



# Micro-Policy Intervention

CONTEMPORARY POLICY DISCUSSION IN CAMBODIA



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# Chapter 7 | Education and Health: Working Together for Innovative Actions Against Non-Communicable Diseases in Cambodia

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## Executive Summary

Non-communicable diseases (NCDs) currently contribute to 71% of global deaths (WHO, 2018a). Risk factors that contribute to NCDs include tobacco use, poor diet, alcohol consumption and physical inactivity. This paper makes a series of recommendations to address these risk factors. Health education may help reduce the prevalence of non-communicable disease risk factors. Tobacco is a leading risk factor which globally kills over 8 million people every year, including many in Cambodia (WHO, 2020). Specifically, promoting smoking cessation counseling among health science students could significantly impact tobacco use. In the long-term, smoking cessation programs should be a required component in health science curriculums. This article outlines a prototype program for such a component.

## Introduction

Globally, NCDs have been the leading cause of deaths and major health issues in the 21<sup>st</sup> century. NCDs include chronic diseases such as cardiovascular diseases, cancers, chronic respiratory diseases and diabetes, and affect both individuals and broader communities over many generations as the result of genetic, physiological, environmental and behavioral risk factors. NCDs affect all ages, sexes, countries and regions around the world representing 71% of all deaths globally and killing around 41 million people each year (WHO, 2018b). In Southeast Asia, NCDs are the top killers and cause 8.5 million deaths each year (WHO, n.d.,a).

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NCDs are preventable. They are associated with four leading behavioral risk factors: tobacco use, harmful use of alcohol, physical inactivity, and unhealthy diets (WHO, 2018a). Consequently, these lifestyle behaviors lead to 4 metabolic changes in the body, namely raised blood pressure and blood glucose, obesity, and raised blood lipid. Air pollution is also another environmental risk factor for NCDs (WHO, 2018a).

## Background to the Problem

### The Current Status of NCDs in Cambodia

Cambodia is a developing country in the Southeast Asian region with a population of 15,288,489 (Ministry of Planning, 2019). The capital city, Phnom Penh, is located at the confluence of three great rivers: the 'four arms' of the Mekong river, Tonle Sap and Tonle Bassac. It is the largest city in Cambodia with 2,129,371 people or 13.9% of the total population (Ministry of Planning, 2019). Cambodia is rapidly developing but has a lower level of development compared to neighboring countries. Households, especially in rural areas, depend greatly on agriculture and related sub-sectors. Currently, Cambodia faces the threat of emerging NCDs, in tangent with malnutrition and infectious diseases (Ministry of Health, 2013). The majority of NCDs in Cambodia are cardiovascular diseases, cancers, diabetes and chronic respiratory diseases, which are leading to a growing burden on the health care system (Ministry of Health, 2013). Ischemic heart diseases and cardiovascular diseases are currently the top causes of premature death. An ageing population, factors associated with urbanization, unhealthy diets, tobacco use, physical inactivity, and harmful alcohol use are the key drivers of NCDs in Cambodia.

NCDs are estimated to represent 64% of all deaths in Cambodia. They contribute to 24% of deaths from cardiovascular diseases, 14% of deaths from cancers, 4% of deaths from chronic respiratory diseases and 2% of deaths related to diabetes (WHO, 2018a). According to a survey conducted in 2010, 8 out of 10 people in Cambodia had one to two NCD risk factors while 1 in every 10 respondents had three or more risk factors. The people who had 3 or more risk factors were 2.2 times more likely to be men and 1.7 times more likely to live in urban areas; and these trends increased with age (Oum et al., 2010).

Surveys on NCDs conducted in 2004 in two villages in Siem Reap province and another two villages in Kampong Cham province showed that in the rural areas of the province, 5% of adults had diabetes and 12% had high blood pressure. In the semi-urban areas, 10% of the population had diabetes and 25% were diagnosed with high blood pressure. A nationwide survey in 2005-2006 found that 48% of men and 3.6% of women smoked cigarettes. 1% of men and 17% of women chewed tobacco (Oum et al., 2010).

