



**PROTECTING THE NEXT GENERATION:
CROSS-COUNTRY LEARNING ON TOBACCO CONTROL
POLICIES FOR YOUNG PEOPLE IN NEW ZEALAND
AND THAILAND**

BY

SAI NOON

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF PUBLIC HEALTH IN GLOBAL HEALTH
FACULTY OF PUBLIC HEALTH
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2022**

THAMMASAT UNIVERSITY
FACULTY OF PUBLIC HEALTH

INDEPENDENT STUDY

BY

SAI NOON

ENTITLED

PROTECTING THE NEXT GENERATION: CROSS-COUNTRY LEARNING
ON TOBACCO CONTROL POLICIES FOR YOUNG PEOPLE IN NEW ZEALAND AND
THAILAND

was approved as partial fulfillment of the requirements for
the degree of Master of Public Health in Global Health
on October 18, 2023

Chairman



(Assistant Professor Li Liang, Ph.D.)

Member and Advisor



(Dr. Andrew Lee Corwin, Dr. PH, MPH)

Member and Co-adviser



(Assistant Professor Wanapa Naravage, Ph.D.)

Member



(Associate Professor Uma Langkulsen, Ph.D.)

Dean



(Associate Professor Sasitorn Taptagaporn, Ph.D.)

Independent study Title	PROTECTING THE NEXT GENERATION: CROSS-COUNTRY LEARNING ON TOBACCO CONTROL POLICIES FOR YOUNG PEOPLE IN NEW ZEALAND AND THAILAND
Author	Sai Noon
Degree	Master of Public Health in Global Health
Major Field/Faculty/University	Global Health Faculty of Public Health Thammasat University
IS Advisor	Dr. Andrew Lee Corwin
IS Co-Advisor	Assistant Professor Wanapa Naravage
Academic Year	2022

ABSTRACT

Introduction: Tobacco use among young people is a persistent global public health challenge, demanding a comprehensive examination of tobacco control strategies. This study comparatively analyzed such strategies in New Zealand and Thailand, focusing on protecting young people from tobacco and electronic cigarettes (e-cigarettes). It emphasized policies prohibiting tobacco sales to minors, aligned with Article 16 of the WHO Framework Convention on Tobacco Control (FCTC).

Purpose: The study aims to compare effective tobacco control policies in New Zealand and Thailand, with a focus on youth impact, offering evidence-based recommendations for global youth tobacco use reduction.

Methods: This documentary review employed mixed methods, analyzing 68 articles, including 39 research papers and 29 grey literature sources.

Findings: The study revealed that New Zealand's comprehensive tobacco control strategy includes the integration of smoke-free education, accessible smoking cessation services, and strict regulations on both traditional tobacco products and emerging e-cigarettes. In contrast, Thailand has raised the minimum legal age for purchasing tobacco to 20 years, displaying a clear anti-smoking message for young adults,

but faces challenges in law enforcement in regulating e-cigarettes. Both countries have observed declining smoking rates, but concerns arise regarding the rising prevalence of vaping and dual usage.

Discussion: Holistic approaches, including comprehensive education, cessation support, and regulatory measures, are crucial for youth tobacco protection. New Zealand's ambitious goal of reducing smoking prevalence provides valuable lessons, particularly in the integration of smoke-free education and accessible cessation services, which other countries like Thailand can learn from. Considering Thailand's success in raising the minimum legal purchase age, New Zealand should explore a similar strategy to delay smoking initiation among young people and reshape social norms. Long-term monitoring of policy effectiveness is essential for assessing their impact over time and making necessary adjustments. Addressing challenges such as limited policy effectiveness data and potential gaps in existing sources through ongoing research is crucial for evidence-based policymaking.

Conclusion: This comparative study provided critical insights into tobacco control policy evolution. It emphasized the need for continued research and policymaking prioritizing the protection of young people against the harms of tobacco and e-cigarettes. The findings guided not only New Zealand and Thailand but also other nations tackling protecting young people from tobacco-related harm.

Keywords: Global Health, Tobacco Control, Policies, Strategies, Young People, New Zealand, Thailand, WHO-FCTC Article 16.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my heartfelt gratitude to all those who have contributed to the successful completion of my Independent Study (IS) paper, titled " Protecting the Next Generation: Cross-Country Learning on Tobacco Control Policies for Young People in New Zealand and Thailand", as part of my pursuit of the Master of Public Health in Global Health degree at Thammasat University.

First and foremost, I would like to express my deep appreciation to my dedicated advisor, Dr. Andrew Lee Corwin, and my co-advisor, Assistant Professor Wanapa Naravage, for their continuous guidance, mentorship, and valuable feedback throughout this research journey. Their expertise and support were invaluable in shaping the direction and quality of this study.

I would also like to extend my heartfelt thanks to the chairperson of my exam committee, Assistant Professor Li Liang, and the member of the exam committee, Associate Professor Uma Langkulsen, for their time, expertise, and valuable feedback that greatly improved the final outcome of this paper.

I am grateful to the Thammasat International Students Recruitment (TISR) scholarship program for its generous financial support. This scholarship has not only lightened the financial burden but has also allowed me to concentrate on my academic pursuits and research.

Furthermore, I wish to express my sincere thanks to every professor and instructor within the Master of Public Health in Global Health program at the Faculty of Public Health, Thammasat University. Your dedication to teaching and your willingness to share knowledge and ideas have been instrumental in shaping my academic growth and inspiring the research presented in this paper.

This research paper would not have been possible without the support, encouragement, and expertise of all those mentioned above. I am deeply thankful for being a part of this significant milestone in my academic and personal development.

Sai Noon

TABLE OF CONTENTS

ABSTRACT	1
ACKNOWLEDGEMENTS	3
LIST OF TABLES	6
LIST OF FIGURES	7
LIST OF TERMS	8
LIST OF ABBREVIATIONS	10
CHAPTER 1 INTRODUCTION	1
1.1 Introduction	1
1.2 Background	2
1.3 Problem Statement	9
CHAPTER 2 PURPOSE AND DESIGN	11
2.1 Study Purpose	11
2.2 Research Question	11
2.3 Objectives of the Study	11
2.4 Conceptual Framework	12
CHAPTER 3 RESEARCH METHOD	14
3.1 Study Design	14
3.2 Data Selection	14
3.3 Data Management	17
3.4 Data Matrix	17
3.5 Data Analysis	18

	(5)
CHAPTER 4 FINDINGS	20
4.1 Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article-16	22
4.2 Preventing Young People's Access to Tobacco Products	32
4.3 Youth-Specific Interventions and Education Programs	35
4.4 Smoking Cessation Support	38
4.5 Regulating Electronic Cigarettes: Safeguarding Young People from the Risks	43
4.6 Relationship between Policies and Trends	48
CHAPTER 5 DISCUSSIONS AND RECOMMENDATIONS	51
5.1 Comparison of Tobacco Control Policies	51
5.2 Comparative Assessment of Strengths, Weaknesses, Challenges and Gaps	53
5.3 Cross-Country Learning and Recommendations	54
5.4 Implications and Future Research Directions	57
5.5 Limitations of Study	58
CHAPTER 6 CONCLUSIONS	59
REFERENCES	60
APPENDICES	67
Appendix A Data Matrix Table	67
BIOGRAPHY	115

LIST OF TABLES

Tables	Page
3.1 Inclusion and Exclusion Criteria	16
5.1 The status and differences between two countries regarding implementing measures to protect young people's exposure to tobacco	51



LIST OF FIGURES

Figures	Page
2.1 Conceptual Framework of Tobacco Control Measures on prohibiting sales to and by minors (WHO FCTC Article 16) to protect young people	12
3.1 Analytical Framework for the study	19
4.1 PRISMA Flowchart	20
4.2 Percentage of smoking cessation in New Zealand from the year 2011/12 to 2021/22	40
5.1 Percentage of current smokers from 2011 to 2022 and percentage of daily vapers from 2015 to 2022	48
5.2 Percentage of smokers aged 15 years old and above in Thailand between 2004 to 2021	49



LIST OF TERMS

Term	Definition
Cigarette smoking	A cigarette is a cylindrical tobacco product comprising finely cut and cured tobacco leaves enclosed in a thin paper wrapping. It may contain additional components, including flavouring agents. When lit on one end, a cigarette is smoked, and the resulting smoke is typically drawn into the lungs through inhalation (National Cancer Institute, n.d.)
Electronic cigarettes (E-cigarettes)	E-cigarettes, also referred to as electronic nicotine delivery systems (ENDS) or electronic non-nicotine delivery systems (ENNDS), function by heating a liquid to produce inhalable aerosols. This liquid, known as e-liquid, may or may not contain nicotine (without tobacco), but it commonly includes additives, flavors, and chemicals that can pose health risks to individuals (World Health Organization, 2022b).
Minors	Minors refer to individuals who are below the age specified by domestic or national law, typically set at eighteen (World Health Organization, 2004).
Regulated Product	A regulated product refers to a product related to tobacco, vaping, or herbal smoking (New Zealand Ministry of Health, 2023d).
Tobacco Control	Tobacco control refers to a variety of demand, supply and harm reduction measures aimed at improving a population's health by eliminating or decreasing their usage of tobacco and exposure to tobacco smoke (World Health Organization, 2004).
Tobacco industry	The term "tobacco industry" comprises entities such as tobacco manufacturers, wholesale distributors, and importers involved in the production and distribution of tobacco products (World Health Organization, 2004).

Tobacco products	The term "tobacco products" refers to items that are produced using leaf tobacco as either the main or partial raw material and are intended for activities such as smoking, sucking, chewing, or snuffing (World Health Organization, 2004).
Tobacco smoking	Tobacco smoking includes various forms of smoked tobacco, such as cigarettes, cigars, pipes, hookahs, shishas, water-pipes, heated tobacco products, and any other methods involving the inhalation of tobacco smoke (World Health Organization, 2021c).
Tobacco use	Tobacco use is defined as the use of any variety of tobacco, including both smoked and smokeless forms. It does not include the usage of products that do not contain tobacco, such as electronic nicotine delivery systems (ENDS) (World Health Organization, 2021b).
Toy Regulated Product	A toy regulated product denotes either a toy resembling a tobacco product or an item resembling a vaping or heated tobacco product (HTP), designed for simulating vaping but incapable of actual vaping use, with its main purpose being something other than aiding people in quitting vaping (New Zealand Ministry of Health, 2023d).
Young people	Young People refers to those aged 10 to 24 years old (World Health Organization, 2019).

LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
ASH	Action on Smoking and Health
CAR	Continuous Abstinence Rate
COPD	Chronic Obstructive Pulmonary Disease
CVD	Cardiovascular Disease
E-cigarettes	Electronic Cigarettes
FCTC	Framework Convention on Tobacco Control
GAP	Global Action Plan
GYTS	Global Youth Tobacco Survey
HPA	Health Promotion Agency
HTP	Heated Tobacco Product
INGO	International Non-Governmental Organization
MPOWER	M: monitor tobacco use and prevention policies; P: protect people from tobacco smoke; O: offer help to quit tobacco smoking; W: warn about the dangers of tobacco; E: enforce bans on tobacco advertising, promotion and sponsorship; and R: raise taxes on tobacco
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
NRT	Nicotine Replacement Therapy
SDG	Sustainable Development Goal
SEATCA	Southeast Asia Tobacco Control Alliance
SERPA	Smokefree Environments and Regulated Products Act
SVR	Specialist Vape Retailer
TI	Tobacco Industry
TPCA	Tobacco Products Control Act
TRC	Tobacco Control Research and Knowledge Management Center
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 Introduction

The tobacco epidemic, one of the greatest public health threats globally, continues to threaten people's health and well-being worldwide, particularly among young people. Tobacco-related diseases claim the lives of more than 8 million individuals annually, with the majority of these fatalities occurring in nations categorized as low-income or middle-income countries (World Health Organization, 2022a). Although many tobacco control policies and interventions have been implemented in many countries, the Tobacco Industry (TI) develops new tactics to manufacture new products that target young people, especially those susceptible to nicotine's additive effects.

Tobacco Control is a global health issue or a worldwide health concern that necessitates multidisciplinary actions and collaboration of various sectors to tackle its challenges effectively. It requires coordinated efforts from different sectors like healthcare, public health, education, agriculture, trade, legal and policymakers to minimize the adverse impacts of Tobacco. Since tobacco consumption affects individuals and communities worldwide, international cooperation and sharing of best practices are essential for implementing effective tobacco control measures and reducing the burden of tobacco-related diseases on a global scale.

New Zealand and Thailand have both made significant strides in tobacco control over the past few decades, but New Zealand has been particularly successful in reducing smoking rates and implementing comprehensive tobacco control policies. New Zealand has been a leading country in global tobacco control for some years and has continuously made progress in decreasing the rate of smoking and tobacco usage in the country. The smoking rate is significantly reduced from 21.7% in 2011/2012 to 7.8% in 2021/22 (New Zealand Ministry of Health, n.d-a). The New Zealand government has set a challenging target of lowering the smoking rate to below 5% with the aim of becoming a smoke-free nation by 2025. To achieve this objective, the government has launched the Smokefree Aotearoa 2025 Action Plan, which was introduced on December 9th, 2022. New Zealand has taken significant steps towards

achieving the Smokefree Aotearoa 2025 goal by implementing strong measures through amendments to the Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act, which became effective on January 1st, 2023 (Health New Zealand, 2023a).

In comparison, while Thailand has made some progress in tobacco control, there are still challenges in implementing comprehensive tobacco control interventions to reduce the prevalence of tobacco consumption due to the influence of the tobacco industry. According to WHO, the tobacco usage rate was 22.1% in 2020, which slightly decreased from 26.5% in 2010 (World Health Organization, 2021b), the progress has been slower compared to New Zealand. Tobacco use is still a leading cause of preventable deaths in Thailand (Institute for Health Metrics and Evaluation, n.d-b).

This documentary review compares the strengths and weaknesses of tobacco control policies and strategies in New Zealand and Thailand, especially in protecting young people. The term ‘Adolescents’ refers to those aged 10 to 19 years old, ‘Youth’ to persons aged from 15 to 24 and ‘Young People’ refers to those aged 10 to 24 were defined by WHO (World Health Organization, 2019). The term ‘Minors’ mentioned in Article 16 of the WHO FCTC refers to individuals under the age specified by national or domestic law, or under 18 years old. In this paper, the term ‘Young people’ will be used, which covers persons aged 10 to 24 years old including adolescents, youths and minors.

