional Health Authorities (RHAs) assumed responsible for health service delivery in the 14 Jamaican parishes. This was operationalised through Service Level Agreements (SLAs) between the MOHW and the RHAs.[15]

Other than pharmaceutical drugs, the Jamaican public health system is free at the point of service. The MOHW is financed primarily through tax revenue, with around 86% of the MOHW budget transferred to RHAs for provision of health services.[15] User fees were abolished in public health facilities in 2008, creating a system of universal healthcare. This led to increased health facility use, but the rise in public demand led to a deterioration in quality of services in public health facilities and led to longer waiting times and strain on human resources and supplies. Recourse to private medical care, even among

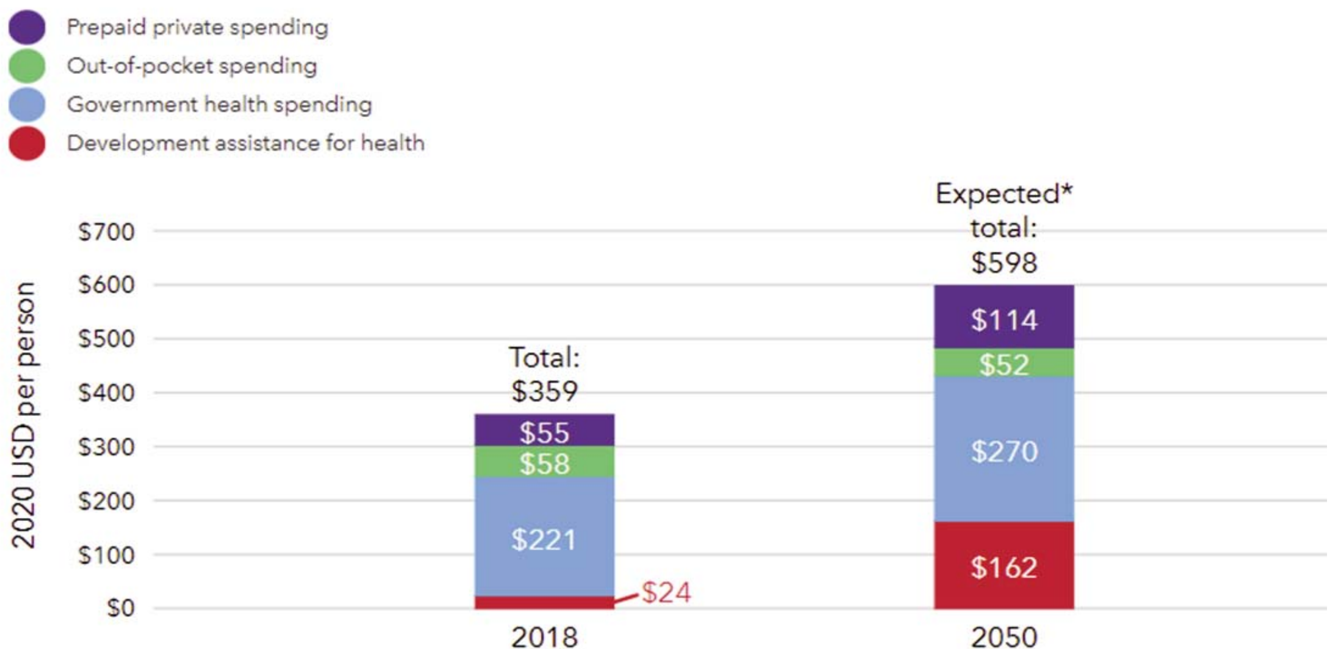

Figure-3: Health spending breakdown in Jamaica (current and projected). Source: Institute of Health Metrics and Evaluation 2020.

poorer segments of the population, has increased as a result of these factors. The government has steadily increased the MOHW budget to compensate for the lack of user fees since 2008, but this has not kept pace with the rise in demand for healthcare. The inability of the public sector to meet increased demand, however, has led to a reduction in quality of care, which has driven Jamaicans from all income groups to increasingly seek private medical care. Currently, public expenditure in health in Jamaica represents 3.47% of GDP, of which the MOHW is responsible for the bulk (97%).[16]

NCD prevention in government policies and plans

The government's National Strategic Plan, 'Vision 2030 Jamaica', was formulated in 2009 and aims to 'advance the country's status to developed nation by 2030 with the guiding principles of social cohesion, equity, and sustainability. Its goal is to provide citizens with world-class standards in education, healthcare, nutritional status, basic amenities, access to environmental goods and services, civility, and social order'.[17]

The Jamaican national health policies (2006-2015 and 2018-2022) have sought to expand the lifespan of its people and encourage the population to assume greater responsibility for their health. Under this strategic direction, the MOHW has initiated health promotion through education activities for behavioural change, promotion of physical activity and healthy diets, marketing of healthy foods, and reduction of alcohol and tobacco use in cooperation with the mass media, NGOs, the education sector and other national and international avenues (see section on chronic disease prevention programmes below).[17]

The MOHW passed the National Strategic Plan for the Prevention and Control of NCDs in Jamaica in 2013, which included the reduction of exposure to NCD risk factors and health promotion throughout the life-cycle as its principal strategic objective. The plan included multiple interventions for NCD prevention and mitigation of risk factors, including measures for reducing tobacco and harmful alcohol use, increasing physical activity, increasing fruit and vegetable consumption, reducing salt and sodium intake, and implementing a comprehensive screening programme for NCDs.[18]

NCD prevention programmes and their financing in Jamaica

Since the early 21st century, Jamaica has taken a number of initiatives to counter NCDs. These have included dedicated, earmarked funds to combat NCDs and subsidize medicines like the NHF, funds to promote healthy activities like CHASE, regular MOHW spending on health promotion initiatives, initiatives for chronic disease prevention and free screening services, campaigns like Jamaica Moves and the Healthy Lifestyle Programme, and other key initiatives around tobacco and alcohol regulation. Some of the key initiatives are described below with a view to capturing the scope of the interventions and key aspects of their financing.

National Health Fund

The National Health Fund is one of the main financing mechanisms devised by the government of Jamaica to deal with NCDs. It was created under the National Health Fund Act in 2003 to reduce the cost of treatment for NCDs by providing free or subsidized medicines to patients with NCD conditions.[17] The NHF is a statutory company located within the National Insurance Scheme (NIS) which encompasses Jamaica's pension, disability, and life insurance, among other types of social insurance. NHF is financed through earmarked taxes on tobacco, alcohol, motor vehicles, petroleum, and payroll contributions to the NIS (see next section on revenue sources).

It serves as a public health management approach to the treatment of chronic disease by providing individual and institutional healthcare benefits to the Jamaican population. NHF individual benefits are for medicinal purchases for NCDs, and are available to all persons who enroll as required. These take up the bulk of expenditure for the NHF - up to 50 percent of the NHF revenue has to be spent on these benefits. Individual benefits also include the Jamaica Alternative Development (JADEP) programme, which provides low-cost medications for a list of 10 illnesses to enrolled beneficiaries over 60.

The NHF also finances prevention programmes, including projects and initiatives under the Health Promotion and Protection Fund, and the now-defunct Healthy Lifestyles Programme administered through the MOHW. Since its establishment in 2003, the National Health Fund has spent more than J$30 billion on medication subsidies, helping over 800,000 Jamaicans benefit from access to more affordable drugs and improved health benefits. Further, it has provided over J$17 billion in grants to fund health projects.[19]

NHF Revenue Sources

The NHF has been deemed an example of an innovative and relatively successful health financing mechanism owing to its use of a mix of revenue sources, which include tobacco excise tax, 5% of special consumption tax (SCT) imposed on petrol, alcohol, and motor vehicles, and payroll tax on annual earnings paid by employees and employers.[17] In addition, since 2011-12, as the NHF assumed responsibility for the procurement, storage and

Table-1: NHF Revenue sources 2010-11 to 2016-17 ($J million). Source: NHF Annual Report (2017)

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Tobacco Tax	1,329	1,062	1,251	941	946	1,002	1,206
Payroll Tax	1,672	2,272	2,223	2,672	2,985	3,504	3,948
5% of SCT	1,045	1,112	1,441	1,199	1,367	1,915	2,173
Total Revenue from Taxation	4,046	4,446	4,915	4,811	5,298	6,420	7,327
Warehouse operations	0	2,105	2,464	2,749	2,557	2,957	2,614
Drug Serv Pharmacies	0	1,169	1,286	1,653	2,091	2,169	3,820
Total Revenue from Pharmaceutical sales	0	3,274	3,750	4,402	4,648	5,125	6,433
Total NHF Revenue	4,046	7,720	8,665	9,213	9,946	11,546	13,761

distribution of pharmaceuticals to the public health sector and the retail pharmacy operations of Drug Serv pharmacy, it has also raised a significant part of its revenue from the sale of pharmaceutical drugs.[20]

