



PAHO



#NCDs

**UN INTERAGENCY
TASK FORCE ON NCDs**



@un_ncd



*Empowered lives.
Resilient nations.*

Prevention and Control of
Noncommunicable Diseases and
Care for Mental Health Conditions

THE INVESTMENT CASE

Evaluating the return
on investment of
selected interventions
on tobacco, alcohol,
diabetes, cardiovascular
disease, depression,
anxiety, and psychosis

IN JAMAICA

REFERENCES

This brochure was developed by the Pan American Health Organization and is based on the two reports:

The Case for Investment in Prevention and Control of Noncommunicable Diseases in Jamaica: Evaluating the return on investment of selected tobacco, alcohol, diabetes, and cardiovascular disease interventions. Washington, D.C.: UNIATF, UNDP, and PAHO; 2018.

Care for Mental Health Conditions in Jamaica: The Case for Investment. Evaluating the Return on Investment of Scaling Up Treatment for Depression, Anxiety, and Psychosis. Washington D.C.: UNIATF, UNDP, and PAHO; 2019.

ACKNOWLEDGMENT

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WHY DEVELOPING INVESTMENT CASES in Jamaica?

Noncommunicable Diseases (NCDs) and Mental Health (MH) conditions are major drivers of morbidity and mortality in Jamaica. Beyond the toll on health, they also impose a significant burden on the national economy since treatment for NCDs leads to high expenditures and individuals with NCDs or MH conditions are more likely to exit the labor force, miss days of work, and/or work at a reduced capacity. In addition, MH conditions generate high social costs as MH is critical to personal well-being, interpersonal relationships, and successful contributions to society.

These two investment cases were developed to help strengthen Jamaica's capacity to generate and use economic evidence on NCDs and MH in order to support the development, financing, and implementation of national multisectoral prevention and control strategies. They estimate the return on investment (ROI), over the next 15-year period, from implementing priority policy interventions for tobacco and alcohol control, clinical interventions to reduce cardiovascular diseases and diabetes, and scaling up treatment for depression, anxiety, and psychosis.

Though NCDs and MH conditions pose a significant health and economic burden, the results from these two investment cases show that Jamaica can significantly reduce this burden by investing in recommended interventions designed to improve NCDs and MH.

KEY RESULTS

Over the next 15-year period, **implementing the selected package of interventions** to prevent and control tobacco use, harmful use of alcohol, diabetes, and cardiovascular diseases, and **scaling up treatment** for depression, anxiety, and psychosis would:

Save 5,700 lives

Restore 143,000 healthy life years

Avert 229,000 cases of depression and anxiety



Jamaica could prevent J\$ 137.1 billion

(7.6% of GDP 2017) in direct treatment costs, productivity losses and social costs related to NCDs and MH over the next 15 years.

NCDs



Overall ROI 2.1

Implementing interventions



J\$1 invested

J\$ 2.1 return

MH



Overall ROI 4.2

Scaling up treatment



J\$1 invested

J\$ 4.2 return

HEALTH IMPACT

of NCDs in Jamaica



Nearly 80% of all deaths are caused by Noncommunicable Diseases (NCDs)

- More than 15,000 deaths annually
- More than 41 persons per day



TOBACCO USE



11% of Jamaicans have smoked tobacco within the previous month

7% of Jamaicans are daily users

HARMFUL ALCOHOL USE



40% of Jamaicans report being current drinkers

15% are at medium to high risk of alcohol dependence

CARDIOVASCULAR DISEASES (CVD)