1.2 Background

1.2.1 Health Effects of Tobacco Use and Smoking

Cigarette or tobacco smoking has detrimental effects on health and significantly increases the likelihood of developing several non-communicable diseases such as stroke, cardiovascular diseases (CVD), respiratory illnesses, chronic obstructive pulmonary disease (COPD), emphysema, asthma, chronic bronchitis, diabetes, and various forms of cancers including lung, oesophagus, larynx, oropharynx cancer and many others. Smoking during pregnancy can also lead to negative outcomes of pregnancy such as preterm labour, stillbirth, and low birth weight (Centers for Disease Control and Prevention, 2021).

During the situation of COVID-19 crisis, tobacco users or smokers have been particularly vulnerable to COVID-19 infection as they frequently place their hands over their mouths. Sharing water pipes or sheesha presents a similar risk while chewing tobacco can increase the risk of coronavirus transmission due to increased saliva production and enhances the desire to spit. Those people are likely to develop severe COVID-19 symptoms and death because both smoking and coronavirus damage the lungs and respiratory system (World Health Organization, n.d-b).

Cardiovascular disease and cerebrovascular disease or stroke are the most common diseases among tobacco users. Ischemic heart disease and stroke are among New Zealand and Thailand's top 3 causes of death. Tobacco use is the major risk factor that drives the most death and disability in both countries (Institute for Health Metrics and Evaluation, n.d-a, b).

1.2.2 Tobacco and Public Health

The tobacco epidemic, one of the greatest public health threats globally, kills half of the people who smoke. Annually, tobacco-related diseases cause the deaths of more than 8 million individuals, out of which roughly 1.2 million fatalities occur in passive smokers (exposed to second-hand smoke), which includes 65,000 children who die from illnesses caused by secondhand smoke. Meanwhile, more than 7 million deaths are attributed to active smokers (those who directly use tobacco) (World Health Organization, 2022a).

Tobacco was used by 22.3% of the world's population in 2020 and there is a significant rate of using tobacco among men (36.7%) and women (7.8%). Across the globe, 1.3 billion people use tobacco, and more than 80% of those live in Low-income and Middle-Income Countries, where the prevalence of smoking-related diseases and mortality is high (World Health Organization, 2022a). From the school-based surveys in different countries around the world between 2010 and 2020, globally approximately 2.6% of teenagers between 13 to 15 years old were using smokeless tobacco, with 1.9% of females and 3.2% of males reporting current use. The Southeast Asia and Eastern Mediterranean regions have the highest rates of use, with 3.9% of those aged between 13 and 15 years using smokeless tobacco, of which 2.9% of females and 4.7% of males in the Southeast Asia region (World Health Organization, 2021b).

All kinds of tobacco are toxic and harmful to people's health. People use it in various ways such as chewing, sniffing, or smoking. However, cigarette smoking is the most popular form around the world. Electronic cigarettes (e-cigarettes) have become increasingly popular in the last few years. The number of people using e-cigarettes has significantly increased to substitute for other forms of smoking or assist in quitting smoking. The e-cigarette is an electronic device that produces aerosols by heating a liquid (additive and containing toxic chemicals) and comes in different kinds; electronic nicotine/non-nicotine delivery systems. All of those are not safe and are harmful to their users (World Health Organization, 2022b).

1.2.3 Tobacco Control and Sustainable Development Goals (SDGs)

Tobacco control refers to a variety of demand, supply and harm reduction measures aimed at improving a population's health by eliminating or decreasing their usage of tobacco and exposure to tobacco smoke (World Health Organization, 2004). Tobacco control is closely linked to various Sustainable Development Goals (SDGs), both directly and indirectly. The WHO FCTC plays a significant role in the attainment of SDG-3, which aims to ensure good health and promote well-being for everyone. Specifically, it supports Target-3.a by enhancing the implementation of the WHO FCTC in every country. Additionally, it contributes to Target-3.4, which focuses on reducing premature deaths from noncommunicable diseases, as well as Target-3.2, which aims to end preventable deaths among newborns and children under the age of five. Furthermore, tobacco control aligns with Target-3.3, which seeks to end epidemics of communicable diseases, and Target-3.8, which strives for universal health coverage. In addition to SDG-3, tobacco control efforts also have implications for other SDGs. They contribute to the goals related to poverty and hunger elimination, gender equality, women empowerment, economic development, equitable education promotion, reduction of inequality within and among countries, sustainable consumption and production, climate change mitigation, protection of land and water ecosystems, good governance, partnership, and environmental sustainability (World Health Organization, n.d-c).

1.2.4 The International Treaty

The Framework Convention on Tobacco Control (FCTC) of the WHO is the world's earliest public health convention that was developed based on evidence that enhances people's rights to the highest quality of health and well-being. Public health

is seriously threatened by the globalization of tobacco products and many countries collaborated in developing the WHO FCTC in response to this globalization. The FCTC aims to tackle the underlying causes of the tobacco epidemic such as cross-border trade liberalization, foreign direct investment, and illegal trade of tobacco, as well as the advertising, marketing, and promotion across national borders (World Health Organization, 2004).

The WHO FCTC comprises 38 articles that outline various measures for reducing tobacco consumption. Articles 6 to 14 specifically address measures to curb tobacco demand, encompassing both price and non-price strategies. These include implementing price and tax measures to discourage tobacco use, adopting non-price measures to reduce tobacco demand, protecting individuals from exposure to tobacco smoke, regulating the composition of tobacco products, ensuring transparent disclosure of tobacco product information, enacting legislation on packaging and labelling requirements, promoting education, communication, training, and public awareness, enforcing a ban on tobacco advertising, promotion, and sponsorship, and implementing measures to address tobacco dependence and promote cessation. On the other hand, articles 15 to 17 focus on measures aimed at reducing tobacco supply. These measures include legislation to combat illicit trade in tobacco products, prohibiting the sale of tobacco to individuals below the legal age (as determined by national law or under 18), and providing support for economically viable alternative activities to the tobacco production (World Health Organization, 2004).

Specifically related to young people, Article 16 specifies the procedures to be followed to prevent the sale of tobacco-based goods to underage and sale by young people under the age stipulated by national legislation, which includes displaying a clear message that prohibits tobacco sales to under-aged persons, limiting adolescent accessibility to tobacco products from convenient stores and vending machines, prohibits manufacturing and selling of snacks or toys in the form of tobacco products which attracts young people. Moreover, that Article emphasizes the importance of prohibiting the distribution of free samples of tobacco products, the sale of individual units instead of packaged products, the presence of tobacco vending machines, and the sale of tobacco products by minors. Additionally, countries need to acknowledge the significance of implementing measures that prohibit sales to and by minors, along with the other

provisions outlined in the convention, to enhance their overall effectiveness (World Health Organization, 2004).

The agreement entered into force 90 days following 40 states adopted and approved it on the 27th of February 2005. (World Health Organization, 2004). The treaty initially had 168 signatories and currently reached 182 parties (World Health Organization, 2021a). New Zealand and Thailand ratified the WHO FCTC on 27 January and 8 November 2004 (World Health Organization, 2021c).

The WHO launched the MPOWER measure in 2008, a series of high-impact and low-cost interventions to help countries lower their consumption of tobacco under the WHO FCTC. The measures include Monitoring the prevalence of tobacco usage and the policies on tobacco control, Protecting against exposure to tobacco smoke either direct or second-handed, Offering smokers accessibility to cessation programs, Warning of the consequences of tobacco use and health effects, Enforcing restrictions on tobacco marketing and promotion, and Raising the prices on tobacco make them not affordable for everyone (World Health Organization, n.d-a).

1.2.5 Background to Focus Area

New Zealand, also called Aotearoa, is located in the Southwestern Pacific Ocean under WHO's Western Pacific Region and is a high-income country, whereas Thailand is an upper-middle-income country in Southeast Asia. Both countries have been working with the World Health Organization for many years and implementing tobacco control measures, "WHO MPOWER" packages for the prevention and control of Tobacco. As a result, the smoking rate in both countries is declining. However, the rising popularity of new and emerging products such as E-cigarettes, particularly among young people, is a growing concern (World Health Organization, 2021b).

Tobacco use and related diseases are significant global social, health, and economic burdens. The WHO Global Action Plan (GAP) for the Prevention and Control of Noncommunicable Diseases (NCDs) 2013-2020 aimed to reduce the prevalence of tobacco use worldwide (including smokeless tobacco) by 30% by 2025 compared to 2010. Although tobacco control measures and policies have been implemented for over a decade in both countries, there is still a high rate of tobacco use or smoking among male adults. The expected relative reduction in the prevalence of current tobacco use from 2010 to 2025 in Thailand is 23%, which is likely to achieve the target

but less than 30%, whereas New Zealand is 46%, which is likely to achieve a 30% relative reduction (World Health Organization, 2021b).

1.2.6 Prevalence of Tobacco Smoking in New Zealand

The report on the prevalence of tobacco use worldwide by WHO shows that the tobacco use and tobacco smoking rate in New Zealand among those aged 15 years old and above for both sexes in 2020 was 12.7%, which dropped from 19.1% in 2010. The percentage of tobacco use among men was 14.1% and among women was 11.3% in 2020, both slightly declined from 20.4% and 17.9% in 2010. The cigarette smoking rate was 12.1% in 2020 of which 13.5% among men and 10.8% among women (World Health Organization, 2021b).

According to recent data published by the Ministry of Health in New Zealand, the percentage of individuals aged 15-24 years old who are current smokers was determined to be 7.8% in 2021/22, 7.1% in males and 8.5% in females. These figures reflect a significant reduction from the 15.6% and 21.7% rates recorded in 2016/17 and 2011/12, respectively. The rate of daily smoking among young adults aged 15-24 years old was estimated to be 6.1% in 2021/22, with males representing 6.2% and females 6.1% of this demographic. This represents a significant decline from the rates recorded in 2016/17 (12.7%) and 2011/12 (19.1%). It is crucial to recognize that these figures highlight a positive trend in reducing smoking prevalence among young people in New Zealand, which may be attributed to effective public health campaigns, policy measures, and interventions (New Zealand Ministry of Health, n.d-a).

Every year, the Action on Smoking and Health (ASH) conducts the largest ongoing youth smoking surveys in the world by surveying year 10 students aged 14 and 15 in Aotearoa New Zealand. The recently published 2022 report indicates that the daily smoking rate has dropped to 1.1% from 2.45% in 2015, 5.53% in 2010, and 15.23% in 2000. Similarly, the regular smoking rate has also significantly declined to 3.0% in 2022 from 5.39% in 2015, 9.99% in 2010, and 27.94% in 2000. These findings suggest a positive trend in reducing smoking rates among youth in New Zealand over the past two decades (Action on Smoking and Health, 2015, 2022).

The use of e-cigarettes has become increasingly popular in New Zealand over the past few years. While smoking rates have declined, the use of e-cigarettes has increased, as reported by the government's monitoring of e-cigarette use since 2015/16.

The prevalence of e-cigarette use or vaping among those aged 15 years old and above was 27.0% in 2021/22, which has risen from 16.4% in 2015/16 to 25.2% in 2020/21, with a slightly higher rate among males (28.8%) than females (25.3%). Among those aged between 15 to 24 years old, 50.8% of young people in this age group have tried e-cigarettes at least once, among females (53.6%) is slightly higher than among males (48.2%). The prevalence of e-cigarette use among this age group has also risen from 30.9% in 2015/16 to 50.4% in 2020/21, indicating a growing trend in e-cigarette use among young people in New Zealand (New Zealand Ministry of Health, n.d-b). In 2022, the daily use of e-cigarettes or vaping among year 10 students has increased significantly, reaching 10.1% in 2022 from 9.6% in 2021, 3.1% in 2019, and 1.9% in 2017. Similarly, the regular vaping rate has also increased to 18.2% in 2022 from 20.2% in 2021, 12.0% in 2019, and 3.9% in 2017. These figures indicate a notable rise in e-cigarette usage among individuals over the last few years (Action on Smoking and Health, 2017, 2019, 2021, 2022).

1.2.7 Prevalence of Tobacco Use in Thailand

Thailand's prevalence of tobacco use (aged 15 years and above) was 22.1 % in 2020, which decreased from 26.5% in 2010. The percentage of tobacco use among adult males was 41.3% and among females was 2.9% in 2020, both slightly declined from 49.9% and 4.5% in 2010. The current tobacco smoking among Thai people (aged 15 years and above) was 19.4% in 2020 of which 37.2% among men and 1.6% among women. The current cigarette-smoking population aged 15 years and above was 18.3% in 2020 of which 35.2% among men and 1.4% among women (World Health Organization, 2021b).

In 2021, the prevalence of smoking in the Thai population aged 15 and above experienced a decrease to 17.4%, compared to 19.1% in 2017. This reduction was more prominent among males, dropping from 37.7% to 34.7%, while among females, it decreased from 1.7% to 1.3%. The impact of COVID-19 may have contributed to this shift. As evident from data collected by the smoking cessation hotline #1600, there was an increase in individuals seeking advice due to concerns about a heightened susceptibility to COVID-19 associated with smoking. Moreover, factors such as increased social isolation and the shift towards online learning for young people might have

contributed to decreased exposure to peer influences and pressures to smoke (Institute for Population and Social Research Mahidol University, 2022).

The latest Global Youth Tobacco Survey (GYTS) among students aged 13-15 years old conducted in Thailand in 2015 revealed that a significant proportion of students use tobacco products. Out of the total students surveyed, 15.0% reported current use of any tobacco products, with higher rates among boys (21.8%) compared to girls (8.1%). Specifically, 14.0% reported current smoking, with boys (20.7%) reporting higher rates than girls (7.1%). Furthermore, 11.3% of students reported smoking cigarettes, with boys (17.2%) again reporting higher rates than girls (5.2%). In terms of other tobacco products, 2.7% of students reported using smokeless tobacco and 3.3% reported using electronic cigarettes, with boys reporting higher rates than girls in both cases. These findings highlight the need for continued efforts to prevent and reduce tobacco use among young people in Thailand (World Health Organization, 2016).