Earlier, the tobacco excise tax contributed the largest share to the Fund (23%) up to 2006, when the major national tobacco producer (Carreras Limited) relocated to Trinidad and Tobago. This, along losses from tobacco smuggling, led to a dip in tobacco tax revenues, leading to an increased reliance on payroll taxes. From 2006 to the present, payroll taxes have contributed most of the tax revenue of the NHF budget, with over 54% in 2015-16 and 53% in 2016-17. By the end of 2016-17, payroll taxes contributed $30 million (J$3.9 billion), SCT increased to $16 million (J$ 2.1 billion) tobacco taxes contributed $9 million (J$ 1.2 billion) and to the NHF's tax revenues. In addition, the NHF raised $50 million (J$6.4 billion) in revenue from the sale of pharmaceuticals in 2016-17.[20]

Health Promotion and NCD prevention through the NHF

The NHF provides grants to public and private institutions to support activities related to health promotion and chronic disease prevention. Institutions must submit a project proposal to the NHF which is evaluated by an NHF committee using the national healthcare priorities defined by government, encompassing areas like public

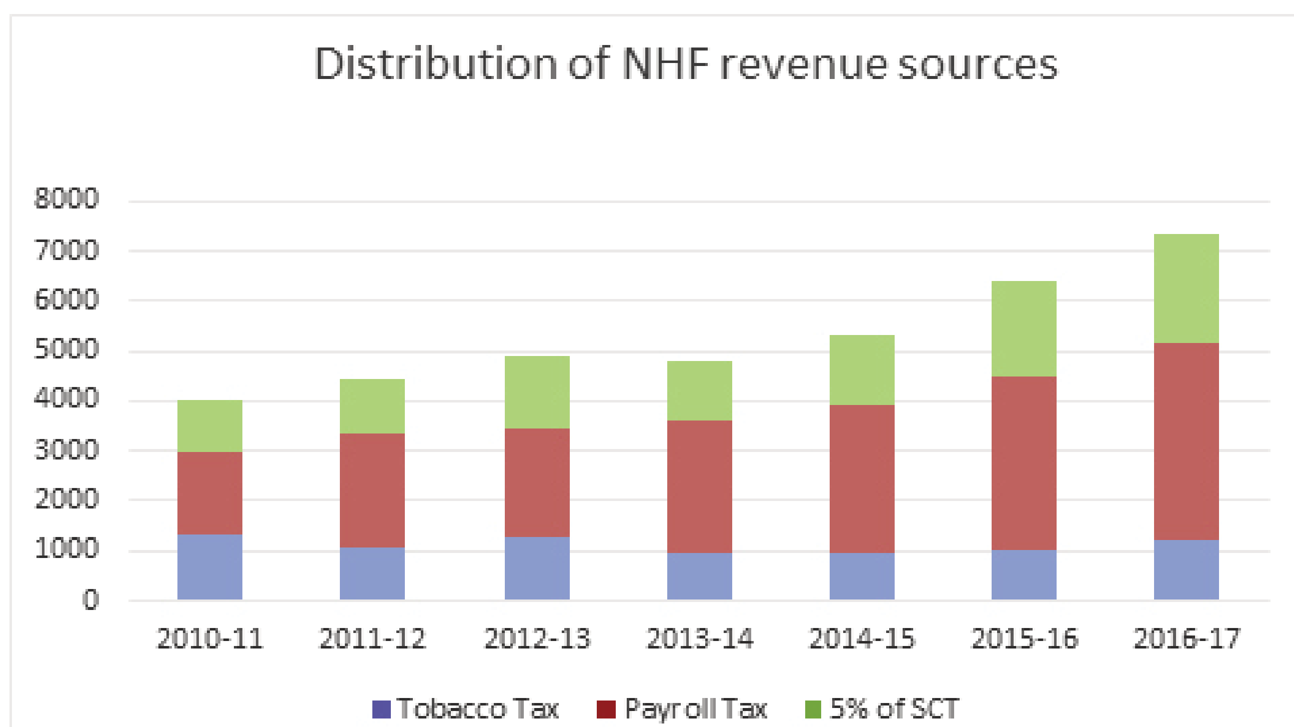

Figure-4: Distribution of NHF tax revenue sources. Source: NHF Annual Report 2017

infrastructure, equipment, education, research, and training.[17] In the early years of the NHF, institutional grants made up the bulk of NHF expenditures, but have since fallen in favour of individual benefits, and have remained between 20 and 29% of expenditures since 2009.[15]

The NHF's Health Promotion and Protection Fund provides public and private-sector organizations health promotion and disease-prevention programmes. NHF's Health promotion activities are aligned with the MOHW Programme to reduce NCDs and the new "Jamaica Moves" initiative. The HPF focuses on promoting wellness in schools, communities and in the workplace. This includes initiatives like screening tests, school and workplace wellness, promotion of healthy eating and living, health promotion partnerships and health literacy, among others.

NHF provides health screening services through events around the country, with follow-ups to encourage those with concerning results to seek medical care. During the 2016-2017 fiscal year, the NHF conducted 100,063 screening tests across Jamaica at 254 events, benefiting individuals at 83 community health days, 19 school wellness activities, and 152 health fairs.[20] The Foundation conducts health promotion activities in educational institutions through the School Wellness programme, which provides support for school feeding, healthy youth clubs, as well as school health screenings. It also supports the Health and Family Life Education Curriculum for Jamaican primary and secondary schools.

At workplaces, NHF runs challenges to foster behavioral change in working men and women to increase physical activity and healthy eating, through the 'Work-it-out Challenge'. Reviews of the programme's interventions have found a positive impact on the programme's participants and their families and workplaces. The NHF's Re-Imagine Food programme educates Jamaicans on healthy eating 'on a budget' through cooking challenges on TV, healthy eating videos and healthy eating promotion booths at various festivals and public events.[20]

The NHF also forges partnerships for health promotion with various professional associations, including the Jamaica Constabulary Force (JCF), the Jamaica Fire Brigade (JFB), and the Jamaican Teachers Association (JTA), among others.[20] It has financed a major grant for the JCF to undertake screenings, carry out baseline surveys on knowledge and attitudes towards health in the Force, and build a health promotion programme and curriculum for recruits on its basis.

Finally, NHF also undertakes population-level health literacy programmes on prevention and control of NCDs, developing brochures, and communicating key information on healthy living as well as on the NHF's beneficiary programmes and activities to improve uptake.

Spending on Health Promotion in the NHF has not meaningfully increased in the past decade; in 2007-08, health promotion activities amounted to $0.95 million (J$123 million), whereas in 2017-18, they amounted to $1.28 million (J$166.17 million) – an increase of less than $0.33 million (J$ 43 million) over 10 years (see Figure 5), which would amount to a decline when adjusted by inflation. Health promotion activities and projects have declined as a proportion of total NHF expenditure over time – from 7% in 2008 to 1.59% in 2018 (see Figure 6). The relative decline in Health Promotion expenditure is despite the fact that NHF revenues have risen five-fold in this period – from $20 million (J$ 2.6 billion) in 2007-08 to $100 million (J$ 13 billion) in 2017-18.

Other than health promotion activities, institutional projects for health promotion have also gone down over time. The value of health promotion institutional projects approved was $600,000 (J$ 80 million) in 2014-15, $1.57 million (J$204 million) in 2015-16, $1.63 million (J$211 million) in 2016-17 and $215,000 (J$ 28 million) in 2017-18. In 2018, this amounted to 2% of total projects approved.[20]

The CHASE Fund

The CHASE (Culture, Health, Arts, Sports and Early Childhood Education) Fund was established in late 2002 through provisions in the Betting, Gaming and Lotteries Act, to receive, distribute, administer, and manage tax revenues from the gaming industry.[21] These earmarked revenues are then invested in the following five defined areas of national life: Culture, Health, Arts, Sports and Early Childhood Education. The Culture, Health, Arts, Sports and Early Childhood Education (CHASE) Fund's grants are particularly relevant to the promotion of healthy physical activity as well as healthy lifestyle promotion.

The CHASE Fund falls under the auspices of the Ministry of Finance and Planning. In 2017, the Fund disbursed a total of USD $17 million (J$ 1.7 billion) to 328 projects in health, sports, education, and arts and culture.[22] Some, though not all, of the Fund's interventions directly or indirectly pertain to NCD prevention.