33% of all deaths are caused by cardiovascular diseases



31.7% of Jamaicans aged 24 years and older have hypertension

DIABETES



9.5% of males aged 25 or older have diabetes

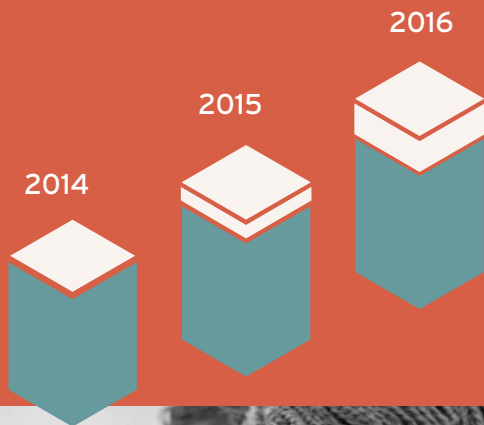
13.3% of females aged 25 or older have diabetes

A 30-year-old has a 17% chance of **dying prematurely** - before reaching his or her 70th birthday - from **any of the four main NCDs**

(cardiovascular disease, diabetes, chronic respiratory disease, and cancer)

HEALTH IMPACT

of MH in Jamaica

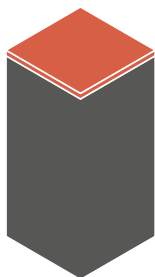


Visits to public health facilities for **Mental Health (MH) treatment increased by about 20%** per year between 2014 and 2016

2014: 90,000 visits • 2015: 108,000 visits • 2016: 132,000 visits



DEPRESSION



3% of Jamaicans have a depressive disorder

5% among people aged 60 years and older

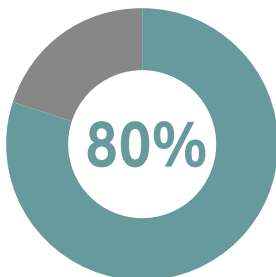
ANXIETY



4.1% of Jamaicans have an anxiety disorder

5.5% among people 35-59 years old

PSYCHOSIS



of mental-illness-related public clinic visits nationwide

Psychosis was responsible for



106,674

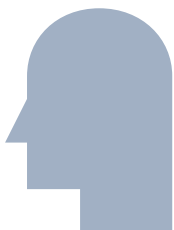
visits to public health clinics for mental illness in 2016

ECONOMIC IMPACT

of NCDs and MH Conditions
in Jamaica

According to the investment cases results, Jamaica could prevent J\$ 137.1 billion (7.6% of GDP 2017) in direct treatment costs, productivity losses and social costs over the next 15-year period by implementing the recommended NCD and MH packages of interventions

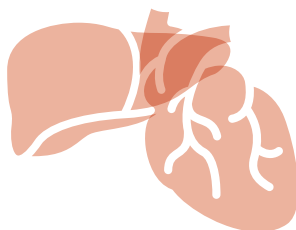
MH (2018-2033)



J\$ 39 billion in **labor productivity losses** due to premature mortality and exit from the labor force, absenteeism, and presenteeism could be avoided

J\$ 21 billion in **social costs** from healthy life years lost could be avoided

NCDs (2017-2032)



J\$ 29.8 billion in **direct medical costs** to treat NCDs could be avoided

J\$ 47.3 billion in **labor productivity losses** due to premature mortality and exit from the labor force, absenteeism, and presenteeism could be avoided

IMPLEMENTING SELECTED
WHO “BEST-BUY”
NCD interventions

Jamaica could reduce the health and economic losses due to NCDs by implementing these selected WHO “best-buy” interventions to prevent and control NCDs



TOBACCO CONTROL

Increase taxes and prices on tobacco products

Ban on tobacco advertising, promotion, and sponsorship

Eliminate exposure to tobacco smoke in all indoor workplaces, public places, public transport (raise enforcement)

Implement effective mass media campaigns that educate the public about the harms of smoking/tobacco use and exposure to tobacco smoke

Implement plain packaging



REDUCTION OF HARMFUL ALCOHOL USE

Increase excise taxes on alcoholic beverages

Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media)

Enact and enforce restrictions on the physical availability of retailed alcohol



CARDIOVASCULAR DISEASES

Multidrug therapy to treat established stroke and ischemic heart disease (IHD)