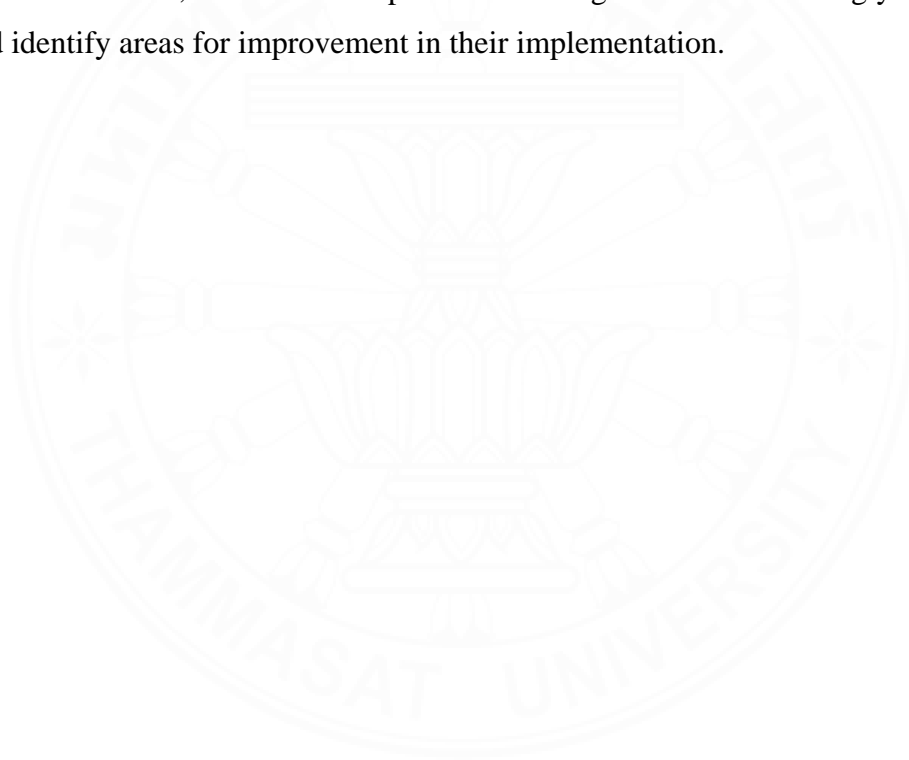
1.3 Problem Statement

Tobacco use or smoking is one of the greatest public health issues affecting people of all ages in many countries including New Zealand and Thailand. The tobacco epidemic kills half of its long-term users, globally over 8 million people die from tobacco-related diseases every year. Nearly 1.2 million fatalities are caused among people exposed to second-hand smoke including 65,000 children, whereas more than 7 million are caused among active smokers (World Health Organization, 2022a). Young people are particularly vulnerable to the harms of tobacco use. Smoking initiation often begins during adolescence, and young people who smoke are at increased risk of nicotine addiction and are more likely to become lifelong smokers and develop non-communicable diseases such as respiratory problems, heart diseases and cancers (Centers for Disease Control and Prevention, 2021).

New Zealand and Thailand have been parties to the WHO Framework Convention on Tobacco Control (FCTC) for more than a decade and have implemented effective policies and measures that have reduced smoking rates, particularly among young people, and improved public health. Compared to Thailand, New Zealand has achieved greater success in implementing tobacco control measures. Despite the efforts

to reduce tobacco use among youths, both countries continue to face significant challenges as the Tobacco Industry (TI) continues to develop new tactics to appeal to young people by introducing new products such as flavoured cigarettes and e-cigarettes which are often marketed as less harmful alternatives to traditional cigarettes.

There are many studies conducted on tobacco use, the prevalence of smoking, and Tobacco Control measures in each country, but there is a lack of research comparing the experience of the countries that implemented the most effective Tobacco Control strategies to protect young people. Therefore, there is a need to explore and analyze the similarities and differences in tobacco control policies and strategies implemented in both countries, assess their impact on reducing tobacco use among young people, and identify areas for improvement in their implementation.



CHAPTER 2

PURPOSE AND DESIGN

2.1 Study Purpose

This documentary review aims to compare the policies and strategies implemented in New Zealand and Thailand that have successfully reduced tobacco use among young people and the challenges of implementing them. This study can help inform the development of effective tobacco control policies and strategies in other countries, ultimately leading to improving public health and a healthier future for young people. It provides evidence-based recommendations for policymakers, program development and interventions aimed at reducing tobacco use among young people around the world.

2.2 Research Question

What are the key differences and similarities between tobacco control policies and strategies in New Zealand and Thailand, particularly in relation to the impact on smoking rates among young people?

2.3 Objectives of the Study

2.3.1 Objective 1: To document the current and historical tobacco control policies and strategies implemented in New Zealand and Thailand to protect young people.

2.3.2 Objective 2: To compare the strengths, weaknesses, challenges and gaps in the implementation of policies and strategies related to Article 16 of WHO-FCTC (prohibiting sales to and by minors) for the protection of young people in both countries.

2.3.3 Objective 3: To analyze how New Zealand, Thailand, and other countries can draw valuable insights from each nation's experiences in protecting young people from the harms of tobacco use, especially through effective measures targeting sales to and by minors.

2.4 Conceptual Framework

The conceptual framework shows the connection between the factors that contribute to smoking and e-cigarette use among young people and the negative consequences of those products on young people's health and social well-being.

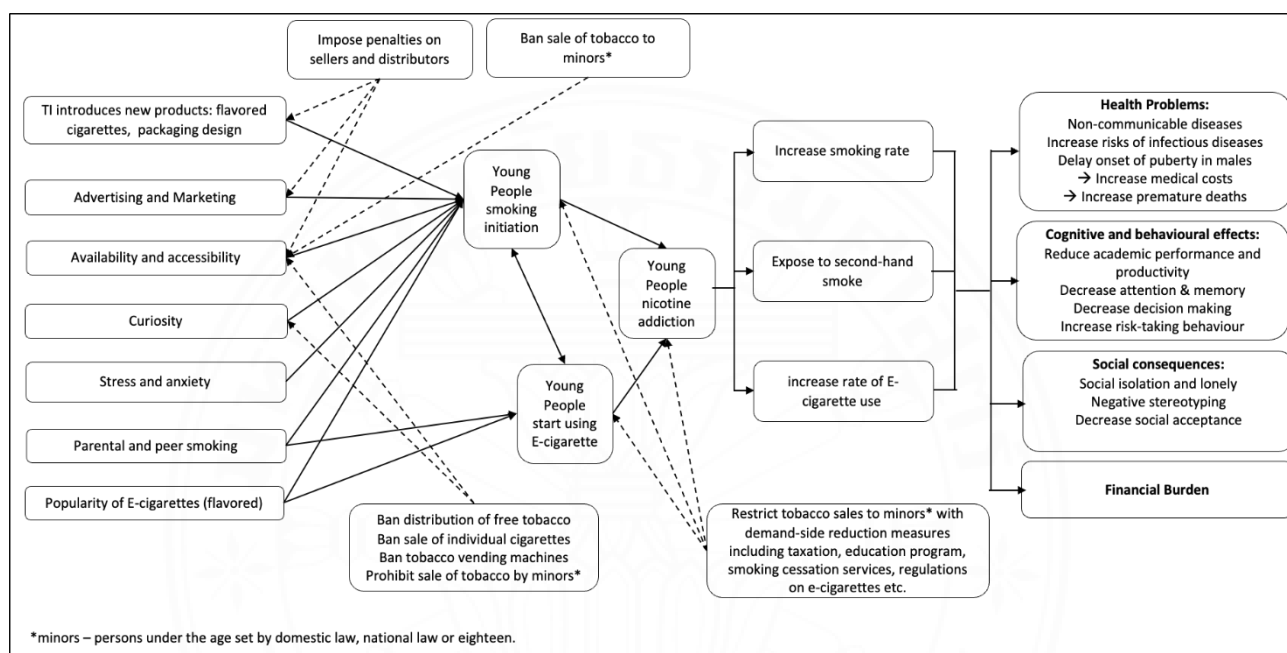


Figure 2.1 Conceptual Framework of tobacco control measures on prohibiting sales to and by minors

Source: WHO FCTC Article 16 (to protect young people).

The figure illustrates tobacco control measures aimed at protecting young people from the harmful effects of tobacco by prohibiting the sale of tobacco products to and by minors, as stated in Article 16 of the WHO FCTC, which is a supply-side reduction measure. Minors, in this context, refer to individuals who are below the age specified by domestic or national law, typically set at eighteen. Prohibiting the sale of tobacco products to minors acts as a barrier, preventing young people from accessing these products. Additionally, measures such as prohibiting the distribution of free tobacco, banning the sale of individual cigarettes, and restricting tobacco vending machines contribute to reducing curiosity and accessibility among young people. The enforcement

of penalties on sellers and distributors ensures compliance with national laws and public health policies. Moreover, when combined with other demand-side reduction measures outlined in the WHO FCTC, such as increasing tobacco taxes, protecting individuals from tobacco smoke, regulating packaging and labelling, promoting education and awareness, enforcing bans on tobacco advertising and sponsorship, and implementing effective cessation programs, as well as regulations on e-cigarettes, these measures offer further protection to young people against the negative consequences of tobacco use.



CHAPTER 3

RESEARCH METHOD

3.1 Study Design

This study is a documentary review that analyzes and compares Tobacco Control policies, strategies and interventions implemented in New Zealand and Thailand to protect young people from the harmful effects of tobacco use.

3.2 Data Selection

3.2.1 Data Sources

The review used a variety of reliable sources, including government documents, peer-reviewed articles, research articles, grey literature, and reports sourced from official government websites, the World Health Organization (WHO), international non-governmental organizations (INGOs), and local NGOs. To gather these documents, search engines like Google, Google Scholar, PubMed, ScienceDirect, Thammasat University Library, and tobacco control organization websites were used. Only documents published after the implementation of tobacco control laws in New Zealand (1990) and Thailand (1992) were considered for inclusion in the review.

3.2.2 Data Search Strategies

For research objective 1:

The current and historical tobacco control policies and strategies implemented in New Zealand and Thailand to protect young people were reviewed from the following:

- Government reports on FCTC implementation (New Zealand and Thailand)
- WHO report on the tobacco epidemic 2021, country profiles (New Zealand and Thailand)
- WHO website

- Campaign for tobacco-free kids' (Tobacco Control Laws, New Zealand and Thailand) website

- Tobacco Control – New Zealand Ministry of Health Website
- Community and Public Health website – New Zealand
- Tobacco Control in New Zealand – MOH website
- Smokefree Organization website – New Zealand
- The ASEAN Tobacco Control Report 2015-2020
- SEATCA-Southeast Asia Tobacco Control Alliance Website
- Thai Health Promotion Foundation (ThaiHealth) Website
- Tobacco Control Research and Knowledge Management Center (TRC)

Thailand-Website

- Action on Smoking and Health Foundation Thailand-Website

For research objectives 2 and 3:

Reports and websites mentioned earlier were applied for the review. To find relevant literature, search strings were created using keywords such as “tobacco control”, “tobacco”, “cigarette”, “e-cigarette”, “vaping”, “sale to minors”, “policy”, “strategy”, “challenges”, “gaps”, “youth”, “minors”, “adolescence”, “young people”, “FCTC”, “New Zealand” and “Thailand”. The initial screening of search results involved reviewing the title and abstract. Subsequently, titles and reviews deemed relevant were selected for full reading and inclusion in the review. Grey literature will also be sought through WHO reports, government reports, INGO documents, and other accessible open sources.

3.2.3 Inclusion and Exclusion Criteria

Table 3.1 Inclusion and Exclusion Criteria

Inclusion criteria	Exclusion criteria
Government documents from New Zealand and Thailand specifically related to tobacco control measures aimed at protecting young people.	Documents that are not directly relevant to the research questions and objectives.
Peer-reviewed articles, research articles, grey literature, and reports that are relevant to the research questions and objectives, and were published after the implementation of tobacco control laws in New Zealand (1990) and in Thailand (1992).	Information sourced from newspapers, web pages, or articles without proper referencing or evidence.
Sources that are available in full-text versions.	Documents that are only available as abstracts without access to the full text.
Peer-reviewed articles, research articles, grey literature, and reports that provide information on current and historical tobacco control policies and strategies for protecting young people in New Zealand and Thailand.	
Peer-reviewed articles, research articles, grey literature, and reports that address the strengths, weaknesses, challenges, and gaps in the implementation of policies and strategies related to Article 16 of the WHO FCTC, which specifically focuses on protecting young people in New Zealand and Thailand.	

Table 3.1 Inclusion and Exclusion Criteria (continue)

Inclusion criteria	Exclusion criteria
Technical reports and evaluation reports that offer data and information on tobacco control policies and strategies from official websites of the New Zealand and Thailand governments, tobacco control organizations, and WHO reports.	

3.3 Data Management

The information collected was organized in a data matrix table for analysis. A comparative approach was employed, categorizing the information from both New Zealand and Thailand into three main categories aligned with the study objectives:

3.3.1 Documentation of current and historical tobacco control policies and strategies implemented in New Zealand and Thailand to protect young people.

3.3.2 Comparison of the strengths, weaknesses, challenges and gaps in the implementation of policies and strategies related to Article 16 of WHO FCTC (prohibiting sales to and by minors) for the protection of young people in both countries.

3.3.3 Analysis of the effectiveness of New Zealand's and Thailand's experiences in protecting young people from the harms of tobacco use, especially through effective measures targeting sales to and by minors.

3.4 Data Matrix

The Matrix table was created to gather information from selected sources like articles and reports. It follows specific criteria determined during the initial study to include or exclude certain information and data. The table helps organize the documentary review process and minimizes any biased judgments. The matrix table shown in the appendices section was used during the process of documentary review.

3.5 Data Analysis

In this study, a mixed method by combining both qualitative and quantitative approaches was used to comprehensively address the three primary objectives. Qualitative content analysis involves a thorough examination of documents to identify underlying themes and meanings. This method utilized thematic and content analysis to interpret the qualitative data derived from documents. A data matrix table, presented in the appendices, was employed to systematically analyze the documents. This analysis focused on understanding the political contexts, inputs, outputs, outcomes, and impacts of policies and regulations related to tobacco control for young people in both New Zealand and Thailand. In the quantitative approach, specific elements within the documents, such as numerical data, graphs, and trends in tobacco prevalence rates, were quantified. These quantifications were related to the laws and regulations governing tobacco control policies in both countries.

Objective 1 involves qualitative data analysis through document review, including an examination of government and organizational documents to identify and document the historical and current tobacco control policies, strategies, and programs in both New Zealand and Thailand. This entails a thorough review of policy documents, reports, and program materials.