Around two fifths or 40% of CHASE funds are disbursed to the Sports Development Foundation (SDF) for various sport-related interventions, which enable thousands of

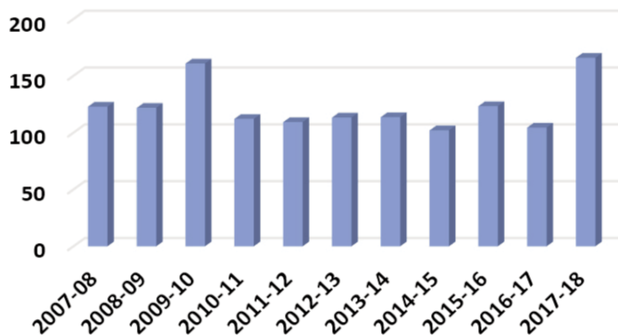

Figure-5 Cost of health promotion activities in NHF (Jamaican $) (2007-08 to 2017-18). Source: Estimated from NHF Annual Reports (2014-15 to 2017-18)

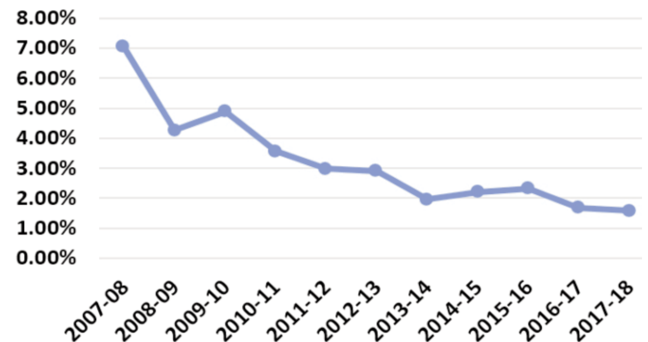

Figure-6 Declining proportion of health promotion in NHF expenditure. Source: Estimated from NHF Annual Reports

Jamaicans to engage in healthy sporting activity. In 2018, CHASE disbursements for the sports development foundation amounted to $4.8 million (J$ 626 million), which included funds for the development of sports facilities and infrastructure, contributions to sporting associations, athletes support, sports scholarships and sporting events.

Around one fifth of CHASE funds are allocated to health projects including the building, upgradation, restoration and equipping of health facilities, workforce training, healthy lifestyle promotion and programmes for cancer prevention, detection and treatment. In 2017, out of total Health project disbursements of USD $6.19 million (J$ $791 million), the CHASE Fund disbursed USD $0.5 million (J$ 65m) for Healthy Lifestyles projects.

The CHASE Fund also places emphasis on education projects at the early childhood level, to which it dedicates 25% of its disbursements. In 2018, this amounted to $2.47 million (J$ 321 million). Education projects are focused on improving early childhood educational infrastructure, supporting the development of early childhood materials to enhance child cognitive development, improving nutrition in Basic and Infant schools, and scholarships for training in Early Childhood Education.

Healthy Lifestyle programme

The Healthy Lifestyle policy and strategic plan was approved in 2004, and funded through the NHF. The Healthy Lifestyles Programme was an inter-sectoral programme to engage the public and private sectors, government and non-governmental organizations, and communities to address critical health issues.[17] The goal of the Healthy Lifestyle Policy was to decrease the incidence of chronic diseases, high-risk sexual behaviour, violence, and injury through behaviour change among all age groups but with a focus on youth and adolescents. It aimed at 'empowering communities, developing healthy lifestyle skills, building more green-zone recreational facilities, encouraging smoke-free environments, supporting school and household nutrition and mental-health programmes, the gender dimension, and reproductive health services.[17]

Government projects under the Healthy Lifestyle Programme sought to improve health status through improved socioeconomic conditions, changing dietary habits and addressing cultural issues. Activities were carried out at workplaces, schools, churches, communities, sports and health facilities and through the media. Behavioural modification activities for those affected by NCDs were integrated into the programme. Projects under the Programme promoted higher levels of physical activity, increased availability and consumption of healthy foods, and reduced smoking.[17]

Components of the Program included The Healthy Lifestyle School Programme targeting school-going youth, which shared information on the risks of unprotected sexual activity, unhealthy eating habits, drug usage, conflicts, and environmental risks; the Healthy Zones Programme, a community-based physical-activity-promotion programme, and several others.[17] The Healthy Lifestyles Programme was discontinued in 2008, but the Healthy Lifestyle Policy still exists and guides ongoing health promotion initiatives by the Ministry of Health and Wellness.

Table-2: Breakdown of NHF Health Promotion Activities. Source: Estimated from NHF Annual Reports

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Community Health Days	54	34	38	78	74	74	83	Not available
Health Fairs & Event Days	81	79	99	122	148	251	254	NA
School Wellness Program	7	3	3	14	10	22	19	NA
Screening Tests	43,525	30,000	29,520	51,590	81,279	79,598	100,063	NA
Total NHF Spending on Health Promotion Activities (J$ million)	112	109	113	114	102	123	105	166

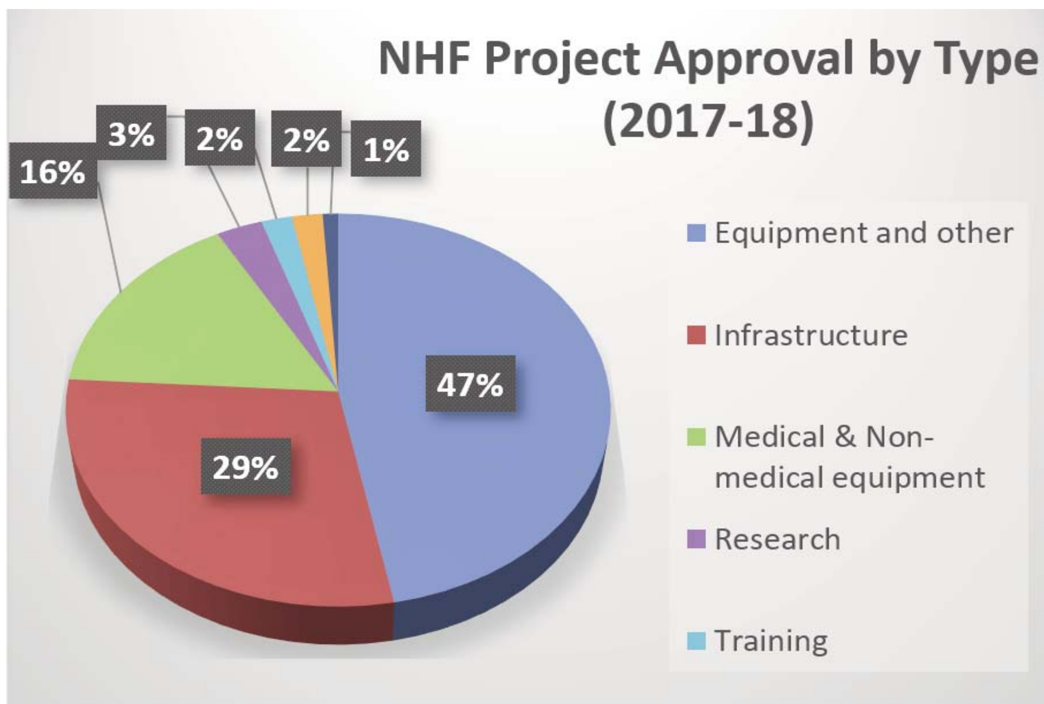

Figure-7: NHF projects approved by type (2017-18)

Health Promotion by the Ministry of Health and Wellness (MOHW)

In recent years, Health Promotion has increasingly been taken up by the Ministry of Health and Wellness. According to Dr. Davidson of the MOHW, prior to 2015, NCD prevention activities of the MOHW were largely funded through the NHF and WHO/PAHO, whereas, in 2015, the government began to allocate a budget line item to support health promotion, public relations and communication, which finances NCD prevention activities, including the Jamaica Moves programme, and a range of NCD prevention activities.

From 2014 to 2019, a total of $14.03 million (J$ 1.88 billion) were allocated over 4 years for Health Promotion and Protection by the Ministry of Health and Wellness. This included$3.8 million (J$509 million) in 2018-19, $2.9 million (J$ 397 million) in 2017-18, $3.11 million (J$ 416 million) in 2016-17, $3.06 million ($J 410 million) in 2015-16 and $1.16 million ($J 156 million) in 2014-15. While Health Promotion and Protection expenditure by the MOHW has doubled over the past 5 years (see Figure 8), in 2018-19 it still represented less than 1% of total health expenditure of J$ 64 billion (see Figure 9).