A 2010 NCDs survey reported that 26.2% and 2.9% of population were daily and non-daily smokers respectively. The daily smokers were 10 times more likely to be men than women (49.3% Vs 4.8%). The daily smoking rate was 1.5 times higher in rural areas when compared to urban areas (28.2% Vs 18.1%). The mean age of tobacco smokers was 20.4 years for all respondents. Exposure to environmental tobacco smoke (ETS) in workplaces and homes was more frequent for women than men, and more frequent for rural than urban participants (Oum et al., 2010).

Alcohol is one of the risk factors responsible for the increasing development of NCDs in Cambodia. 63.5% of national survey respondents were alcohol drinkers. 53.5% of total respondents had drunk alcohol within the past 30 days. Men were current drinkers (within the past 30 days) at a rate of 2.4 times that of women. However, women were 1.2 times more likely to report drinking in the past 12 months (Oum et al., 2010).

In the 2010 national survey, fruit was consumed by respondents on an average of 2.6 days per week. This varied from 2.4 days for men to 2.8 days for women, as well as from 2.5 days in urban areas compared to 3.1 days in rural areas. Additionally, the mean of vegetable consumption was 5.3 days. Vegetable intake among men and women was similar and the respondents in rural and urban areas consumed equivalent levels of vegetables. Vegetable oil was consumed by most of the households interviewed (71.9%). Urban households used vegetable oil at a rate 14% higher than rural households (83.2% vs 69.5%). Lard was used by 14% of households on average, with rural households using lard twice as much as urban households (15.5% vs 6.7%). Respondents also reported they take 1.6 takeaway meals per week on average (Oum et al., 2010).

76.1% of respondents in the 2010 survey reported high physical activity, 13.3% moderate activity and 10.6% low physical activity. Women undertook moderate

physical activity at a greater rate than men (15.6% vs 10.9%) and rates of physical activity were higher in rural regions. The median time for physical activity was 4 hours and 4 minutes per day. The activities contributing to physical activity included work (84.9%), transport (11.3%), and recreational activity (3.8%). 11.2% of survey respondents had mild hypertension; the proportion of hypertension was significantly higher in urban areas, among women and increased with age (Oum et al., 2010).

The 2010 survey also found that 1.4% and 2.9%, respectively, were the rates of impaired fasting glycaemia and diabetes. The prevalence of diabetes in urban areas was 2.4 times higher than in rural areas. 20.7% of respondents had high total cholesterol and this prevalence was higher among women, in urban areas and increased with age (Oum et al., 2010).

### Why have NCDs risen in recent years?

The 2030 agenda for the Sustainable Development Goals (SDG) are threatened by the high rate of NCDs. The SDG 3 (Good Health and Well-Being) target aims to decrease the premature deaths from NCDs by one-third (WHO, n.d.,b). NCDs have been shown to impede poverty reduction in low-income countries by increasing healthcare costs. Vulnerable and socially disadvantaged people get sicker and die sooner than people of higher social positions because they are at greater risk of being exposed to harmful products such as tobacco, more likely to have unhealthy dietary practices, and have limited access to health services (WHO, 2011). NCDs, in particular, result in lengthy and expensive treatments and the potential loss of breadwinners, forcing millions of people into poverty and potentially delaying development, especially in low-income settings. NCDs impose huge economic costs for low and middle-income countries. Healthcare costs for diabetes in Latin America and the Caribbean are estimated at USD65 billion each year. In 2005, China estimated losses of USD18 billion relating to heart diseases, stroke and diabetes (WHO, 2011). In Cambodia, the government has increased health expenditure from 6.8% of the total budget in 2008 to 7.6% in 2014, for a total cost of USD1,057 million in 2014. 7% of this budget (USD73.99 million) was spent on expenses relating to NCDs (Health Policy Project, 2016). Evidently, NCDs cause severe economic consequences that impoverish families, burden health systems and weaken countries' economies.