For Objective 2, a combination of qualitative and quantitative data sources is utilized, drawing from government and organizational documents, research articles, and available statistics. Qualitative data analysis, conducted through document analysis, identifies and compares the strengths, weaknesses, challenges, and gaps in the implementation of policies related to Article 16 of the WHO FCTC in New Zealand and Thailand. Additionally, a literature review is conducted to gather qualitative information on the challenges and gaps in policy implementation and their real-world impact. Quantitative data analysis involves examining youth smoking rates and comparing these rates in both countries before and after the implementation of specific policies. This includes statistical analysis to determine trends and changes in smoking prevalence among young people.

Lastly, Objective 3 primarily relies on qualitative data through a comparative analysis. This analysis scrutinizes the experiences of New Zealand and Thailand in protecting young people from tobacco-related harms, particularly through measures targeting sales to and by minors. Overall, this mixed-methods approach enabled a holistic examination of tobacco control efforts in the two countries and offered valuable insights for both countries and other nations seeking to enhance their youth tobacco protection strategies.

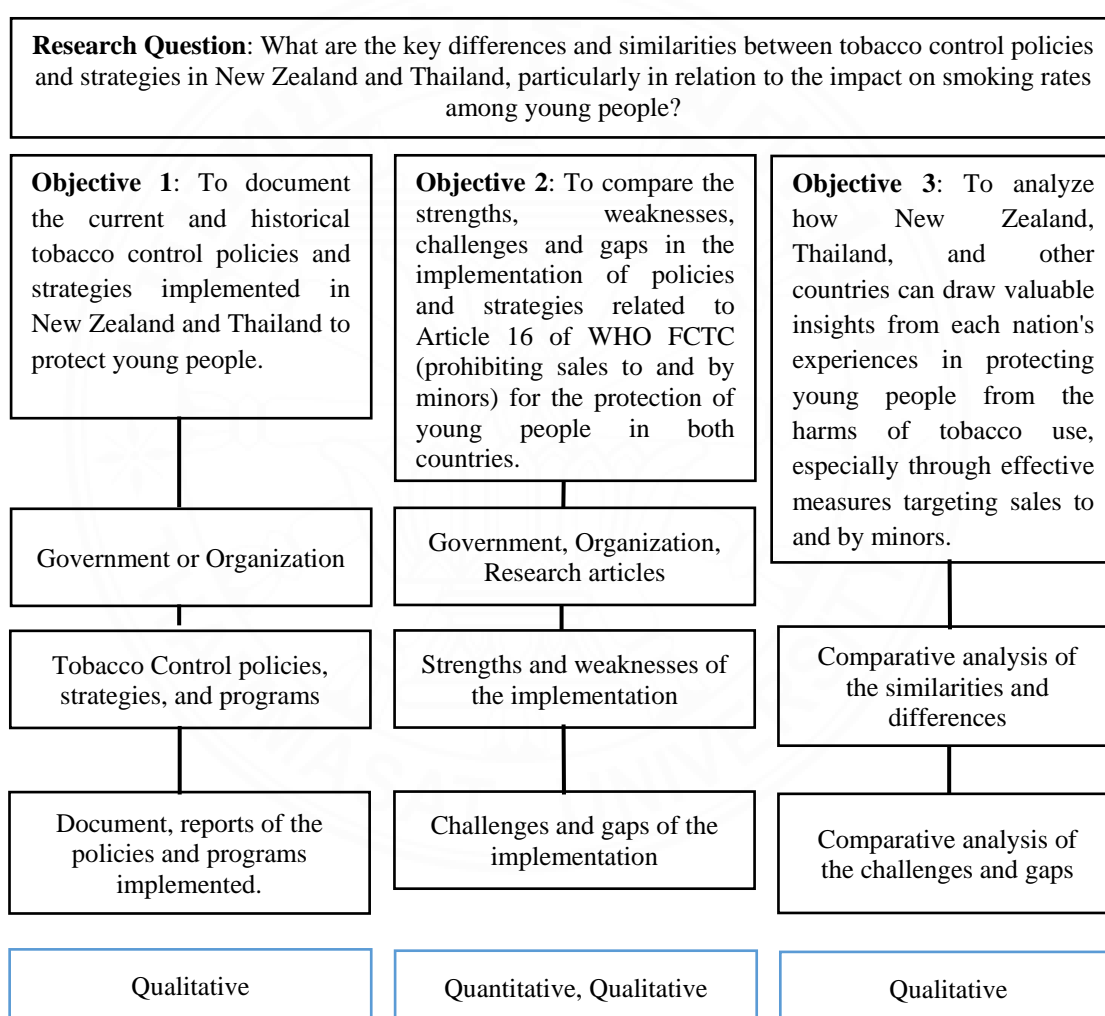


Figure 3.1 Analytical Framework for the study

CHAPTER 4

FINDINGS

In this review, a total of 68 articles were examined, comprising 39 research articles and 29 grey literature sources. Initially, research articles were sourced from databases, including Google Scholar (n=819), Science Direct (n=188), and PubMed (n=131). Grey literature (n=163) was identified through official government websites, international organizations such as the World Health Organization (WHO), non-governmental organizations (NGOs), and other sources. After a preliminary screening of titles and removal of duplicates, 948 records were excluded, leaving 353 records for abstract screening. During the abstract screening, 213 records were excluded as they did not directly relate to the research questions. This left 140 articles for full-text review. Subsequently, 72 articles were excluded because they did not provide sufficient data or align with the research questions and objectives.

The PRIMA flow chart provides a visual representation summarizing the screening process used for document selection.

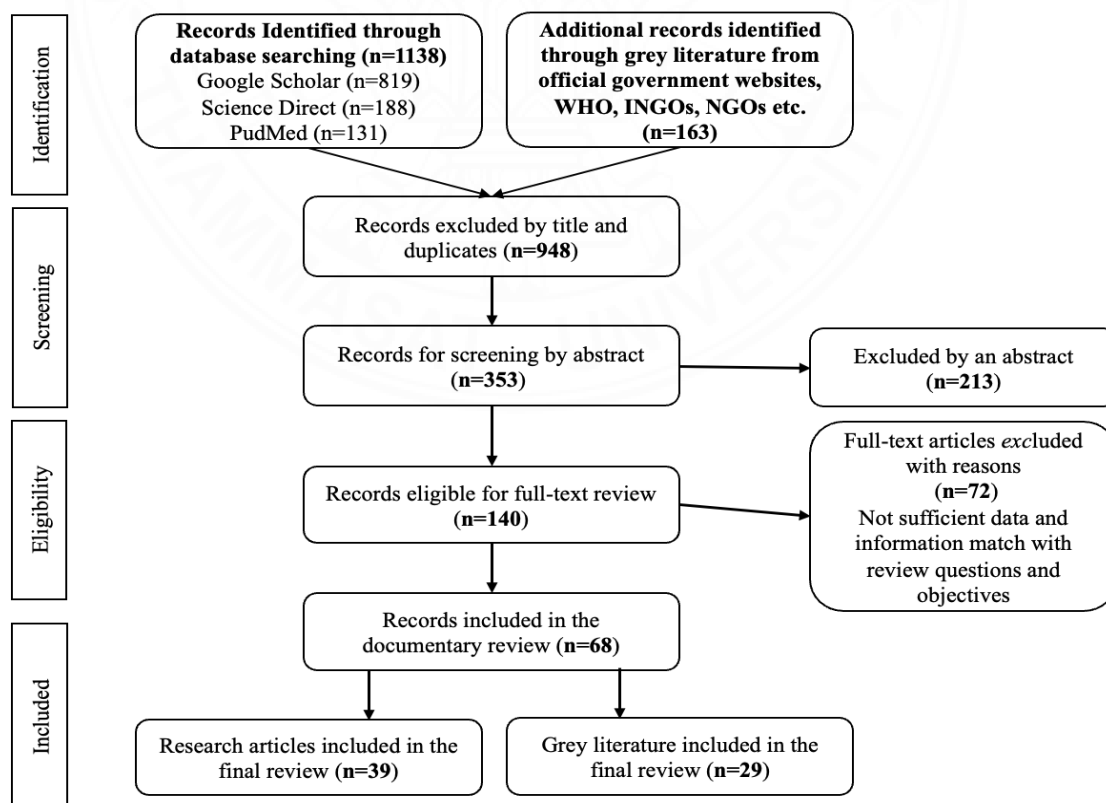


Figure 4.1 PRISMA Flowchart

Tobacco control initiatives in both New Zealand and Thailand setting the active involvement of a diverse array of stakeholders, covering government entities, international organizations, and local institutions. In New Zealand, key governmental agencies, particularly the Ministry of Health and the Health Promotion Agency (HPA), are central in shaping and implementing tobacco control policies. Collaborating closely with New Zealand, international organizations like the World Health Organization (WHO) supplement local efforts. Domestically, organizations such as ASH New Zealand (Action for Smokefree and Health, 2025) make significant contributions to advancing the tobacco control agenda.

Similarly, in Thailand, a diverse array of stakeholders is actively engaged in tobacco control efforts. This includes various government agencies such as the Ministry of Public Health, Ministry of Finance, Ministry of Social Development and Human Security, Ministry of Tourism and Sports, Ministry of Agriculture and Cooperatives, Ministry of Commerce, Ministry of Interior, Ministry of Justice, Ministry of Labour, Ministry of Education, Royal Thai Police, National Health Security Office, and the Thai Health Promotion Foundation, all playing significant roles within the National Tobacco Products Control Committee (Royal Thai Government, 2017). Additionally, international organizations, the World Health Organization (WHO) and the Southeast Asia Tobacco Control Alliance (SEATCA), closely collaborate with local entities like the Tobacco Control Research and Knowledge Management Center (TRC) and the Action on Smoking and Health (ASH) Foundation Thailand. Furthermore, select private sector entities contribute by offering smoking cessation services. This multifaceted engagement reflects the concerted effort to combat tobacco usage within both New Zealand and Thailand.

4.1 Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article-16

4.1.1 Policies in New Zealand

The Smokefree Environments and Regulated Products Act 1990 (SERPA) is the main law in New Zealand for controlling tobacco products, which came into force on December 16, 1990. This law oversees smoke-free areas, advertising rules, packaging, and the use of new tobacco-related products like HTPs and e-cigarettes. Over time, the Primary Act has undergone several changes. The secondary legislation adapted regulations in 2021 provides detailed instructions for implementing the provisions of the primary act. This includes specifying the latest health warning labels and the requirements for plain (standardized) packaging.

4.1.1.1 The Primary Act

In the original version of the law, the rules that prevent selling tobacco to and by young people are outlined in Part 2 of the Act, titled Control of Smoking Products. Section 23A prohibited the display of tobacco products in vending machines or points of sale. Section 28 states that giving away tobacco products as rewards or for free is not allowed. Section 29B restricted the use of vending machines to sell tobacco products. Section 30 made it illegal to sell herbal and tobacco smoking products to individuals below 18 years old, and Section 30AA prohibited supplying those products to minors. Section 30AB provided penalties for individuals who repeatedly commit an offence who sell tobacco to people under 18. Section 30A placed restrictions on selling certain tobacco products in small quantities (less than 20 cigarettes in a package). Section 36A made it illegal to sell toy tobacco products to anyone under 18 years old. Details about the original document and amendments before 2007 are not accessible. However, these sections in the Act have been repealed and replaced as modifications in the Smokefree Environments and Regulated Products (Vaping) Amendment Act 2020, Secondary Legislation Act 2021, and the Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act 2022 (New Zealand Ministry of Health, 2023d).

The Primary Act has undergone several amendments over time. As of January 1st, 2023, the regulations regarding preventing young people from accessing regulated products, following the guidelines of Article 16 from the WHO FCTC,

are outlined in Part 2 and Part 3 of the Act. A regulated product refers to a product that falls under the categories of any tobacco product, herbal smoking product, vaping product, and E-cigarette.

Section 33 prohibits the free distribution and reduced pricing of regulated products. Retailers are not allowed to provide regulated products free of charge or at a reduced price, excluding specialized vape sellers conducting business within authorized vaping shops or approved internet sites, or when distributed as part of a smoking cessation program. Penalties for contravention vary based on the role of the offender, ranging from fines up to \$600,000 for manufacturers, importers, or distributors, to fines up to \$200,000 for large retailers, and fines up to \$50,000 for others. For contraventions involving vaping products or smokeless tobacco products, the fines are up to \$200,000 for manufacturers or distributors, up to \$70,000 for large retailers, and up to \$15,000 for others (New Zealand Ministry of Health, 2023d).

Section 37 states that regulated products (excluding vaping products) or their packaging must not be visible from the point of sale or areas accessible to the public. Violators can face fines of up to \$10,000 (New Zealand Ministry of Health, 2023d).

Section 40 prohibits the selling and delivering of regulated products to individuals under 18 years of age. Offenders can be fined up to \$10,000 for corporate bodies and up to \$5,000 in other cases. Selling a regulated product to someone under 18 years old is considered an offence, and it cannot be used as a defence to claim that the buyer was purchasing the product on behalf of someone who is 18 years or older. Similarly, if the person charged reasonably believed that the buyer was purchasing the product for or on behalf of someone who is 18 years or older, it still does not serve as a valid defence. Section 41 restricts the supply of regulated products to individuals under 18 years of age, whether directly or indirectly, in public places (New Zealand Ministry of Health, 2023d).

Section 42 forbids selling toy-regulated products to individuals under 18 years of age. Violators may face fines of up to \$2,000. A toy-regulated product is a tobacco product designed as a toy and can be used to imitate smoking; or an item that closely resembles a vaping device but cannot actually be used for vaping. Its main purpose is not to assist people in quitting vaping (New Zealand Ministry of Health, 2023d).

Section 43 requires showing the information regarding the legal age for purchasing at the place of sale, forbidding the sale of regulated items to minors. Violators can be fined up to \$2,000. Section 44 outlines the requirement for age-related information for purchasing or alerts that must be easily seen on the websites when people access them. Contravention can result in fines of up to \$2,000. Section 45 empowers the court to prohibit certain repeat offenders from selling regulated products (New Zealand Ministry of Health, 2023d).

Regarding the vending of controlled items via automated dispensing machines, Section 46 limits the display of regulated items (excluding vapes) or their packaging from outside the machines, with violators facing fines of up to \$10,000. Section 47 prohibits the placement of automatic vending machines dispensing regulated products in public places, with offenders liable to fines up to \$2,000 (New Zealand Ministry of Health, 2023d).

Section 53 limits the sale of specific regulated products in small quantities, containing fewer than 20 cigarettes per package as per packaging and labelling regulations. Violations can result in fines of up to \$2,000 (New Zealand Ministry of Health, 2023d).