Treatment for individual with high blood pressure, cholesterol, or CVD risk

Treat new cases of acute myocardial infarction with aspirin



DIABETES

Standard/Intensive **glycemic control**

Screening and treatment for sight-threatening retinopathy

Jamaica has made significant progress on its NCD response, both in health service provision and multisectoral action for population prevention. **Intensifying existing policies and implementing additional interventions can help reduce the epidemiological and economic burden of NCDs.**



Implementing selected
WHO mhGAP
MH interventions

Jamaica could reduce the social costs and productivity losses due to MH conditions by implementing these selected WHO MH Gap Action Programme (mhGAP) interventions to treat MH conditions

The three areas of intervention



DEPRESSION

Basic/Intensive
psychosocial
treatment

Anti-depressant
medication for first
episode/recurrent
moderate-severe
cases



ANXIETY

Basic/Intensive
psychosocial
treatment

Anti-depressant
medication



PSYCHOSIS

Basic/Intensive
psychosocial
treatment and
anti-psychotic
medication

Although funding for mental health services remains a significant challenge, mental health is of growing concern in Jamaica. The Jamaica Task Force on Mental Health and Homelessness and the National Council on Drug Abuse are engaged and issue recommendations to improve mental health policies. **Intensifying existing policies and implementing additional interventions can help reduce the epidemiological and economic burden of MH conditions in Jamaica.**

METHODOLOGY

of the Investment
Case studies

Methodological steps of the economic analysis

1

SELECT INTERVENTIONS

In collaboration with Ministry of Health, select WHO-recommended clinical and policy interventions for analysis, identify baseline coverage, and determine scale-up targets.

2

ASSESS COST

Assess the cost (using local data) of scaling up or implementing the selected interventions over a 15-year period.

3

ESTIMATE HEALTH GAINS

Provide estimates for what health gains are achievable from implementing or scaling up selected interventions.

4

MONETIZE HEALTH GAINS

Monetize the health gains to assess the amount of labor productivity that can be gained and the treatment and/or social costs that can be avoided by implementing the set of clinical and policy interventions.

5

RETURN ON INVESTMENT

Calculate the financial gain per dollar spent (return on investment) from scaling up or implementing clinical and policy interventions using results from steps 2 and 4.

HEALTH BENEFITS, RECOVERED ECONOMIC OUTPUT, AND RETURN ON INVESTMENT

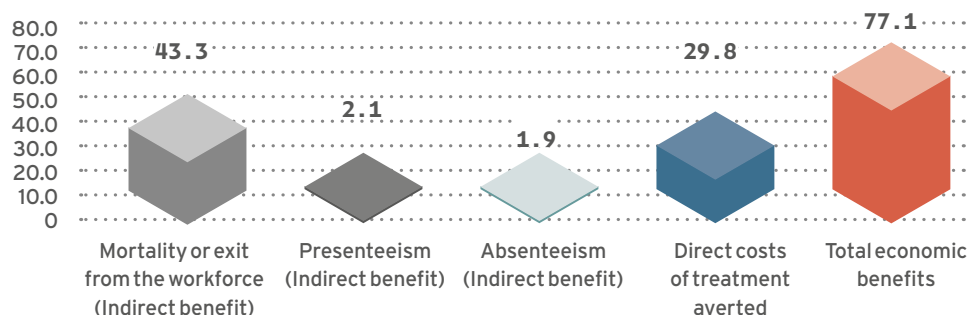
from implementing the **NCD**
package of interventions

**Estimated
health benefits
over a 15-year
time horizon,
by intervention
package**

		Strokes averted	IHD events averted	Blindness averted	Amputations averted	Averted deaths	Healthy life years gained
PREVENTION	Tobacco	1,176	967	--	--	597	7,355
	Alcohol*	--*	--*	--*	--*	518	23,292
CONTROL	Cardiovascular disease	6,068	4,346	--	--	4,358	30,456
	Diabetes	--	--	4,812	297	262	6,359
total						5,735	67,462

*Alcohol interventions' impact is estimated across multiple diseases (e.g. pancreatitis, road injuries, liver cirrhosis, poisonings, falls, drownings, unintentional injuries, larynx cancer, liver cancer and intrapersonal violence) therefore expressed only as deaths averted and healthy life-years gained as opposed to other interventions whose impact is expressed in terms of strokes averted, IHD events averted, blindness averted, and amputations averted.