Chronic Disease Prevention Programmes

The MOHW runs chronic disease prevention programmes that are central to its NCD interventions. The Chronic Disease Unit of the MOHW is implementing prevention programmes for NCDs, including diabetes, hypertension, cancer, and coronary artery disease. These include programmes for cardiovascular disease run by the Heart Foundation of Jamaica, which focuses on screening, educational interventions, counselling, home visits and tobacco cessation programmes to prevent heart disease as well as hypertension; diabetes programmes for improving awareness of diabetes risk factors; a cervical cancer screening programme, and breast cancer

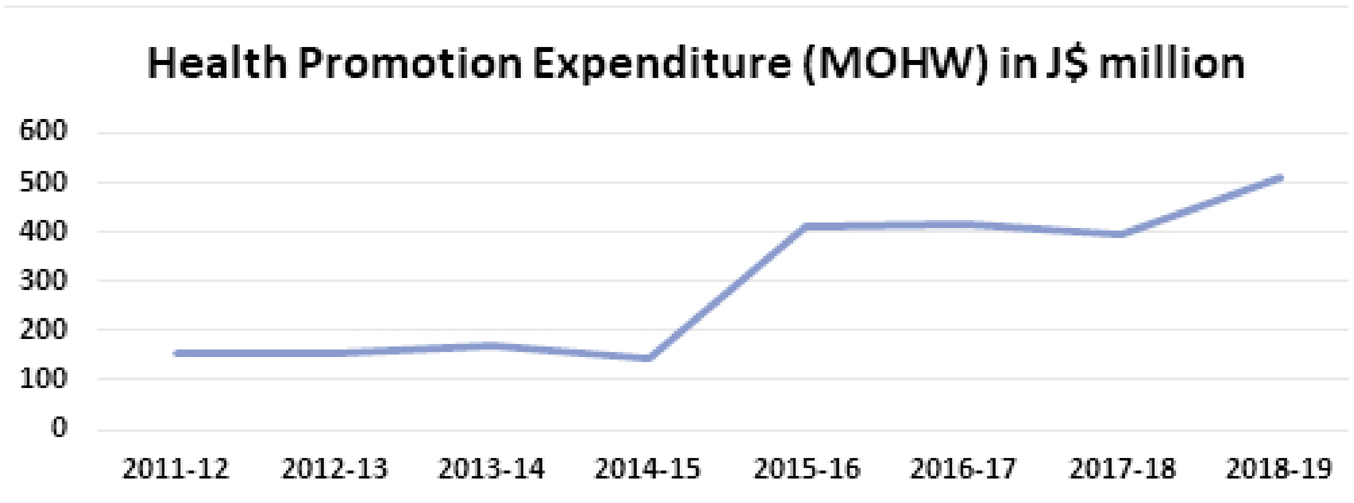

Figure-8: Health Promotion Expenditure by MOHW. Source: Ministry of Finance, Jamaica.

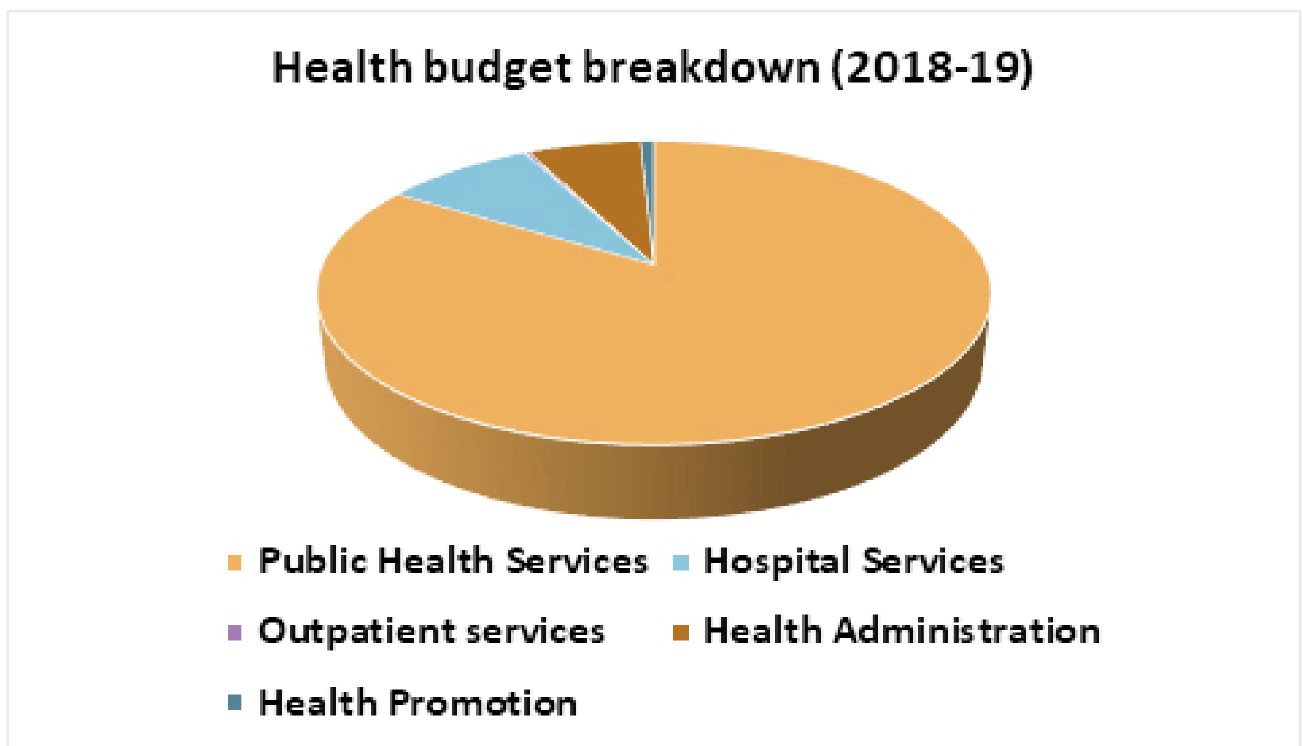

Figure-9: Health Budget breakdown 2018-19 (Source: Ministry of Finance, Jamaica)

screening programme with the Jamaica Cancer Society.[3]

Jamaica Moves

Jamaica Moves is one of several NCD interventions being pursued by the MOHW to reduce NCD risk through improved physical activity. Jamaica Moves was launched in 2017 with the objectives of promoting physical activity among the populace and educating individuals on practical means of fostering healthier eating habits.[23]

Its launch was marked by a corporate challenge, a media campaign, and country-wide activities to encourage the population to 'move', with the main messages being to engage in physical activity for at least 30 minutes a day and eat healthier to reduce your chances of acquiring NCDs to live longer. Beyond physical activity, the campaign has grown to also emphasize routine health screening and healthy nutrition.

Through the Jamaica Moves website, multiple forms of media (from TV ads to posters and social media campaigns) have been created and distributed to promote behavioural change under the programme. The programme has engaged ambassadors from various spheres and professions to share their own experiences of engaging in frequent and intense physical activity. Jamaica Moves encompasses initiatives like the 'Get Moving' challenge, the Jamaica Moves Road Tour, activities on global health days, and physical activity partnerships with various public and private stakeholders such as the Obesity Prevention Program and National Food Industry Taskforce.

Jamaica Moves is funded through the MOHW's Health Promotion budget while some of its activities and projects are also funded through NHF grants.

IDB Development Assistance for NCDs

In 2019, Jamaica secured a US$100 million loan from the Inter-American Development Bank (IDB) to support the country's fight against NCDs. Named the 'Health Systems Strengthening for the Prevention and Care Management of NCDs Program', the program aims to improve the health of Jamaica's population by bolstering policies for the prevention of NCD risk factors, and implement a chronic care model with enhanced access to integrated primary and hospital service networks.[24]

The program comprises two complementary elements; a US$50-million Programmatic Policy-Based (PBP) loan and a US$50-million investment loan. The Programmatic Policy-based Loan will focus on measures to address prevention and control of NCDs through a people-centred primary health chronic care model. The Investment Loan will focus on the organization and consolidation of integrated health services networks; improvement of management, quality, and efficiency of health services; and program administration and evaluation.[24]

Tobacco control regulations

In addition to excise taxes on tobacco, Jamaica has also taken several other regulatory measures for tobacco reduction. Jamaica ratified the FCTC in October 2005 and taken a number of steps subsequently to reduce tobacco use. Tobacco regulations enacted through the Public Health (Tobacco Control) Regulations include a ban on smoking in enclosed public places, workplaces and public transport, establishment of smoke-free spaces, warning labels on 75% of tobacco product surfaces, disclosure of product contents, prohibition of the use of terms like 'low tar', 'light' and other terms that appear to minimize health risks associated with tobacco.