4.1.1.2 Legislation on Vaping Products 2020

The Smokefree Environments and Regulated Products (Vaping) Amendment Act 2020 came into effect on 11 November 2020. This amendment revised the primary act and renamed it. This revised legislation brought in various clauses, which encompassed mandates such as the necessity for all workplaces, including restaurants and pubs, to maintain a smoke- and vape-free environment. Additionally, it included the proscription of selling vaping items to individuals below 18 years of age, along with the establishment of prerequisites for product safety standards that must be fulfilled before the sale of vaping products (New Zealand Ministry of Health, 2020b).

The schedule for enacting the Act's regulations is as follows: Starting from January 1, 2023, merchants, distributors, domestic manufacturers, importers, and exporters of products subject to notification are obligated to maintain precise records regarding all their notifiable goods. Additionally, retailers who have identified premises in their applications for Specialist Vape Retailers (SVR) must ensure the suitability of these locations. By January 31, 2023, SVRs must have submitted their Annual

Returns for the year 2022, while New Zealand manufacturers and importers of notifiable items must have furnished any obligatory annual reports and returns for 2022. At an as-yet-unspecified date in 2023, after the implementation of the regulations, vendors of notifiable items can formally announce their retail sales of such products, and distributors of these items can similarly announce their wholesale sales. Following a period of nine months from the Act's commencement, on October 1, 2023, vendors of notifiable products must have finalized their notifications for retail sales, distributors must have done the same for wholesale sales, and New Zealand manufacturers and importers of notifiable items must have extended notifications to encompass all herbal smoking products, not exclusively vaping and smokeless tobacco products. Lastly, by January 31, 2024, retailers, SVRs, domestic manufacturers, and importers of notifiable goods are required to have submitted their Annual Returns for the year 2023 (New Zealand Ministry of Health, 2020b). These timelines represent the phased approach to ensure compliance with the new regulations introduced by the 2020 Amendment Act.

4.1.1.3 Smokefree Vehicles

The amendment Smoke-free Environments Act 2020, banning smoking in vehicles that carry children was officially enacted on November 28, 2021. This law aims to reduce children's exposure to secondhand smoke by prohibiting smoking in motor vehicles when they are onboard. The act explicitly forbids both vaping and smoking within vehicles that are transporting children and individuals under the age of 18 (New Zealand Ministry of Health, 2020a). This measure underscores the commitment to creating smoke-free environments for young people and safeguarding their health from the detrimental effects of second-hand smoke.

4.1.1.4 Amendment Act on Smoked Tobacco 2022

The Amendment Act 2022 particularly on smoked tobacco took effect on 1st January 2023, intending to strengthen existing obligations related to Smoked Tobacco Products under the SERPA. The main goal of this amendment is to create a Smokefree Generation by implementing new rules that will limit the selling of tobacco products for smoking to approved retail outlets and prohibit their sale to individuals born on or after January 1, 2009. The ultimate objective is to reduce the availability of these products and prevent future generations from taking up smoking (New Zealand Ministry of Health, 2023c).

Moreover, the Act's power over regulations has been expanded to concentrations. From now on, only items that adhere to the standards outlined in new regulations in 2021 can be produced, imported, marketed, or distributed in Aotearoa. This adjustment is designed to reduce the addictiveness and attractiveness of these products to consumers (New Zealand Ministry of Health, 2023c).

The implementation of the Act follows a key timeline. As of January 1, 2023, retailers are no longer allowed to rely solely on verbal or written statements to verify a person's age as over 18 years old. In the same year, retailers have the opportunity to apply to become official retailers. If retailers intend to continue selling smoked tobacco beyond 30 June 2024, they are required to have submitted their applications by mid-November 2023. Following the assessment of the applications, retailers will be notified of their approval or rejection. Starting from the beginning of 2027, it will be against the law to sell smoked tobacco to persons born on or after the 1st of January 2009. Approved Smoked Tobacco Retailers will be required to comply with this regulation and refrain from selling products to anyone falling under this category (New Zealand Ministry of Health, 2023c). The overall goal of these measures is to create a smoke-free environment and reduce smoking rates among the younger population.

4.1.1.5 Smokefree New Zealand 2025 Action Plan

The action plan was officially announced on December 9, 2022, and the plan introduces six transformative areas of focus that aim to accelerate the nation's progress towards a smoke-free future, addressing the negative impact of tobacco use on the people of New Zealand. Over the coming four years and beyond, the action plan strives to achieve the goal of lowering daily smoking rates to less than five percent among the country's population. This success will be measured through the realization of three key outcomes: the elimination of disparities in smoking rates and related health issues, the cultivation of a smoke-free generation by bolstering smoke-free youth numbers, and the increase in successful smoking cessation. To achieve these outcomes, action will be taken across six strategic domains: embedding Māori leadership and decision-making throughout the plan, enhancing health promotion and community engagement, providing tailored assistance through evidence-based stop-smoking services, regulating tobacco product appeal and addictiveness, reducing accessibility to tobacco products by decreasing sales outlets, and enforcing compliance with legal obligations

by the tobacco industry and retailers (New Zealand Ministry of Health, 2021a). This comprehensive approach underscores New Zealand's commitment to creating a healthier and smoke-free future for its citizens.

4.1.1.6 New Policies in 2023 for both Vaping and Tobacco

The New Zealand Government introduced new smoked tobacco and vaping policies on June 6, 2023, to support its objective to become smoke-free by 2025 and to address the rising rates of youth vaping. These measures were particularly developed after seeking public input and feedback on regulatory suggestions earlier in the year. The main goals are to make vaping less attractive to young individuals, considerably reduce the availability of smoked tobacco, and decrease its addictiveness (New Zealand Ministry of Health, 2023b).

The approved policies comprise specific measures for both vaping and smoked tobacco products. For vaping, new SVRs will be prohibited from opening near schools and religious buildings. Additionally, Vaping items and their packaging will be constrained to generic flavour descriptions in order to reduce their attractiveness. The highest permissible nicotine concentration in disposable vapes will be lowered to diminish their addictive nature, and all vaping items will be outfitted with detachable batteries and child-safety features to enhance safety, particularly for younger users (New Zealand Ministry of Health, 2023b).

Regarding smoked tobacco, finalized criteria have been established to select approved retailers for the smoked tobacco retail scheme. These criteria prioritize responsible individuals, suitable business locations, safety, security, and adequate training. The scheme, which will come into effect on July 1, 2024, is expected to decrease the count of tobacco vendors to a maximum of 600. In addition, finalized product testing requirements have been set in place to ensure that, from April 1, 2025, only very low-level nicotine products will be permitted for sale. Regular cigarettes usually have about 15-16mg/g of nicotine, whereas low-nicotine tobacco will contain a maximum of 0.08mg/g. This leads to markedly less addictive products available in the market (New Zealand Ministry of Health, 2023b). These measures are part of a comprehensive effort to achieve a smoke-free future for Aotearoa and safeguard the well-being of the younger population.

4.1.2 Policies in Thailand

In Thailand, a law named the Tobacco Products Control Act of 2017 (TPCA) became effective on July 4, 2017. This law serves as the primary legislation for controlling and regulating tobacco. It replaced two previous laws from 1992: the Tobacco Products Control Act and the Non-Smokers Health Protection Act.

4.1.2.1 Tobacco Products Control Act, B.E. 2535 (1992)

The Thai government introduced the Tobacco Products Control Act, B.E. 2535 (1992), which was their first law for controlling tobacco. This law became effective 120 days after its publication in the Government gazette on April 5, 1992. It consists of 26 sections that outline various regulations.

Although this law partially aligns with Article 16 of the WHO FCTC, which aims to restrict tobacco sales to minors, it only covers certain aspects. Section 4 restricts the provision or selling of tobacco to persons under eighteen, while Section 5 forbids selling tobacco via vending machines. Violators of these laws may face penalties such as imprisonment for up to one month, a fine of up to two thousand Baht, or both, as stated in Section 17 (Royal Thai Government, 1992).

Section 7 states the prohibition of distributing free tobacco products to the public for promotional purposes, and Section 10 prohibits the manufacturing or importation of goods that resemble tobacco products, cigars, cigarettes, or their packaging. Violators of these sections may be fined up to twenty thousand Baht, as mentioned in Section 18. In cases where a person who violates one of the sections, including Sections 4, 5, 7, and 10, is an importer or manufacturer, the punishment may be double the penalty provided for such offences, as specified in Section 24 (Royal Thai Government, 1992).

However, certain measures are not included in this Act. These measures include requiring clear signs at the places where tobacco is sold that clearly say that it's not allowed to sell it to young people, requesting proof of legal age from purchasers if there is doubt, prohibiting the placement of tobacco products openly on the shelves of convenience stores, banning the selling of cigarettes one by one or in small packages, and setting an age limit for tobacco sellers.

4.1.2.2 Regulation on Importing E-cigarettes

Due to the increasing popularity and widespread use of electronic hookahs and electronic cigarettes in Thailand, which have been found to be harmful to people's health and society, the Ministry of Commerce introduced a notification called the Prohibition of Importing Hookah and Electronic Hookah or Electronic Cigarettes into Thailand B.E. 2557 (A.D. 2014) on December 12, 2014. This notification took effect the day after it was published in the Government Gazette on December 24, 2014. According to Clause 4 of the notification, the importation of hookahs, electronic hookahs, and electronic cigarettes into Thailand is strictly prohibited. Additionally, the importation of any substances used to produce smoke or vapour for these products is also not allowed in Thailand (Thailand Ministry of Commerce, 2014).

4.1.2.3 Regulation on the Sales and Services of E-cigarettes and its Filling Liquids

Due to the growing popularity and easy accessibility of smoking devices like E-cigarettes, concerns have arisen regarding their potential health effects, particularly among young people. These products are often marketed as safe alternatives to traditional tobacco, claiming to be nicotine-free and available in a variety of appealing flavours. Some even promote them as aids for quitting smoking. They can be easily purchased at market fairs and online platforms, and their services are increasingly offered in various entertainment venues. However, scientific tests have uncovered the presence of harmful chemicals in these products, and smoking with them has been linked to the spread of certain infectious diseases. To address these risks, the Consumer Protection Board has taken action to prohibit the sale and service of these products. The sale of e-cigarettes, other heated tobacco items and their filling liquids is now prohibited under Article 2, while Article 3 covers the prohibition of related services. This legislation was published in the Government Gazette on February 18, 2015 (Board of Consumer Protection Thailand, 2015).

4.1.2.4 Tobacco Products Control Act B.E. 2560 (2017)

The previous tobacco law, established in 1992, had been in place for 25 years. However, it had many outdated provisions that did not align with the changing circumstances, leading to ineffective control of tobacco products and inadequate protection of people's health against tobacco-related diseases. Furthermore, On February 27, 2005, Thailand officially became a signatory to the WHO FCTC. Therefore, it was necessary to revise and implement a new law that would introduce more effective measures for tobacco product control, in line with the aforementioned Framework, and improve the health protection of the population, particularly young individuals who are crucial for the country's future. The Tobacco Control Act 2017 was officially documented in the Government Gazette on April 5, 2017, and came into effect on July 4, 2017. The law is comprised of 79 sections organized into 7 chapters, which outline a range of regulations (Royal Thai Government, 2017).

Regarding the sale of tobacco to and by minors, the law strictly prohibits selling or giving tobacco products to individuals under 20 years old. If there is any doubt about a person's age, sellers are required to ask for a national identification card or other proof of age. Additionally, individuals under 18 years old are not allowed to sell or give tobacco products, as stated in Section 26 of the Act. The use of vending machines for selling tobacco products is also forbidden, as mentioned in Section 27 (1). Penalties for violating these sections are outlined in Section 53, which may include imprisonment for up to three months, a fine of up to 30,000 Baht, or both (Royal Thai Government, 2017).

Section 28 of the Act prohibits the distribution of free tobacco products as promotional samples. Anyone found to violate this law may be fined up to 40,000 Baht, according to Section 54. Section 34 (1) restricts the manufacturing, selling, importation, advertising, and marketing communications of tobacco products. Violators of Section 34 (1) may face a fine of up to 100,000 Baht for manufacturing or importing, and a fine of up to 50,000 Baht for selling, as stated in Section 59 (Royal Thai Government, 2017).

To prevent easy accessibility, Section 36 (1) prohibits the display of tobacco products at the point of sale. Violation of this section may result in a fine of up to 40,000 Baht, as mentioned in Section 61. Moreover, if a person who is a manufacturer or importer of tobacco products violates either Section 28 or Section 36 (1),

the penalties imposed shall be three times the prescribed penalties for such offences, as outlined in Section 62 (Royal Thai Government, 2017).

Section 39 paragraphs one and three address the prohibition of manufacturing and importing tobacco product packaging containing less than 20 rolls, as well as the sale of such products. A person violating Section 39 paragraph one may be fined up to 300,000 Baht, while failing to comply with Section 39 paragraph three may result in a fine of up to 40,000 Baht, as specified in Section 65 (Royal Thai Government, 2017).

4.1.2.5 Third Thai National Action Plan

The Third Thai national action plan on tobacco control for the years 2022 to 2027 (BE. 2565-2570) was introduced by the Thai Cabinet on February 17, 2022. This comprehensive five-year initiative aims to mitigate tobacco consumption and minimize the adverse health impacts associated with smoking. The plan encompasses six key strategies and has been allocated a budget of 498 million baht. The initial strategy involves strengthening the nation's capacity for tobacco control, focusing on consumption regulations. The second strategy centers on preventing the initiation of new tobacco users and monitoring tobacco-related businesses, with an emphasis on enhancing public awareness of the detrimental effects of smoking. The third strategy is dedicated to offering assistance to individuals dependent on tobacco, aiding those who aspire to quit smoking. The fourth strategy entails the regulation, inspection, monitoring, and transparent disclosure of ingredients used in tobacco products. Creating smoke-free environments constitutes the fifth strategy, which involves implementing smoking bans in public spaces. Finally, the sixth strategy pertains to the implementation of tax measures for tobacco control, encompassing tobacco tax reform and intensified efforts to combat illegal tobacco sales (Tobacco Control Research and Knowledge Management Center TRC, 2022). This initiative reflects a concerted effort to address the multifaceted aspects of tobacco use and its consequences.