**Recovered
economic output
from implementing
tobacco, alcohol,
diabetes, and CVD
interventions in
billion J\$**



Return on investment (ROI), by NCD package

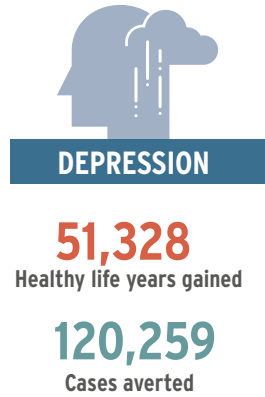
NCD prevention and control interventions	5-year ROI	15-year ROI
Tobacco	0.81	5.37
Raise taxes	2.1	16.0
Ban on tobacco advertising, promotion, and sponsorship	2.5	14.5
Protect people from tobacco smoke (raise enforcement)	0.2	2.8
Warn about danger: Mass media campaign	0.6	2.6
Plain packaging	0.1	0.6
Diabetes	1.30	2.10
Standard glycemetic control	1.5	2.8
Screening and treatment for sight-threatening retinopathy	1.2	1.5
Intensive glycemetic control	0.8	1.4
CVD	0.97	1.90
Treat new cases of acute myocardial infarction with aspirin	10.5	13.9
Treatment for high cholesterol (≥ 6.2 mmol/L), but low absolute CVD risk <20%	1.5	3.6
Treatment for individuals with high CVD risk ($\geq 20\%$)	1.3	2.9
Multidrug therapy to treat established IHD	1.9	2.2
Treatment for high blood pressure (≥ 140 mmHg), but low absolute CVD risk <20%	0.9	2.1
Multidrug therapy to treat established stroke	1.3	1.4
Alcohol*	0.46	1.86
Raise taxes	1.6	8.1
Restrict alcohol advertising	0.5	1.6
Restrict availability of retailed alcohol	0.2	0.7
All packages	1.00	2.10

*Alcohol: the labor productivity gains due to reduced presenteeism and absenteeism are not taken into account.

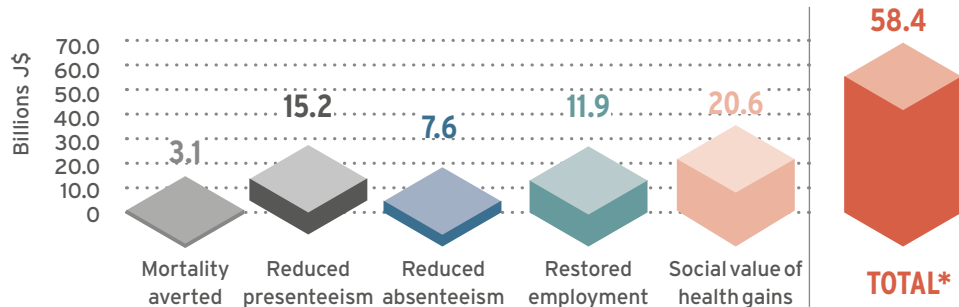
HEALTH BENEFITS, RECOVERED ECONOMIC OUTPUT, AND RETURN ON INVESTMENT

from implementing the **MH**
package of interventions

Estimated
health benefits
over a 15-year
time horizon,
by intervention
package



Breakdown
of total gains
from scaled
up depression
and anxiety
treatment



*For psychosis treatment, the economic gains could not be broken down because there is currently no consensus on the impact of psychosis on mortality, presenteeism, absenteeism, and employment. Therefore, the results (Psychosis: J\$ 1.1 billion economic gains & J\$ 0.5 billion in social value) are not added to the graph. The total would then be J\$ 60 billion.