While there is no comprehensive ban on tobacco advertising, sponsorship and promotion yet, Jamaica's Broadcasting and Radio Re-Diffusion Act and the Television and Sound Broadcasting Regulations, 1996, broadcasters in Jamaica are prohibited from advertising tobacco products on television and radio. However, other forms of advertising, including on billboards, cinema, internet and public venues remain legal.[6]

Jamaica currently has a draft comprehensive Tobacco Control Bill that will cover the articles of the FCTC that are not yet included in the current Regulations, including tobacco advertising promotion and sponsorship (TAPS).

The role of civil society has been critical in advancing tobacco control and pushing for the implementation of the FCTC in Jamaica. Some details on civil society's role are shared in the subsequent section.

Unhealthy diet interventions

The Jamaican government has run several school-based nutrition interventions, such as the Nutrition Support Strategy for 4–6-year-olds, the Nutrition Promotion Campaign 2004-2008, and breastfeeding pilot projects. Furthermore, Jamaica has begun to introduce provision of nutritional management in health centers and hospitals. Jamaica's Food and Nutrition Security Policy calls for the 'promotion of healthy Caribbean diets and optimal nutrition to reduce Non-Communicable Diseases (NCDs), obesity and malnutrition, especially at all stages of the education system.'[25] Jamaica has also implemented national policies to 'reduce population salt/sodium consumption, including reformulation of food products; establishment of a supportive environment in public institutions to enable lower sodium options to be provided; behaviour change communication and mass media campaigns (See Jamaica Moves); and front-of-pack labelling.'[2] Most of these nutrition interventions are financed under the Health Promotion budget of MOHW while some are financed by the Education Ministry.

Total annual public spending on NCD prevention in

Table-4: NCD Prevention financing (estimate) in Jamaica in 2017-18.

NCD Prevention area	Estimates (millionJMD)	Estimates (million USD)
Health Promotion Activities (NHF)	166	1.28
Health Promotion Projects (NHF)	28	0.215
Health Promotion by MOHW	509	3.8
Healthy Lifestyles (CHASE)	65	0.5
Sports Development (CHASE)	667	4.98
Total	1,435	10.78

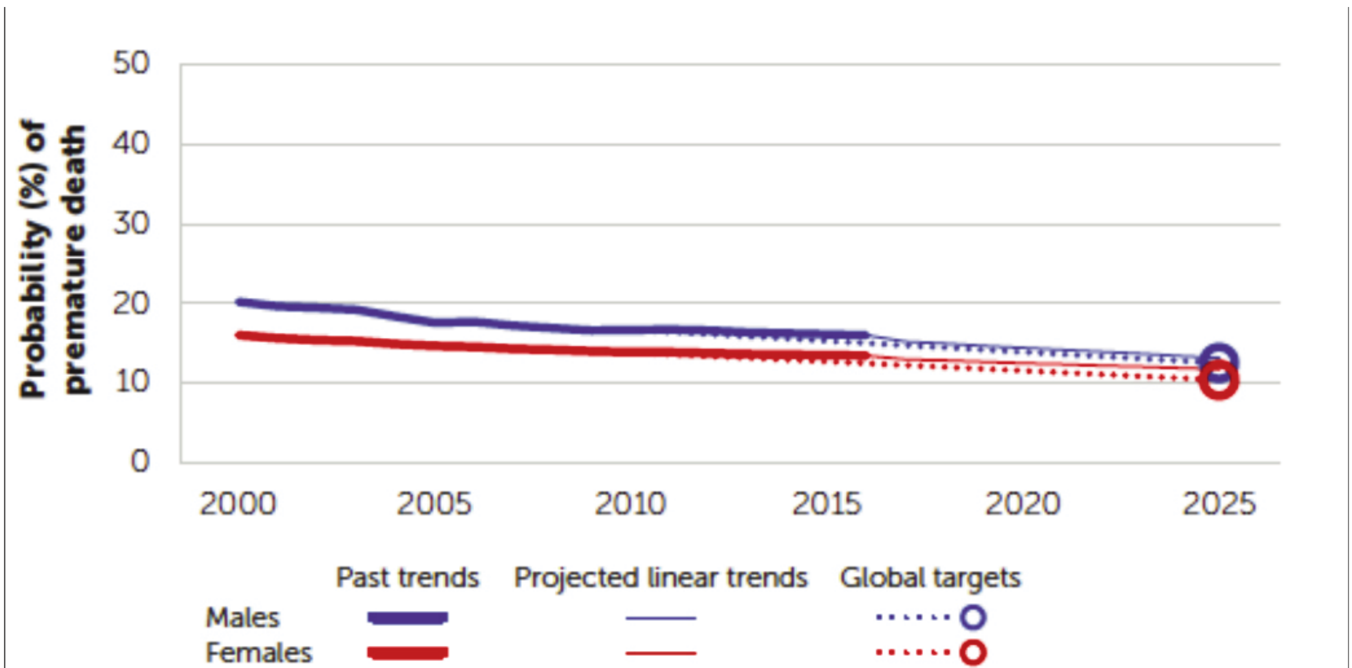

Figure-10: Risk of premature death due to NCDs in Jamaica (WHO 2016).

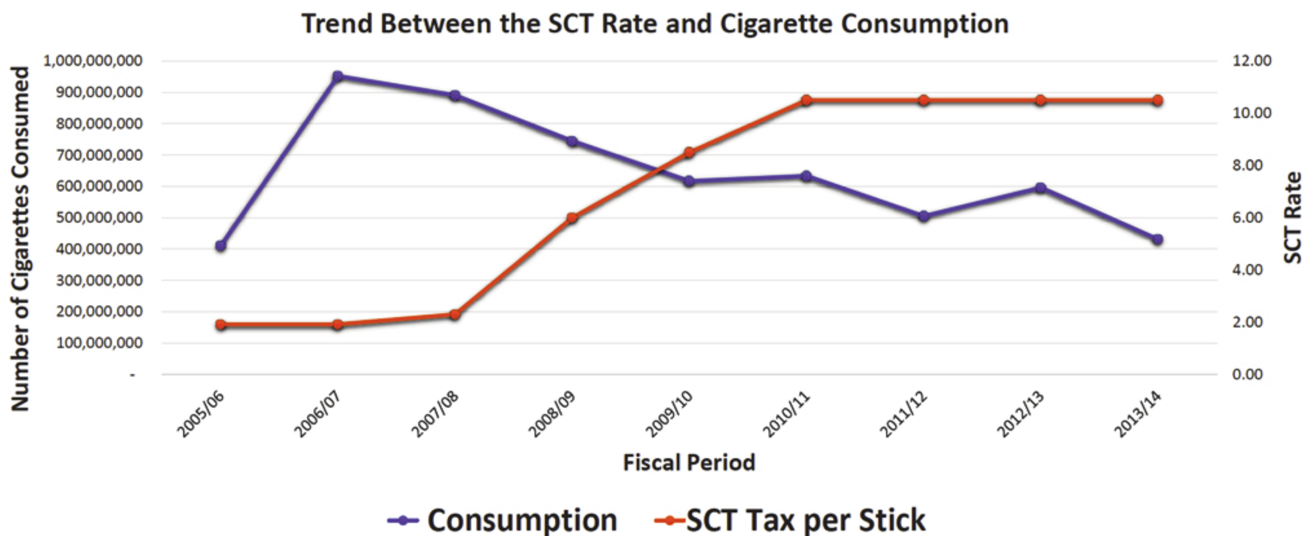

Figure-11: Trend between special consumption tax on tobacco and cigarette consumption in Jamaica. Source: Theodore, 2017).

Jamaica

Based on estimates of spending on the aforementioned areas of intervention, Jamaica spent an estimated 13.25 million USD (JMD 1.75 billion) on NCD financing in 2017-18. The bulk of this is the funds allocated for sports development by the CHASE Fund (USD 4.98 million), which represent 38% of the total spending on NCD prevention and health promotion. This is followed by health promotion spending by the MOHW (USD 3.8 million), which represents 29% of total annual spending on NCD prevention and health promotion. This represents about 2.7% of total health spending of $470 million (J$ 64 billion) in 2017-18.