4.2 Preventing Young People's Access to Tobacco Products

Both New Zealand and Thailand have stringent regulations in place that explicitly forbid the sale of tobacco to and by individuals below the legally stipulated age, which is 18 years old in New Zealand and 20 years old in Thailand. Furthermore, the enactment of laws in both countries has strict bans on practices such as selling cigarettes in small quantities or individual sticks, distributing free tobacco items, showing these products at the point of sale, and vending machine sales or placement on convenience store shelves. These measures have been instituted with the primary goal of curtailing the availability, feasibility, and straightforward accessibility of tobacco products for young individuals. Additionally, enhancing the pricing and taxation of tobacco products constitutes a pivotal strategy to further diminish affordability, particularly among youths and economically disadvantaged demographics.

In New Zealand, there is a firm conviction that diminishing the extensive retail presence of tobacco holds the potential to align with tobacco endgame strategies. Advocates for tobacco control have put forth various policy proposals aimed at curbing the density of tobacco retail outlets, forming a crucial component of these endgame strategies. Insights gathered from smokers' viewpoints regarding the efficacy of strategies targeting retail reduction suggest that certain approaches might yield results comparable to those achieved through tax hikes, particularly in terms of curtailing initiation and encouraging cessation. Policies that substantially curtail tobacco availability and relocate it from habitual points of purchase for smokers are perceived to possess effectiveness equivalent to, that of tax increases in reducing smoking initiation and aiding cessation (Robertson et al., 2017). The close proximity of numerous tobacco retail establishments in the vicinity of a school is linked to a rise in the vulnerability of non-smoking students to initiate smoking as well as an elevated probability of current smokers procuring tobacco products for themselves in New Zealand (Marsh et al., 2016). Enforcing a complete prohibition on cigarettes could potentially result in the emergence of illicit markets, pose substantial legal and trade obstacles, and encounter resistance from both smokers and individuals opposed to government intervention. Nevertheless, substantially decreasing the nicotine content in cigarettes has the potential to significantly diminish the rewarding effects and addictive tendencies associated with smoking (Donny et al., 2017).

Under the framework of the Smokefree New Zealand Action Plan, an amendment act was implemented at the beginning of 2023, introducing three significant modifications to the existing act. These changes include limiting the number of retailers authorized to sell smoked tobacco products, effective from the second half of 2024, lowering the permissible nicotine content in smoked tobacco products, effective from the second quarter of 2025, and prohibiting the sale of smoked tobacco products to individuals born on or after 1 January 2009, starting from 1st January 2027. This series of adjustments is primarily directed at regulating the accessibility, composition, and availability of tobacco products, with a particular emphasis on safeguarding young individuals from its adverse effects (Health New Zealand, 2023a).

As per the WHO's guidance, it is recommended that a minimum of 75% of the retail price of tobacco should be taxed. Both countries are in line with that recommendation, which underscores their commitment to curbing tobacco consumption through taxation. The WHO's 2021 report indicates that New Zealand has adhered to this recommendation, with taxes on the majority of popular tobacco brands amounting to 82.0% of the retail price. This tax imposition has contributed to making cigarettes less affordable in New Zealand since 2010. Conversely, in Thailand, the taxes on the most widely sold brand of cigarettes constitute 78.6% of the retail price. However, despite this taxation level, there has been no significant alteration in the affordability of cigarettes in Thailand since 2010 (World Health Organization, 2021c).

Nonetheless, challenges persist in enforcing these policies. New Zealand has witnessed a surge in store burglaries targeting cigarettes due to escalating excise taxes and reduced duty-free tobacco imports. This nationwide trend unfolded in New Zealand over the past decade, with 2016 and 2017 being particularly significant years for such incidents. The impact of these occurrences was predominantly felt within local community convenience stores, predominantly situated in economically disadvantaged areas, leading to substantial harm to store salespersons. The focus of these robberies was predominantly on seizing tobacco products and cash (Glover, Shepherd, Nazari, et al., 2021; Glover, Shepherd, Selket, et al., 2021).

In Thailand, the convenient availability of cigarettes among Thai adolescents remains a significant public health concern. In 2016, a cross-sectional study conducted in the lower part of the Northern Region of Thailand explored the factors influencing

the sale of cigarettes to adolescents by retailers. The findings revealed a range of concerning practices within this context. A significant proportion, amounting to 60.2%, lacked warning signboards indicating their adherence to age restrictions for cigarette sales to individuals under 18 years old. Moreover, a substantial 60.3% of the participants' shops had not undergone any form of compliance check within the preceding year to assess their conformity with legal regulations regarding cigarette sales. The analysis of the data further unveiled that during the previous month, a majority of the participants, totalling 61.4%, failed to verify the ages of buyers before completing the sale. Additionally, 77.20% of the retailers sold cigarettes in individual sticks, 73.7% prominently displayed cigarettes at their point of sale, 52.1% adopted self-service cigarette vending, and a noteworthy 58.7% of the participants admitted to selling cigarettes to adolescents or those below the age of 18. These findings collectively underscore a series of problematic practices that contribute to the accessibility of cigarettes to underage individuals in the region (Phetphum, 2017). In light of these concerning practices that facilitate the accessibility of cigarettes to adolescents in Thailand, it becomes evident how such behaviours directly contribute to the broader issue highlighted in the following paragraph regarding the connection between tobacco vendors and schools.

Numerous research studies have illuminated the connection between the geographical presence of tobacco vendors near educational establishments and the ease of access to cigarettes for young individuals. A study undertaken in 2019, investigating the correlation between the proximity of tobacco retailers to schools and the violations of tobacco retailing regulations in Thailand, revealed compelling insights. Within a 500-meter radius of each school, an average of 8 tobacco retailers were situated, with a substantial 47.1% of these retailers positioned within this vicinity. An overwhelming 85.1% of these retailers operated as grocery stores. These tobacco retailers exhibited a notable concentration along main thoroughfares, with dense clusters observed in commercial zones and areas surrounding schools. An alarming majority of these retailers admitted to having contravened tobacco retailing regulations within the past month. Specifically, 67.8% neglected to verify the age of buyers before selling tobacco products, 70.2% engaged in the sale of individual cigarettes, 67.8% openly displayed tobacco items at their point of sale, 21.5% adopted self-service methods for tobacco

products, and 53.7% sold cigarettes to minors at least once in the past month (Phetphum & Noosorn, 2019).

A comprehensive nationwide survey conducted in Thailand in 2017 assessed the price elasticity of demand for various cigarette types within different socioeconomic groups, encompassing individuals aged 15 and above who were current smokers. The findings revealed a pronounced distinction: individuals consuming domestically manufactured cigarettes exhibited a higher degree of responsiveness to fluctuations in price compared to those consuming imported manufactured cigarettes. Furthermore, the survey highlighted that individuals with lower income levels demonstrated a more pronounced sensitivity to changes in cigarette prices than their higher-income counterparts. Intriguingly, the effectiveness of the pricing policy in terms of reducing demand for manufactured cigarettes was notably more impactful for domestically produced cigarettes than for imported ones (Jankhotkaew et al., 2021). Additionally, this pricing approach exhibited enhanced effectiveness among low-income cigarette users, including young individuals, consequently rendering the purchase of cigarettes less affordable for this demographic.

4.3 Youth-Specific Interventions and Education Programs

Educational institutions, including schools and early childhood education services, play a central role within communities by fostering collaborative efforts to ensure optimal conditions for young individuals to achieve success and make positive life choices. With the inclusion of vaping regulations through the Amendment Act 2020 in New Zealand, these establishments are obligated to maintain a smoke-free and vape-free environment both indoors and outdoors every time. Commencing from 11 May 2021, in addition to the existing obligation to exhibit 'no smoking' signage, all educational establishments must also display 'no vaping' notices. These notices can either be displayed separately or combined, yet smoke-free signs must be visibly positioned on primary buildings and entryways to comply with legal obligations (Health New Zealand, 2021).

The policies of maintaining smoke-free and vape-free environments within schools have the primary objective of safeguarding children and adolescents from the effects of second-hand smoke and the influence of smokers or vapers. These policies

also strive to deter the initiation of smoking and vaping behaviours among young individuals and cultivate an understanding of, as well as encourage, a lifestyle that aligns with being smoke-free and vape-free. The scope of the law encompasses all individuals present on school premises, including students, faculty members, visiting parents, caregivers, contractors, and individuals renting or utilizing school facilities beyond regular hours. Stringent legal measures will be enforced against any violations of the policy (Health New Zealand, 2022). The commitment to maintaining smoke-free and vape-free environments within educational institutions not only safeguards students' well-being but also sets the stage for seamlessly integrating smoke-free education into the curriculum, thus reinforcing the importance of a smoke-free lifestyle.

Smoke-free education has been seamlessly incorporated into New Zealand's school curriculum. The health and physical education learning sector plays a substantial role in enhancing students' overall well-being, extending its influence beyond the confines of the classroom, particularly through the reinforcement of school policies and protocols, along with the collective efforts of everyone within the school community. Educating individuals about the advantages associated with embracing a smoke-free lifestyle holds the utmost importance. This aspect provides a relevant pathway for developing curriculum proficiencies, notably those related to self-management, and active involvement and contribution (Health New Zealand, 2020). Given that smoking frequently initiates during the school years and tends to evolve into an addiction, it becomes increasingly challenging for students to break free from this habit if it takes root at a young age, further exacerbating its negative health consequences. Schools possess the potential to assist students in their journey towards quitting smoking by cultivating an environment that fosters physical and social support. By reframing smoking as a health concern rather than a punitive matter, schools can play a pivotal role. Additionally, they can extend their support by either offering assistance directly or referring students to specialized smoking cessation services. Since 2014, certain higher education establishments have embarked on the journey of establishing entirely smoke-free campuses, leaving no room for exceptions. While others have taken steps towards this by initially implementing partial smoke-free policies, these institutions are steadily advancing toward the goal of achieving a fully smoke-free campus environment (Robertson & Marsh, 2015).

Thailand has also incorporated tobacco and smoking education to a certain degree within its curriculum. A comprehensive survey conducted in 2021 among Thai Dental Students throughout the country examined their attitudes and training concerning tobacco control within the Thai dental curriculum. A significant majority of students (85.1%) recognized the importance of health practitioners as role models for both patients and the public, and an even higher percentage (95.4%) agreed that advising patients to quit smoking should be a routine practice. The survey further revealed that while 72.8% of students were educated about the risks associated with smoking, fewer students received training in smoking cessation (39.3%), tobacco cessation aids like medication and nicotine replacement therapies (40.4%), and the advertising tactics employed by tobacco companies (21.2%). This study illuminated the positive attitudes of Thai dental students toward tobacco control and their reservations about e-cigarette use. However, the survey highlighted a notable gap in tobacco cessation training, with less than half of the respondents having received instruction in this area (Kaewsutha & Karawekpanyawong, 2023).

Thailand's initiatives in tobacco education are intrinsically linked to the subsequent exploration of susceptibility to smoking among Thai students, as these educational efforts play a pivotal role in shaping students' awareness and influencing their vulnerability to smoke. In 2019, a school-based survey conducted among students aged 13 to 15 years in Thailand showed approximately one in six (16.4%) of those who never smoked exhibited susceptibility to smoking. This susceptibility was significantly linked to various interpersonal and socio-environmental factors. Specifically, being male, holding positive beliefs about smoking that suggest maturity, viewing smoking as a stress-reliever, associating with peers who currently smoke, encountering secondhand smoke in public spaces, occasional exposure to online cigarette and smoking-related advertisements, attending schools that occasionally conduct anti-smoking education activities, and encountering anti-tobacco messages infrequently, all contributed to an increased likelihood of susceptibility to smoking (Phetphum et al., 2023). These findings underscore the multi-faceted nature of the influences on youth susceptibility to smoking in Thailand and emphasize the importance of targeted interventions to address these determinants effectively.

A research study conducted between 2019 and 2020, aimed at identifying the factors influencing the initiation of smoking among adolescents aged 15 to 18 from low-income backgrounds in Thailand, revealed insightful findings. The research underscored that the majority of these students possessed a comprehensive understanding of cigarettes as addictive substances, recognizing the potential consequences such as lung diseases, cancer, heart ailments, foul breath, and harm to bystanders. The students primarily acquired information about smoking from school health education initiatives, community-led anti-tobacco campaigns, healthcare practitioners, and media volunteers. Nevertheless, a concerning knowledge gap persisted, as many were unaware that selling cigarettes to individuals under 18 years of age is illegal (Ninkron et al., 2022).

The concerted efforts of both New Zealand and Thailand in implementing youth-specific interventions and comprehensive education programs reflect their commitment to safeguarding young individuals from the adverse effects of tobacco use. By creating smoke-free environments within educational institutions and seamlessly integrating smoke-free education into curricula, these nations are actively shaping the perceptions and behaviours of the younger generation. While challenges and gaps in tobacco education persist, the proactive measures taken underscore the importance of continuous collaboration between policymakers, educators, and healthcare professionals to further enhance the effectiveness of these initiatives and ensure a smoke-free future for their youth.

4.4 Smoking Cessation Support

In New Zealand, convenient access to smoking cessation services is facilitated through the Ministry of Health's official website, catering to all individuals, including the youth. One of these services is Quitline, a 24-hour-a-day telehealth service designed to aid smoking cessation through various approaches, provided at no cost. Established as an incorporated charitable trust in 1999, the Quit Group is dedicated to assisting the entire New Zealand population in quitting smoking, with a particular focus on Māori, Pacific peoples, and pregnant mothers. Initially operational between 1999 and 2015 under the Quit Group's management, the Quitline's services were subsequently transitioned to Homecare Medical under the National Telehealth Service, while the

Quit Group retained the Quitline brand rights (New Zealand Telehealth Services, 2021). The Quitline can be accessed via phone calls, text messages, emails, or an online platform. Through Quit Advisors, individuals collaborate to formulate personalized quitting strategies. Additionally, Quitline offers the option to purchase nicotine patches, gum, and lozenges for \$5 each, known to significantly enhance cessation success rates. Moreover, they offer counsel on alternative cessation medications (Health New Zealand, 2023b). According to the data released in February 2015, the December 2014 cohort of clients achieved a four-week quit rate of 32.9%. An evaluation of Quitline's Quit Services in 2012 revealed a six-month quit rate of 24.2%. Additionally, a survey conducted in 2014 indicated an impressive overall client satisfaction level of 94% (Bassett, 2016).