**Benefits, costs,
and return on
investment
(ROI) of the
mental health
intervention
packages**

	5 Years of Implementation			15 Years of Implementation		
	Total social and economic benefits**	Total costs**	5-year ROI	Total social and economic benefits**	Total costs**	15-year ROI
Depression	3.90	0.98	3.97	35.8	6.9	5.2
Anxiety	1.49	0.45	3.35	22.6	4.1	5.5
Psychosis	0.22	0.24	0.90	1.6	1.5	1.1
All packages	5.60	2.29*	2.4	60.0	14.2*	4.2

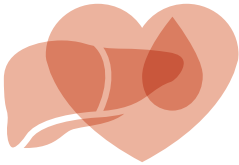
* The costs of “all packages” is not the sum of the costs of the depression, anxiety, and psychosis packages. In addition to medical costs, the package accounts for the cost to 1) train mental health professionals; 2) operate five mobile “outreach teams” that provide emergency response and transportation to health facilities, and conduct home visits; 3) promote awareness and knowledge of mental health conditions through public education and a social media campaign, and; 4) provide for program management and administration costs of the Ministry of Health Mental Health and Substance Abuse Unit (including human resources, supplies and equipment, and surveys)—additional costs 5 years: J\$ 0.62 billion; 15 years: J\$ 1.7 billion.

**In billion J\$.

METHODOLOGICAL LIMITATIONS

Interventions on some diseases and risk factors, and the labor productivity impact of some particular interventions could not be modeled at the time of the study. Therefore, there is **potential for future studies to find an even higher ROI** from implementing WHO “best-buy” and mhGAP interventions

NCDs



The methodological tools used have limitations that are important to acknowledge as they impact the scope of the analysis. First, only interventions on CVD and diabetes out of the four major NCDs—which also include cancer and chronic respiratory diseases—and only interventions on tobacco use and harmful use of alcohol out of the four major risk factors of NCDs—which also include unhealthy diet and physical inactivity—were modeled.

Due in part to limitations in the WHO OneHealth Tool (OHT) and in part to limited information in the literature, the impact of tobacco policy interventions could only be measured on mortality from CVD, diabetes and diabetes complications, and episodes of asthma and chronic obstructive pulmonary disorders. A much wider analysis of mortality was developed for alcohol policy interventions as they could be measured on alcohol-attributable mortality across 22 types of diseases and injuries. However, the OHT does not currently provide a granular look at alcohol-attributable disease events that can be avoided, nor the types or extent of injuries. In the case of alcohol, this means that the economic outcomes due to avoided mortality are weighted more heavily than for other packages, but morbidity outcomes are not tracked. Differences in the outcomes that are tracked may bias the relative ROI ranking of the packages. However, adding additional outcomes only increases the already substantial benefits noted from implementing or scaling up interventions.

The effect sizes of interventions and the economic productivity effects (in terms of lost worker time—absenteeism, presenteeism) are often derived from studies conducted in high income countries. Social support systems, access and affordability of care, formal and informal labor markets, and industry structure may all impact the extent to which people may miss work, return to work, or work while ill. More global evidence needs to be generated to understand how different contexts impact health-related productivity losses.

Only interventions on depression, anxiety, and psychosis (which together accounted for 93% of all mental health related visits to public health centers in Jamaica in 2016) were modeled in the MH investment case. The WHO Mental Health Gap Action Programme Intervention Guide (mhGAP-IG), which contains recommendations for increasing coverage of care for mental, neurological, and substance use (MNS) conditions also includes interventions on alcohol use dependence, epilepsy, and other MNS conditions.

Since there was no consensus in the literature on the impact of psychosis on mortality, presenteeism, absenteeism and employment at the time of the study, the economic value of health gains from psychosis interventions was solely estimated from healthy life years gained.

MH



Prevention and Control of Noncommunicable Diseases and Care for Mental Health Conditions in Jamaica: The investment case

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