Discussion

Jamaica's experience is both one of the successful mobilisations of domestic resources for reducing and controlling NCDs, and a struggle to adequately finance prevention efforts in favour of treatment. The success of its policy and financing efforts can be partly gauged from

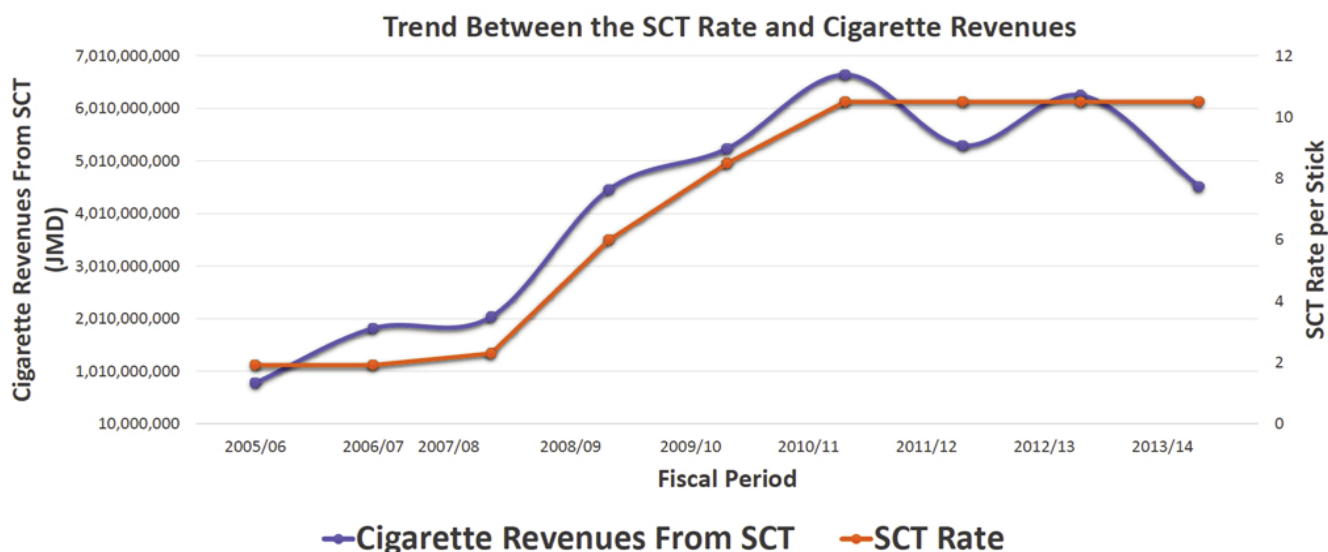

Figure-12: Trend between SCT on tobacco and cigarette revenues in Jamaica. Source: Theodore, 2017

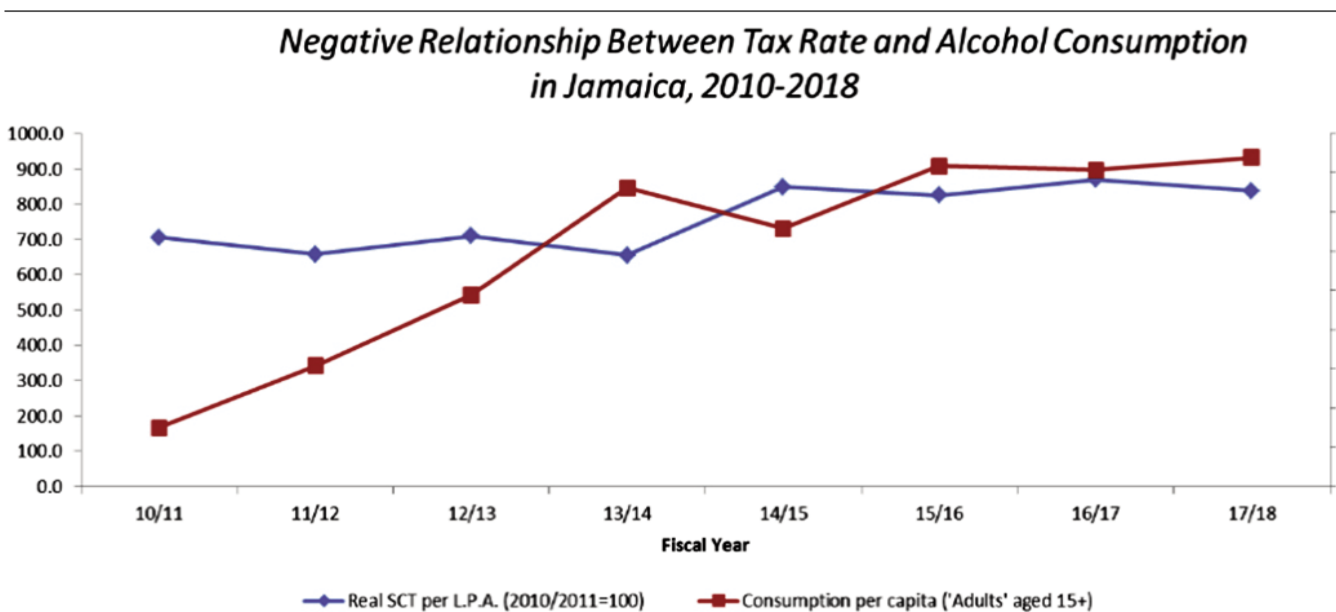

Figure-13: Relationship between alcohol tax rate and alcohol consumption in Jamaica. Source: Lewis and Thompson 2018

the gradual reduction in probability of premature death due to NCDs (Figure 10).

The following sections summarize some key themes that illustrate the key lessons and challenges from Jamaica's experience that are instructive for the debate around effective and well-financed prevention efforts.

Taxing tobacco and alcohol to finance NCD control and prevention

Taxing tobacco and alcohol to finance both NCD control and prevention has been a key element of Jamaica's strategy against NCDs. The NHF's innovative financing mechanism, whereby resources are raised from a mix of tobacco tax, 0.5% of national payroll tax, and a special consumption tax on alcohol and earmarked for use for NCD control and prevention, have led to its sustained success and expansion of activities. The CHASE Fund has employed a similar strategy of raising revenue through tax lotteries and gaming earmarked to fund its wide range of projects. Other than raising finances for NCD

prevention, some of these taxes have had a definitively positive impact on NCD prevention; tobacco consumption has halved since the tobacco tax was introduced in 2007-08 (See Figure 11). The SCT has also had a positive impact on government revenues which increased manifold after the tax was introduced (Figure 12).[26] Research by Lewis and Thompson (2018) has also demonstrated that there is a strong, positive, and significant correlation between the SCT on alcohol and its revenue (Figure 13).[27]

Current tobacco taxes in Jamaica have increased annually since 2015, with total tobacco tax share currently at 44.5% and the total excise tax rate currently at 28.3%.[28] This is still below the WHO recommended tobacco excise tax share of 70% and the 75% total tobacco tax share specified in the Progress Monitor and WHO Global Tobacco Epidemic Report.[2] Tax revenues from tobacco are limited by smuggling of tobacco products, with estimates of 44-50 billion cigarette sticks illegally imported and distributed in Jamaica annually.

Jamaican health ministry officials interviewed say that "*the effectiveness of the tobacco tax has eroded because of inflation in recent years and tobacco taxes need to be increased accordingly. However, it will be a difficult undertaking because of the current government's public commitment to not raise taxes.*" A related obstacle is persistent pressure by the industry, which raises the spectre of economic and trade losses for the government, as occurred when tobacco producer Carreras relocated to Trinidad and Tobago. However, progress in this area is critical; according to an investment case carried out by UNIATF, UNDP and PAHO (2018), tobacco control interventions have the highest 15-year period return on investment (ROI): for every JMD invested in tobacco control, one can expect to see 5.37 JMD in return.[2]

To improve NCD prevention Jamaica's tobacco and alcohol taxation gains should be consolidated and efforts made to raise excise taxes, which will both increase revenue for NHF and help reduce the disease burden from tobacco and alcohol. Furthermore, a greater proportion of revenue from these taxes needs to be allocated to NCD prevention and health promotion efforts.

The government should also enforce existing tobacco control legislation and enact and finance a comprehensive including the FCTC time-bound commitment as banning all forms of tobacco advertising, promotion, and sponsorship through the proposed Tobacco Control Act. However, this will have to involve political support for such measures to mitigate the effects of resistance from industry.