The Local Stop Smoking Services provide tailored assistance to smokers, empowering them to design their cessation plans. These services extend flexible and complimentary support alongside free Nicotine Replacement Therapy (NRT). Accessible contact details, addresses, or websites of these services can be readily found using the map provided on the Ministry of Health's website. Additionally, these services also accommodate individuals opting for vaping as a smoking cessation tool. These in-person services provide continuous support throughout the smoking cessation journey, offering a range of services such as Behavioral Support, NRT (including patches, gum, and lozenges), as well as guidance on holistic wellness and healthy lifestyle practices (Health New Zealand, 2023b). NRT and Quitline are included in the most common types of smoking cessation support used in the country (Nelson, 2016).

To provide comprehensive support for smoking cessation in New Zealand, alongside the Local Stop Smoking Services, pharmacies also play a crucial role in assisting individuals who aim to quit smoking. Pharmacies also offer quit-smoking services, with certain pharmacists supplying funded NRT without requiring a prescription. Pharmacists may additionally facilitate referrals to local stop-smoking services or the Quitline (Health New Zealand, 2023b).

The collaborative efforts of various smoking cessation services have led to a progressive rise in the number of individuals successfully quitting smoking, as depicted in Figure 4.1. Significantly, the percentage of individuals aged 15 years and older who managed to quit smoking demonstrated an increase from 11.4% in 2011/12

to 20.2% in 2021/22. Similarly, among the cohort of young individuals aged 15 to 24 years, the proportion who successfully quit escalated from 12.1% in 2011/12 to 39% in 2021/22 (New Zealand Ministry of Health, n.d.-b). The noticeable increase in the cessation rate from 2020 to 2022 could be attributed to the global COVID-19 pandemic. During this period, heightened concerns about the potential exacerbation of the disease through smoking likely motivated more individuals to quit. Nevertheless, these figures serve as noticeable evidence proving the effectiveness of the implemented programs.

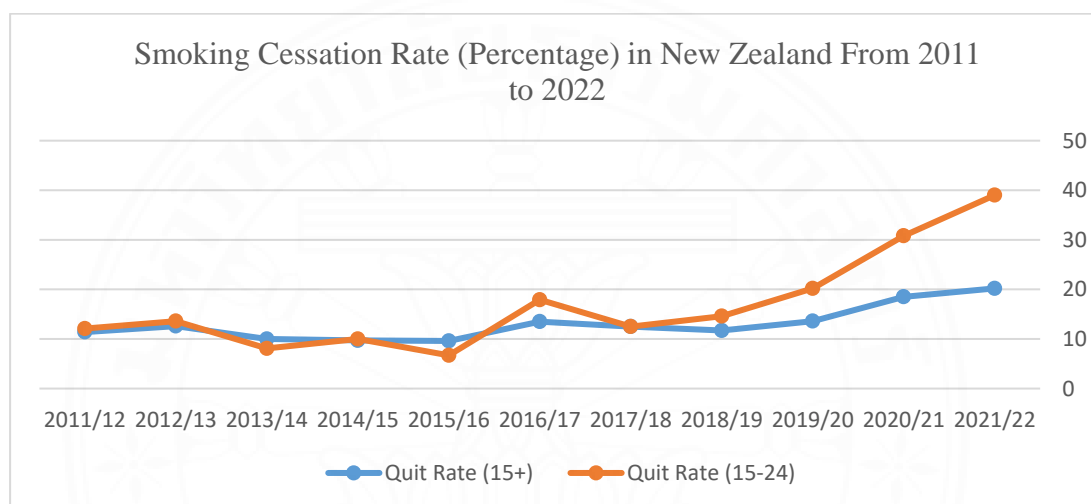


Figure 4.2 – Percentage of smoking cessation in New Zealand from the year 2011/12 to 2021/22

Source: https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_06500603/#!/explore-indicators

Operating since 1993 in Thailand with backing from the Action on Smoking and Health Foundation, the Thailand National Quitline Center, also known as Quitline 1600, offers a toll-free telephone service for individuals seeking to quit smoking. This service connects smokers with counsellors and volunteers who provide assistance and guidance. Telephone-based smoking cessation services have been integrated into Thailand's national tobacco control policy. A significant step was taken in 2007 when three key agencies - the Ministry of Public Health (MOPH), the National Health Security Office (NHSO), and the Thai Health Promotion Foundation (ThaiHealth) - collaboratively established the National Smoking Cessation Telephone Center. This initiative, operating

under the auspices of the Thai Happiness Foundation, has been operational since January 2009. The Quitline 1600 operates as both a reactive and proactive service. In the reactive mode, it offers advice to callers seeking help with quitting smoking. On the proactive front, the Quitline staff reaches out to smokers after they've designated a quit date, offering assistance and tracking their progress in quitting. Moreover, the Quitline 1600 engages in collaborative efforts with various networks, ensuring smooth patient transfers and follow-ups with hospitals, clinics, pharmacies, entrepreneurs, and other stakeholders. Additionally, interested individuals can access these services conveniently through the Quitline's website. These services cater to a diverse array of individuals, including adolescents, offering accessible, cost-effective, and continuous support to those aiming to quit smoking (Thailand National Quitline, n.d.).

The development of smoking cessation services in Thailand has seen progressive steps. Starting from 1993 with the establishment of the Thailand National Quitline Center, the evolution continued with the introduction of the SMART Quit Clinic Program in 2010, showcasing a dedicated approach towards promoting tobacco-free lives. It is also known as FAH-SAI Clinics and was established in Thailand by the National Alliance for Tobacco-Free Thailand. The core objective of this initiative is to offer comprehensive smoking cessation services through a multidisciplinary approach. The Thai Health Promotion Foundation plays a pivotal role in financing the program, ensuring that all eligible citizens can access its services at no cost. According to the Tobacco Control Research and Knowledge Management Center (TRC) Thailand, there were 589 FAH-SAI clinics up to March 2020 across all 77 provinces of Thailand. The presence of those clinics underscores the program's wide coverage and accessibility. Trained nurses primarily operate these clinics, collaborating with attending physicians as necessary. Adhering to the well-recognized 5As model for smoking cessation (Ask, Advise, Assess, Assist, and Arrange), the interventions and activities encompass essential functions: identifying, diagnosing, and documenting tobacco use status; evaluating the degree of nicotine dependence severity; offering guidance to patients regarding smoking cessation; assessing the readiness to quit; providing support to quit through counselling and medication if required, such as nicotine replacement therapy, herbal remedies, and traditional methods; and scheduling follow-up sessions through various communication channels. Slight variations may occur in the activities based

on contextual factors (Chaisai, Chaiyakunapruk, et al., 2022). A study was conducted on Thai smokers aged 13 years old and above within these clinics, which aimed to evaluate the practical efficiency of this multidisciplinary smoking cessation program within these clinics. The outcomes demonstrated the efficacy of these interventions in aiding smoking cessation. Those availing services from these clinics exhibited Continuous Abstinence Rates (CAR) of 17.49% at 3 months and 8.33% at 6 months. People with cerebrovascular disease or heart disease displayed a CAR of 26.36% at 3 months and 13.81% at 6 months. Meanwhile, those with chronic obstructive pulmonary disease (COPD) demonstrated a CAR ranging from 32.69% at 3 months to 17.31% at 6 months. Particularly striking was the heightened effectiveness of the clinic for smokers with CVD, cerebrovascular disease, or COPD (Chaisai, Thavorn, et al., 2022). This effectiveness trend remained consistent when compared with outcomes from a previous Thai study (Aung et al., 2019).

Building upon these efforts, the introduction of the SMART Quit Clinic Program marked a significant stride. Additionally, since 2004, the Thai Pharmacy Network for Tobacco Control (TPNTC) has been actively engaged in enhancing smoking cessation initiatives, presenting a comprehensive range of strategies to support smokers across Thailand. Leveraging their distinct advantages, community pharmacies serve as key public health providers that offer daily smoking cessation support. With their convenient accessibility, relative lack of crowded environment compared to hospitals, simplified procedures, flexible operating hours, and welcoming atmospheres for patient counselling, community pharmacies prove to be effective venues. Pharmacists assume a pivotal role in aiding smokers to quit, contributing significantly to public health by delivering smoking cessation services. Despite their commendable efforts spanning over 15 years, not all community pharmacies in Thailand have integrated these services, attributed to factors such as limited patient demand, insufficient educational resources, inadequate availability of smoking cessation products, staffing challenges, and difficulties in follow-up. Research conducted in 2016 and 2017 among smokers over 18 years old sought to evaluate the efficacy of these services within Thai community pharmacies, demonstrating their potential in aiding smokers to quit successfully. The study indicated that 28.8% of smokers managed to cease smoking for a continuous period of at least 30 days. Comparing outcomes before and after counselling, a significant reduction

in daily cigarette consumption was observed, underscoring the positive impact of these interventions (Lertsinudom et al., 2021). A community-based smoking cessation program carried out by Community Health Workers (CHWs), with pharmacists taking the lead in facilitating the program and conducting seminars to enhance CHWs' knowledge, attitudes, and practices, was also effective. The research, conducted in northern Thailand, demonstrated the program's effectiveness. Notably, patients witnessed an average reduction of 7.2% in the number of cigarettes smoked per day. Encouragingly, a 1-year follow-up indicated that 29% of patients had achieved complete abstinence from smoking (Umnuyapornlert, 2021). Thailand has introduced numerous initiatives aimed at assisting individuals in quitting smoking. Nevertheless, a notable deficiency exists in effectively monitoring the national smoking cessation rates, thereby hindering accurate assessments of the program's success.

As we conclude the exploration of smoking cessation support, the collaborative efforts of both New Zealand and Thailand in providing diverse services underscore their commitment to curbing tobacco usage and fostering healthier communities.

4.5 Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

E-cigarette sales are legally allowed in New Zealand, but it is explicitly prohibited to sell them to individuals under 18 years old. E-cigarettes are subject to regulation through the 2020 amendment of the Primary Act, which encompasses provisions related to vaping.

The legislation openly allows e-cigarettes to be displayed at the place of sale, sold via the Internet, and through vending machines (with the condition that these machines are not placed in public areas) by approved specialist e-cigarette retailers. Each selling method is subject to specific regulations outlined in the law. Regarding advertisement and promotion, the law generally prohibits such activities for "regulated products," which encompass e-cigarettes and e-liquids. However, there are exceptions to this rule. Health claims in advertising as a safer alternative to smoking are permitted, and approved specialist retailers are allowed to distribute e-cigarettes for free or at a reduced cost. Additionally, the law bans the sale of e-cigarettes containing colouring substances and other harmful or addictive substances like carcinogens, vitality-associated additives,

vitamins, or any additives implying health benefits or reduced risks, probiotics, specified sugars, or sweeteners (New Zealand Ministry of Health, 2020b).

Flavours hold a significant influence over the initiation of vaping, regardless of whether individuals are smokers, former smokers, non-smokers, or existing vapers. The presence of flavours stands out as a key motivation behind people adopting vaping. tobacco flavour appealed to smokers, mint or menthol flavours was favoured by former smokers, and confectionery, sweet, or candy-like flavours attracted those who had never smoked (Gendall & Hoek, 2021). Ordinarily, retailers are prohibited from selling e-cigarettes with distinct flavours apart from tobacco, menthol, or mint varieties. Nevertheless, authorized specialized vape vendors are granted the privilege to market vaping substances of any flavour from their approved physical stores or online platforms. (New Zealand Ministry of Health, 2020b). Specialist Vape Retailers (SVRs) represent a distinct category of retailers that are granted certain exemptions from the regulations that are imposed upon general retailers. Retailers primarily engaged in direct sales of vaping products to the public and operating at least one physical location accounting for a minimum of 70% of their overall sales in vaping items are eligible to seek SVR status. Purely online enterprises lacking a physical store are excluded from eligibility. Also, there is an application fee associated with the process of becoming a Specialist Vape Retailer (New Zealand Ministry of Health, 2023a).

Furthermore, certain requirements for e-cigarettes mirror those for tobacco products. The law mandates text-only health warning messages to cover at least 32% of the packaging's surface area. It is also obligatory to provide instructions for usage, information about the potential consequences of incorrect use, and handling precautions on both the device and e-liquid packaging. Moreover, a specific restriction is placed on the maximum allowable nicotine concentration (New Zealand Ministry of Health, 2021b).

In New Zealand, individuals have the option to use e-cigarette or vaping products as aids for quitting smoking. Yet, these products are not allowed to be promoted or marketed as smoking cessation medications. E-cigarettes containing nicotine emerged as the predominant preference for smoking cessation aids, demonstrating their potential to facilitate smoking cessation. However, these products also carry the risk of fostering dual usage among smokers (Burrowes, 2022).

In the lack of regulations, e-cigarette vendors within New Zealand have proactively promoted their products on various online platforms, effectively reaching a wide range of consumers, including young individuals and nonsmokers. Cheaper products, as low as less than 10 dollars, were also available. Less than half of the retailer websites prominently featured warnings about nicotine addiction, and some of the retailers acknowledged the potential health risks associated with device usage. Among the marketing methods with the potential to attract youth groups, the most common strategies encompassed the use of sweet flavours and cartoon characters on e-liquid products. Just a few retailers have implemented an age verification process for purchasing their products (Gurram, 2019; Hardie et al., 2022).

In the year just before New Zealand's implementation of vaping regulations, e-cigarette companies purposefully directed their efforts toward the youth demographic. They employed tactics similar to those used by the tobacco industry in their advertising campaigns, engaging with young audiences through methods like sponsoring festivals and collaborating with influencers who are popular among youth. While e-cigarette vendors asserted their commitment to providing smokers with tools for harm reduction, an examination of New Zealand-based e-cigarette retailers' social media activities revealed that a small portion, fewer than 10%, of Instagram posts addressed smoking alternatives or the potential hazards of nicotine addiction. Rather than focusing on smoking cessation benefits or risks, the marketing strategies predominantly showed e-cigarette devices for their stylistic attributes, such as a wide range of colours and user-friendliness. Strategies aimed at engaging the youth groups encompassed music festival sponsorships, endorsements from social media influencers, and lifestyle-oriented marketing approaches. Nonetheless, the implementation of vaping product regulations in 2020 has exerted a measure of control. This has led to some limitations in the marketing and promotion of e-cigarettes, as well as sponsorship events. The effectiveness and consequences of this policy, however, still require ongoing monitoring (Hardie et al., 2023).