## What has Cambodia done for NCDs?

Four main conditions—cardiovascular diseases, cancers, respiratory diseases and diabetes—represent around 90% of the NCD burden in Cambodia and 80% of this burden is avoidable (Ministry of Health, 2013). Policy initiatives to reduce the four common risk factors could be made at a whole of population level.

The Cambodian Ministry of Health has initiated the National Strategy Plan for Prevention and Control of Non-Communicable Diseases from 2013 to 2020, focused on the following priorities:

1. Reduce population exposure to common factors by accelerating tobacco control, scaling up alcohol control, promoting healthy diets, physical activity and helping to prevent cases of cancer.
2. Pursue cost-effective detection, treatment and palliative care by providing integrated management of NCDs through primary care, single-visit screening and early treatment for cervical cancer and increasing access to palliative care (central and local).
3. Enhance NCDs surveillance by establishing hospital-based cancer registry, improving data collection on NCDs care and monitoring risk factors through consistent national surveys at regular intervals.
4. Improve NCD coordination across the MoH, develop a national multisectoral action plan for NCD prevention and control, establish a whole of government mechanism to oversee implementation, and finance a fund dedicated to NCD prevention and control from the taxation of tobacco and alcohol (Ministry of Health, 2013).

## Policy Recommendation

The Cambodian healthcare system is overwhelmed by more NCD patients than it is able to treat. There is an increase of risk factors in the general population including unhealthy diet and alcohol consumption. As a result, deaths due to NCDs are projected to rise annually. To reduce burdens in the healthcare system and prevent premature death, several recommendations should be considered:

1. Strengthen the implementation of existing effective laws, policies, Prakas and guidelines in the Kingdom of Cambodia.

2. Monitor and evaluate the National Strategy Plan for Prevention and Control of Non-Communicable Diseases and National Multisectoral Action Plan as developed by Cambodian Ministry of Health.
3. Develop laws on food safety and alcohol control in Cambodia.
4. Provide health education and awareness campaigns in the community, school, and workplaces on the impact of tobacco use, unhealthy diets, alcohol consumption and physical inactivity.
5. Provide additional financial support and develop human resources in relevant ministries/agencies/authorities especially the Ministry of Health.
6. Promote physical activity and healthy diets through mass media or social networks and limit the promotion of tobacco and alcohol through marketing.
7. Build more bilateral or multilateral collaborations with local and international agencies both in relation to finance and to support development of human resources.

### **Micro-intervention: Smoking Cessation Program**

#### **A) Overview**

This micro-intervention suggests establishing services for counseling on smoking cessation at health facilities and providing sufficient education and information for the public on the impact of tobacco use on health, the economy, and the environment. This intervention would not only correlate with the suggestions above, but also with the National Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2018-2027) (Royal Government of Cambodia, 2018).

#### **B) Justification**

Globally, smoking is a leading risk factor relating to NCDs. Tobacco use kills more than 8 million people annually across the globe (WHO, 2020). Tobacco is linked as a causative factor to all of the priority NCDs in Cambodia. Two million Cambodians use tobacco and 42.5% of adult men smoke cigarettes (Ministry of Health, 2013). It was also reported that 1.6 million Cambodian adults (16.9%) aged 15 and older smoked (Ministry of Planning, 2015). More than 50% of the population is exposed to environmental tobacco smoke (ETS) at home or at workplaces, including 47% of children (Ministry of Health, 2013). One of the interventions for tobacco use, as recommended by the WHO, is to educate the

public on the harm of smoking, tobacco use, and secondhand smoke (WHO, 2018a).

### C) Implementation

As an educator, to contribute to the reduction of NCD burdens in the health system, the integration of an elective course on tobacco cessation is initiated for health science university students. Health science students are educated members of the population who have access to health information. Their roles are important for NCD prevention as they will be the prescribers and dispensers of medicine and health educators of the future. As counseling for smoking cessation is one of the responsibilities of health professionals, their recommendations will potentially change peoples' behavior relating to tobacco use. Integrating skills on smoking cessation in the health science curriculums will have a significant impact on prevention of NCDs related to tobacco use.