The shift of NCD prevention efforts from NHF to MOHW

Initial NCD prevention efforts were mainly supported through the National Health Fund of Jamaica. The NHF is an example of how an innovative financing mechanism allowed Jamaica to better manage the growing pressure from NCDs. After struggling for decades to find the financial resources needed to respond to the growing demand for medicines and care for chronic diseases, the NHF achieved a balance whereby the government, insurers and population share the burden of expenses for the prevention and control of NCDs. Further, it has managed to both ensure affordable access to medicines for the population and channel investment in expansion of public health infrastructure and equipment, public education, training and a broad range of health promotion and wellness activities and initiatives that contribute to NCD prevention.

However, the NHF's focus on NCD prevention has been limited and over time, its focus has come to shift predominantly toward individual drug benefits and health service delivery and infrastructure. As the MOHW has increasingly taken up health promotion financing, health promotion now accounts for less than 2% of annual NHF expenditure and it has decreased in proportion over time. Since 2015, the MOHW has allocated a line item to health promotion which increased from JMD $146 million in 2014-15 to JMD $509 million in 2018-19. According to Jamaican Health officials interviewed, "*this represents a strategic prioritization of health promotion and NCD prevention by the MOHW, while the role of NHF will be to continue to focus on medicine and treatment and contributing financing support to the MOHW and fund individual health promotion projects*."

Civil society role in advancing tobacco control in Jamaica

The work of civil society organizations has been crucial to many of the accomplishments seen in tobacco control in the Caribbean in general and Jamaica in particular. The Jamaica Coalition for Tobacco Control (JCTC) has been one of the key drivers of tobacco control and has had considerable success in advocating for the Jamaican government to adopt FCTC-compliant tobacco control policies. In 2011, concerted CSO advocacy was a major factor that enabled the Jamaican government's decision to drop their involvement in plans to increase tobacco production.[29]

Advocacy efforts by JCTC, the Heart Foundation Jamaica (HFJ) and other organizations were also key to the government enacting the comprehensive Tobacco Control Regulations of 2013, which enacted a public and

workplace smoking ban, and instituted graphic health warnings on cigarette packs and mandatory product disclosures. JCTC in partnership with PAHO and other stakeholders then lobbied for the 14% increase in the Special Consumption Tax on tobacco (per stick) in 2015, employing both research and communication efforts.[29] Civil society pressure was especially critical here in the face of a government with a weak majority reluctant to raise taxes.

Evaluations of civil society's role in supporting public health in Jamaica have highlighted the success of chronic disease prevention approaches that integrate health services with personal responsibility for one's health, supported by community and civil society actions which lead to policy change (like smoke-free environments, taxes, warning labels, food labeling and physical activity), which in turn can support healthy lifestyles.[29]

The challenge of public awareness of NCD prevention measures

Despite concerted efforts to combat NCDs by health authorities over the past decade, Jamaica still suffers from low public awareness of risk factors and changes necessary for a healthy lifestyle. A performance audit report of the MOHW in 2015 found that the MOHW 'had not embarked on a robust public awareness programme in support of its main strategy of minimizing exposure to health risks'.[30] The report found that 'the Ministry did not have a NCDs communication plan and public awareness was limited as the Ministry had not aired audio and audio-visual material as planned. The report further noted that the Service Level Agreements (SLAs) between the Ministry and the Regional Health Authorities (RHAs), which outlined priority areas, did not include any performance indicators for health promotion and education.'[30]

The Ministry of Health has since stated that it has taken measures to include such indicators in the SLAs and has initiated the Jamaica Moves campaign, which officials interviewed termed a "*concerted recent attempt to improve broader awareness and drive behavioural change to reduce the risks of NCDs*." Evidence is clear that large scale communication campaigns for behavioural and social change with behavioural economics, health literacy and communication levers (mass and social media) can drive citizens toward healthier decisions. An increase in financing of public awareness and behavioural change communication has to be a priority in the coming years to reduce the NCD burden.

Strengthening nutrition interventions for healthy diets

Unhealthy diet interventions remain a significantly underserved area for Jamaica, as evidenced by the high

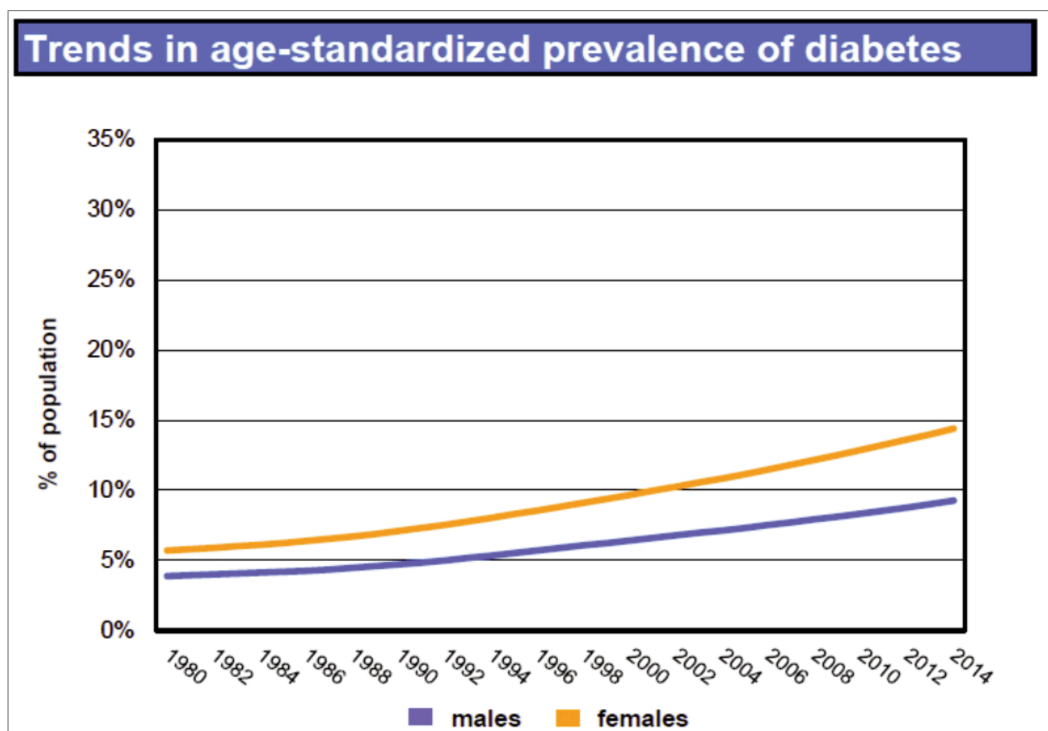

Figure-14: Trends in prevalence of diabetes in Jamaica (WHO Diabetes Country Profiles 2016: Jamaica)

prevalence of overweight, obesity and diabetes. Obesity continues to rise for both women and men, while diabetes prevalence has nearly doubled since 1990 (Figure 14).

However, diet-specific prevention interventions in the country have been relatively limited to school focused programs, dietary guidelines and nutrition promotion campaigns, and recent attempts to reformulate food to reduce salt and sugar consumption. In January 2019, the Jamaican Government imposed a ban on the sale of beverages 'containing more than six grams of sugar per 100ml to early childhood, primary, and high schools with annual incremental decreases in the sugar content planned till it bottoms out at two and a half grams per 100ml in 2023'.[31] This was also accompanied by an advertising campaign against the harms of high sugar consumption, which were criticized by the food and beverage industry.

Jamaica needs to consider a broader range of diet-related interventions that aim to reconfigure food systems, transform food habits and practices and make nutritious food affordable and widely available.

This would include implementation of a Sugar-Sweetened Beverage (SSB) tax of at least 20%, examples of which have been implemented in neighbouring countries like Mexico with considerable success. The SSB tax could improve public health by reducing sugar consumption, boost tax revenues and could be in part earmarked in for NCD prevention and health promotion efforts. As Jamaica, like most Caribbean countries, imports most of its foodstuffs, trade policies will have to be a key instrument for nutrition interventions.

While the food and beverage industry in Jamaica has claimed it will not affect consumption, multiple studies including the WHO 2016 Report on Fiscal Policies for Diet and Prevention of Non-communicable Diseases concluded that there is 'sound evidence that proportionate reductions in consumption of SSBs can be achieved by taxation aimed at raising the retail price of sugary drinks by 20% or more'.[6]

Similarly, fruits and vegetables consumption can be increased by providing subsidies for fresh fruits and vegetables that reduce prices by 10%-30%. A 2017 modelling study predicted that a combination of taxes and subsidies on foods and beverages could achieve significant improvements in overall population health and cost-savings to the health sector. Out of these, the sugar tax was found to yield the greater potential cumulative health benefit.[6]

Reductions in trans-fat intake and implementation of WHO-recommended food and drink labelling requirements also remain critical pending tasks and adequate funds need to be allocated for them from the increased earnings. Jamaican officials interviewed also agreed that, other than taxing unhealthy items like SSBs, the government should also initiate incentives and subsidies for the increased production and reduced prices of healthy vegetables and fruits, to foster the consumption of healthy and nutritious food products.

Political will and inter-sectoral collaboration for NCD prevention

Key lessons from the Jamaican experience in fighting NCDs include the presence of strong local and regional political will and leadership, and an inter-sectoral approach. According to Jamaican officials interviewed, "*the commitment of the current Minister of Health to NCD prevention has been important in raising spending in this area. The Minister has prioritized healthy lifestyle initiatives like the Jamaica Moves program and population education initiatives, and has also taken 'health responsibility' tours to urge citizens to take responsibility for their lifestyle choices.*"

Furthermore, Jamaica has increasingly taken an intersectoral approach for NCD control and prevention, which treats health as a development issue that includes the analysis and consideration of health-related goals in the formulation and approval of policies in all sectors of government (i.e. Health in All Policies or HiAP) to address social determinants of health and health inequities. HiAP is an approach to public policies across sectors that 'systematically considers the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity. As a concept, it reflects the principles of legitimacy, accountability, transparency and access to information, participation, sustainability, and collaboration across sectors and levels of government'.[6]

Conclusion

An examination of Jamaica's experience illustrates many important lessons for those interested in the challenge of NCD prevention around the world. The country belongs to a region with a massive NCD burden and an NCD 'epidemic' that is the worst in the Americas region, while it has also taken creditable multi-sectoral steps for NCD control and prevention.

Jamaica's efforts to combat NCDs must be viewed in the context of development and cooperation in the Caribbean. Jamaica's policies for NCDs are closely tied to

regional initiatives guided by CARICOM and PAHO, as exemplified in the Port of Spain declaration in 2007. While efforts to combat NCDs have accelerated in the Caribbean and Jamaica since then, this period has also seen protracted economic decline in the region, tied to the global financial crash of 2007. Regional exports have gone down in this time, while trade liberalization has caused import revenues to fall, leading to a huge rise in public debt and subsequent pressures on public spending in economies like Jamaica. Liberalization policies in this time have also exacerbated the effects of a 'nutrition transition' toward processed and meat derived products, which has led to an epidemiological transition from infectious diseases to chronic NCDs. Similar regional economic, nutrition and epidemiological transitions have hence also spurred cooperative regional NCD responses.

Jamaica has responded to its NCD challenge with, among other things, a comprehensive strategic plan for NCDs, that has included a wide range of initiatives such as taxes on unhealthy consumption earmarked to combat NCDs and subsidize medicines, funds to promote physical activities and sports like CHASE, MOHW health promotion initiatives, chronic disease prevention and screening services, nutrition interventions, physical activity campaigns like Jamaica Moves and Healthy Lifestyle Programme, and other key efforts around tobacco and alcohol regulation. Jamaica's has adopted an inter-sectoral 'Health in All Policies' (HiAP) approach for NCD prevention and control, which has been key to the progress it has made. This has led to sustained collaborations for NCD prevention between institutions for health, education, sports, trade, trade, food, nutrition and agriculture.

Jamaica's efforts to finance NCD control and prevention through tobacco and alcohol taxes can be seen to have met with considerable success, both in terms of generating an increasing stream of revenue as well as bringing about a reduction in the consumption of both tobacco and alcohol. However, efforts to increase taxes on such consumption have stalled in recent years owing to economic pressures, political disincentives to raise taxes and industry lobbying, including threats of relocation of tobacco production outside Jamaica. Greater political will is needed to both be able to increase tobacco and alcohol taxes and allocate a greater proportion of the revenue from those taxes to NCD prevention efforts. Government commitments to keep taxes low represent an obstacle in this process, but stronger majorities in Parliament can be opportunities for advocating for increasing taxes.

Jamaica's NHF has also been a successful vehicle for mobilizing and earmarking revenue for NCD control and prevention. However, while its revenues and population coverage have registered significant increases in the past decade, its focus on NCD prevention and health promotion has reduced significantly in this period as policymakers have prioritized medicines and infrastructure. In recent years, the financial burden for NCD prevention has been increasingly taken up by the MOHW directly in this period, as part of the Ministry's strategic focus on health promotion. Despite this, spending on health promotion by the MOHW remains less than 1% of total health expenditure, which remains concentrated on service delivery. Another innovative institution that has significantly contributed to NCD prevention in Jamaica has been the CHASE Fund which has raised revenue for health, sports and education through taxation of the gaming and gambling industry, with a significant portion of its funds going towards promotion of sports and healthy lifestyles.

Public communication and behavioural change efforts have been a key component of the government's NCD prevention measures. The government's inter-sectoral Healthy Lifestyles program was started in 2004 through the NHF, but discontinued in 2008 owing to lack of funds. The more recent Jamaica Moves initiatives is a more concerted inter-sectoral campaign and activities aimed at fostering physical activity, healthy eating, and accessing screening services. Infrastructure gaps, including limited parks and inadequate sidewalks, continue to hamper progress in encouraging more active lifestyles. Public awareness of risk factors also remains low and highlights the need for well-financed behavioural change communication for healthier life choices by citizens.

Nutrition interventions, including a nutrition support strategy, school nutrition programs, dietary guidelines, policies to reduce salt/sodium and food labelling requirements are also a key part of the government's NCD prevention efforts but they remain piecemeal and under-resourced. Jamaica still requires concerted diet-related interventions that take account of the nutrition transition and bring about a reconfiguration of food systems and incentivization of both increased demand for and supply of locally sourced, affordable, sustainable and healthy food. A key policy proposal that officials and civil society are considering in this regard, one that is increasingly being taken up in other countries in the region and globally, is a tax on sugar-sweetened beverages (SSBs), which can potentially reduce SSB consumption by a fifth or more and could also be used to finance health

promotion measures. Furthermore, there is also a need for further incentives and subsidies for increased local production and reduction in prices of healthy vegetables and fruits.

Jamaica's experience also highlights the importance of policy leadership, by both government ministers and officials, and civil society for the fight against NCDs and the necessity of taking an inter-sectoral approach that recognizes the wide range of sectoral interventions required in areas ranging from education, to sports, to agriculture, among others, beyond just health. Jamaican health officials who have spearheaded these efforts say that the key areas for action on NCD prevention going forward are a well-trained and equipped health workforce with an emphasis on primary care, and robust data that can provided a good evidentiary basis for targeted interventions for improved public health.

Recommendations:

1. Increase the proportional spending on NCD prevention by the MOHW.

2. Ensure the operationalization and regular functionality of the National Committee on NCDs as an inter-sectoral governance and coordination mechanism.

3. Implement sustained increases in tobacco excise tax to account for inflation and income increases.

4. Implement excise tax on all alcoholic beverages (beer, wine, and spirits) and ensure there are no tax incentives or rebates for production of other alcoholic beverages.

5. Enact and enforce comprehensive bans on tobacco advertising, promotion, and sponsorship.

6. Enact regulatory frameworks for alcohol advertising on different channels (public service/national TV, commercial/private TV, national radio, local radio, print media, billboards, points of sale, cinema, internet, and social media) and establish detection system for infringement of restrictions.

7. Institute an evidence-based tax on SSBs aimed at reducing sugar consumption while generating revenue partly earmarked for NCD prevention and health promotion.

8. Allocate a greater share of resources from tobacco, alcohol and SSB taxes to health promotion, targeted behavioural change communication focused on lifestyle changes and subsidization of health products.

9. Increase subsidies for fresh fruits and vegetables with the aim of reducing their prices by 10%-30%.

10. Enforce nutrition labelling and Traffic-Light Style warning labels on all food products.

11. Initiate nutrition policies that acknowledge the nutrition transition and reconfigure food systems to incentivize demand and supply of local affordable, sustainable and healthy food.

12. Institutionalize mechanisms for civil society oversight of public health and NCD prevention interventions to ensure NCD action can be protected against influence of industrial interests.

13. Enhance financing for Jamaica Moves and address infrastructural challenges limiting physical activity promotion including limited and under-developed parks and reserves, inadequate pavements and lighting among others.

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Disclaimer: For the purposes of this paper, while this intervention is listed, this amount is not included in the estimation of Jamaica's spending on NCD prevention, as, while it may be indirectly beneficial for long-term NCD prevention, it is not categorized as NCD-related spending by Jamaican policymakers.

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