The curriculums of health sciences in Cambodia follow the national program approved by the Ministry of Health and Ministry of Education, Youth and Sports. Skills to educate the public on smoking cessation are not clearly integrated as a full course with specific learning outcomes. Consequently, health graduates are not able to perform this responsibility effectively so as to serve the community. This intervention will improve health science students' knowledge, skills and behavior in particular and reduce tobacco use in general. The intervention is detailed below:

Intervention title	<b>Smoking Cessation, an integrated elective course</b>
Location	University of Puthisastra, Phnom Penh, Cambodia
Project goal	Integrate smoking cessation into health curriculums for final year health science students.
Program description	Smoking cessation is an outcome-based program developed to provide a deep understanding of tobacco use and its risk factors, complications, and strategies for prevention. This course is designed to run for 15 hours and last for one semester. Its outline was developed by a medical expert in health sciences. The formative and summative assessment will be used to evaluate students at the end of the course.
Implementing Agency	Research Campaign team of University of Puthisastra Mr. Sophearom CHHEA, project manager Ms. Muylngim ENG, technical executive Ms. Marina HUL, operational executive Ms. Vichheka PISETH, finance executive
Project indicators	-Numbers of university students who participate in the program -Course syllabus -Teaching and learning materials -Assessment tools -Monitoring and evaluation reports



Implementing Partners	-Policy lab -University of Puthisastra -Ministry of Education, Youth and Sports -Ministry of Health
Project period	27 April 2021 to 08 August 2021
Project participants	100 health science university students
Contact persons	Mr. Sophearom CHHEA, Assistant Dean, Faculty of Pharmacy, University of Puthisastra Telephone: (+855) 86 345 710 Email: csophearom@puthisastra.edu.kh
Course outline ( 15 hours)	-Epidemiology of tobacco use (trends, effect of second-hand smoke, tobacco-related diseases, benefits of quitting). -Nicotine pharmacology and principles of addiction. -Drug interaction with smoking. -Assisting patients with quitting (behavioral approaches and brief interventions). -Recommended medications for tobacco cessation. -Forms of tobacco (e.g. cigarettes, cigars, smokeless tobacco, and electronic cigarettes). -Impacts for specific populations (e.g. pregnant mothers, individuals with mental health conditions).

## Conclusion

NCDs are strongly associated with people’s daily behavior: dietary patterns, physical activity, alcohol and tobacco use. Tobacco use, one of current leading risk factors, is projected to increase in coming years (WHO, 2018a). Tobacco use leads to chronic diseases such as cancers, heart diseases, strokes, lung diseases, type 2 diabetes, and more (WHO, 2018a). Currently, over 2 million Cambodian citizens utilize tobacco and more than half of population is exposed to environmental tobacco smoke at domestic or work environments (Ministry of Health, 2013). On average, Cambodian smokers spent around \$9.7 USD per month on manufactured cigarettes, while lowest income earners (below \$1 USD per day) spent on average \$7.1 USD per month (Ministry of Planning, 2015). Smoking prevalence is inversely related to educational achievement, higher among adults with 0-6 years of education (20.5%) than those with 7-12 years (14.2%) (Ministry of Planning, 2015). Generally, providing an educational program to tackle the NCDs burden, particularly tobacco use, aligns with 2030 agenda for the Sustainable Development Goals (SDG), WHO recommendation called 16 “Best Buy” intervention, and National Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2018-2027). Suggesting a micro-intervention by integrating smoking cessation education into curriculums for health science students will have sustainable and significant impacts on tobacco use reduction in the Cambodian context. After this 15-hour course

running through the whole semester, students will be able to deeply understand and apply the smoking cessation skills efficiently in health facilities and communities.

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