According to the 2021 youth vaping report of New Zealand, the means of acquiring vaping products were primarily through friends, followed by family members, online purchases, and convenience stores other than purchases from vape shops. The primary motive cited for engaging in vaping was the desire to experiment and derive pleasure from the experience. A significant portion of students typically engaged in vaping

with nicotine content (Action for Smokefree 2025 (ASH), 2022). These findings are consistent with the research carried out at a New Zealand hospital, one year following the implementation of vaping regulations by the government, which unveiled that a majority of adolescents (aged 13-16 years) were drawn to vaping due to their curiosity, affordability, and the array of flavours available. Fruit-based flavours, distinct from menthol, were particularly appealing. This observation casts doubt on the effectiveness of the existing vape shop regulations in curbing teenagers' access to vaping products. To address this issue, there's a clear need for comprehensive educational initiatives and more stringent regulations to diminish e-cigarette usage among young individuals (Nicolaou, 2022).

During the year 2021, the majority of secondary school students who engage in vaping do so on a daily basis, with a significant proportion using high-strength nicotine vaping products. Additionally, more than fifty per cent of these students view themselves as being addicted to vaping. Among the students aged 14 to 15 years, obtaining vaping products through social channels such as friends and family emerged as a significant source. Nonetheless, it's worth noting that older school students might frequently acquire vaping products from convenience stores as well (Edwards, 2023). Having explored the nuanced landscape of e-cigarette regulations and usage in New Zealand, we now pivot our attention to Thailand's distinct stance on e-cigarettes, shedding light on its unique policies and considerations.

In Thailand, e-cigarettes have been entirely prohibited from importation into the country since 2014, with sales and services for these products also being banned since early 2015. E-cigarettes fall outside the scope of regulation governed by tobacco control and pharmaceutical laws in Thailand. Consequently, regulations on aspects such as the display at the point of sale, online sales, ingredient disclosure, health warnings on packaging, labelling stipulations, nicotine concentration limitations, device specifications, and importer/manufacturer declarations do not apply. The advertising and promotion of e-cigarettes are also not allowed (Campaign for Tobacco-Free Kids, 2022).

Despite concerted efforts by the tobacco industry and proponents of electronic nicotine delivery systems (ENDS) to overturn the ban since 2017, using similar tactics to those used for traditional tobacco products, the Thai government still upheld the ban on ENDS as of August 2023. The government's decision resulted from the strong commitment and cooperation exhibited by Thai tobacco control groups and their united

goal of safeguarding public health against the detrimental effects of tobacco products (Patanavanich & Glantz, 2021).

While Thailand's stance on e-cigarettes remains firmly against their import and sale, it's intriguing to delve into how this prohibition has shaped e-cigarette usage patterns within the country, shedding light on the complexities of enforcement and consumer behaviour. A significant number of users within Thailand continue to procure these products, primarily through online platforms and the internet (Chankaew et al., 2022; Seeherunwong et al., 2023). Over the past years, several studies have been conducted to investigate the determinants of e-cigarette usage among young individuals in Thailand, including middle school students, college and university students, as well as pharmacy and public health undergraduate students. These studies have revealed several influential factors. Lack of awareness and knowledge about e-cigarettes, misconceptions about their composition and perceived harm reduction compared to traditional cigarettes, inadequate understanding of the associated risks, exposure to e-cigarette use within educational settings, academic underperformance, favourable attitudes towards e-cigarettes, prior history of conventional cigarette use, and having friends or family members who use e-cigarettes have all emerged as significant predictors of e-cigarette usage among young individuals (Chudech & Janmaimool, 2021; Patanavanich et al., 2021; Savigamin et al., 2021; Seeherunwong et al., 2023; Thongsutt et al., 2023). Notably, some students remain unaware of the illegality of e-cigarettes in the country (Kochsiripong, 2021; Phetphum et al., 2021). Additionally, it has been observed that certain public health students do not consider it necessary for public health professionals to serve as non-smoking role models for clients and the public (Benjakul et al., 2022). Among adults, reasons for using e-cigarettes include the belief in their lower harmful effects compared to combustible cigarettes, use as a smoking cessation aid, and the reduced production of cigarette odours (Chankaew et al., 2022). Therefore, there is an ongoing necessity to enhance public awareness regarding the legal status of e-cigarettes and to provide comprehensive health-related information among students and young individuals.

The regulation and usage of e-cigarettes present a complex and dynamic landscape, where New Zealand's proactive approach strives to balance harm reduction with safeguards for young people, while Thailand's stringent ban echoes a commitment

to public health amid ongoing challenges in enforcement and consumer behaviour. As these two nations navigate the evolving world of vaping products, it becomes increasingly evident that comprehensive measures, informed awareness, and ongoing monitoring are essential to safeguarding the well-being of both current and future generations.

4.6 Relationship between Policies and Trends

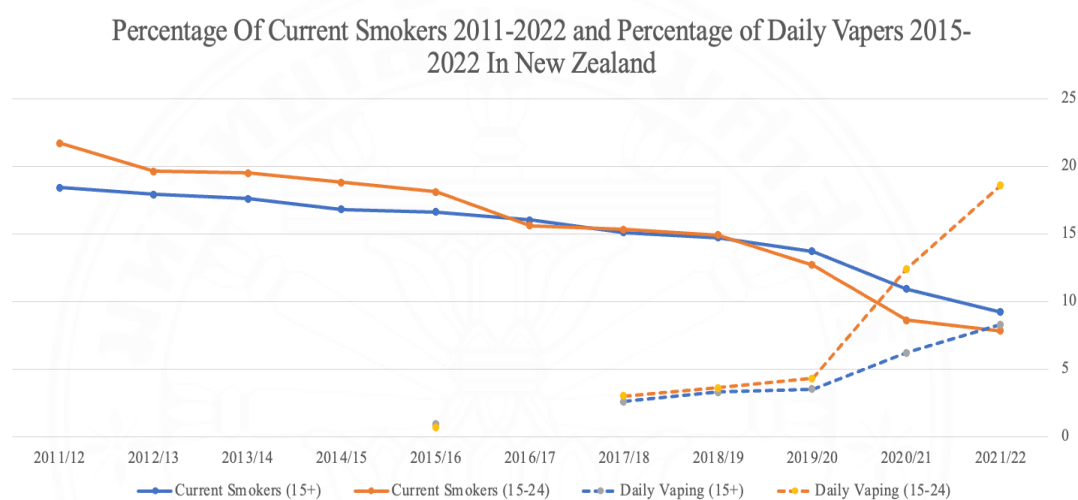


Figure 5.1 Percentage of current smokers from 2011 to 2022 and percentage of daily vapers from 2015 to 2022

Source: https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_06500603/#!/explore-indicators

Figure 5.1 illustrates the trends in current smokers and daily vapers in New Zealand over the past decade. The percentage of current smokers aged 15 and above witnessed a notable decline, decreasing from 18.4% in 2011/12 to 9.2% in 2021/22. This reduction is even more obvious among young individuals aged 15 to 24, where the rate dropped from 21.7% in 2011/12 to 7.8% in 2021/22 (New Zealand Ministry of Health, n.d.-a). National data on e-cigarette usage rates have been available since 2015/16, indicating a rate of 0.9% among individuals aged 15 and above, and 0.7% among the 15-24 age group. However, this rate gradually increased until 2019/20, after which it experienced a sharp upsurge, reaching 8.3% and 18.6%, respectively

(New Zealand Ministry of Health, n.d.-c). This shift reflects the effectiveness of New Zealand's tobacco control policies. Interestingly, the trends of smokers and vapers moved in opposite directions after the government implemented regulations on vaping in 2020 and amendment act on smoked tobacco in 2022, particularly among young people. While it appears that the country is on track to achieve its target of reducing the smoking rate to less than 5% by 2025, close monitoring of the e-cigarette usage trend and its associated health impacts remains crucial.

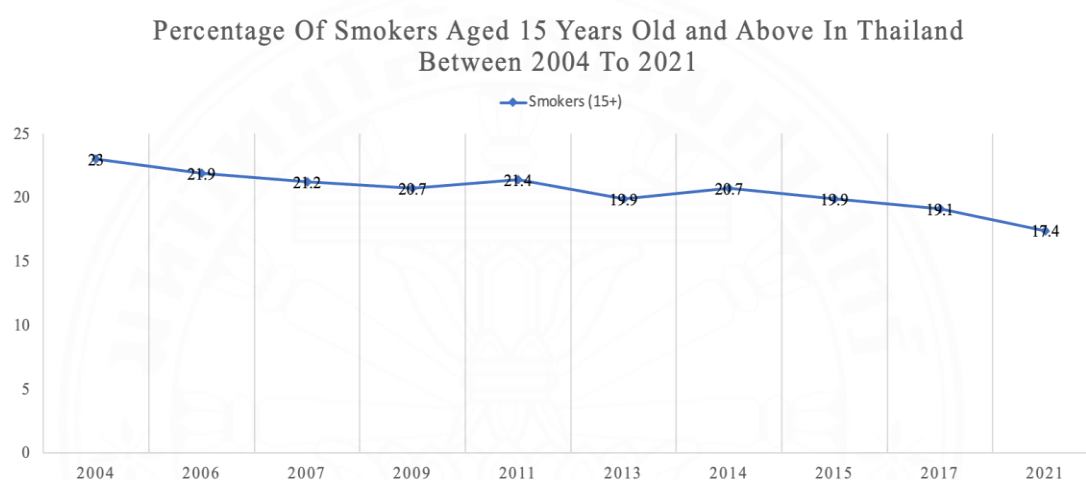


Figure 5.2 Percentage of smokers aged 15 years old and above in Thailand between 2004 to 2021

Source: <https://www.thaihealth.or.th/e-book/thai-health-2022/>

Figure 5.2 depicts the trend of smokers aged 15 and above in Thailand from 2004 to 2021. Since the enactment of the tobacco control law in 1992, which was further reinforced in 2017, there has been a gradual decline in the percentage of smokers over this period. Specifically, the smoking rate was 23% in 2004, 21.4% in 2012, and 17.4% in 2021 (Institute for Population and Social Research Mahidol University, 2022). Following the introduction of e-cigarette regulations in 2014 and a subsequent policy change in 2017, Thailand has seen a decrease in smoking rates, although the decline has been gradual. However, in comparison to New Zealand, Thailand has experienced a slower rate of decline in smoking prevalence. Furthermore, it's important to note that statistics on the smoking rate among different age groups are not consistently available for each year and are not readily accessible to the public. Similarly, national

representative data on e-cigarette use is not available, as these products have been entirely banned from import and sale in the country.



CHAPTER 5

DISCUSSIONS AND RECOMMENDATIONS

5.1 Comparison of Tobacco Control Policies

Both New Zealand and Thailand are parties to the WHO FCTC, including Article 16, which emphasizes the safeguarding of minors against tobacco-related detriments. Both nations' endeavours to align their tobacco control protocols with Article 16 demonstrate their resolute dedication to shielding young cohorts from the adverse implications of tobacco consumption and exposure.

Table 5.1 The status and differences between two countries regarding implementing measures to protect young people's exposure to tobacco.

Measures	New Zealand	Thailand
Banning tobacco sales to minors	Yes, 18 years old	Yes, 20 years old
Sellers must display “no sales to minors” sign	No	Yes
Sellers must ask for age proof if unsure	Yes	Yes
Prohibiting direct-access tobacco sales (open shelves, etc.)	Yes	Yes
Banning tobacco-themed items attractive to minors (candy, toys, etc.)	Yes	Yes
Banning tobacco vending machines sales	No	Yes
Prohibiting the free distribution of tobacco	Yes	Yes
Banning individual cigarette sales	Yes	Yes
Penalties against sellers or distributors	Yes	Yes
Prohibiting sale by minors	Yes	Yes, 18 years old

A comparative analysis reveals noticeable disparities in the strategies employed by these countries to mitigate adolescent susceptibility to tobacco-related hazards. Notably, New Zealand enforces a legal tobacco purchase age of 18 years, whereas Thailand has elevated this threshold to 20 years since 2014, intending to curtail tobacco initiation among youth.

In the sphere of point-of-sale constraints, New Zealand does not prescribe the obligatory display of warnings concerning restricted sales to minors; nevertheless, it strictly forbids the exhibition, promotion, and advertisement of tobacco commodities within retail premises. In contrast, Thailand enforces this requirement.

Thailand's regulations involve a more stringent scope by categorically banning the sale of tobacco products via automated vending machines, reflecting a committed standpoint on minimizing accessibility. While New Zealand permits vending machine sales of tobacco products, subject to specific stipulations, their placement is delimited to areas with restricted public access. Moreover, these machines are required to have no visible tobacco items or packaging from the outside. Acceptable signs are restricted to refined notifications, exclusively communicating information about product availability and cost using written content.

In summary, the differing strategies adopted by New Zealand and Thailand to reduce young people's exposure to tobacco include factors like age restrictions, rules for vending machines, and limitations on promoting tobacco at the point of sale. Despite these differences, these measures represent the joint dedication of both countries to promoting the health of their young population in line with the main objectives of the WHO FCTC.

Regarding e-cigarette policies, Thailand enforces a comprehensive ban on the import and sale of e-cigarettes and their associated liquids, without any further regulatory provisions governing these products. Significantly, e-cigarettes remain outside the scope of Thailand's tobacco control legislation. In contrast, New Zealand has instituted a distinct legal framework for the regulation of e-cigarettes and vaping products, operating within the scope of its existing tobacco control laws. The legal purchasing age for these products in New Zealand is set at 18 years. New Zealand's e-cigarette regulations involve a range of aspects, including advertising and promotional restrictions, online and vending machine sales regulations, limitations on flavours and additives,

controls on nicotine concentrations, mandatory health warnings, and specific packaging and labelling requirements.

5.2 Comparative Assessment of Strengths, Weaknesses, Challenges and Gaps

New Zealand and Thailand have developed and implemented diverse tobacco and e-cigarette control regulations and strategies, guided by the WHO FCTC and tailored to their local contexts. These approaches are highlighted by their distinct strengths, weaknesses, challenges, and gaps, which are influenced by varying patterns of smoking and vaping as well as the social determinants in each country.

New Zealand possesses comprehensive regulations encompassing both smoked tobacco and vaping products. The nation's tobacco endgame strategies aim to drastically reduce tobacco use to minimal levels, with initiatives to achieve less than five per cent smoking prevalence by 2025 and create a smoke-free generation. The integration of smoke-free education within school curricula and the creation of smoke-free and vape-free environments within educational institutions enhance its capacity to shield young people from smoking hazards.

Despite the progress, a weakness lies in the minimum purchase age of 18, which permits access to high school-aged individuals. Additionally, the risk of dual usage among smokers presents a challenge.

Monitoring and enforcing age restrictions, especially in online sales, require consistent observation. Balancing appealing flavours and packaging for youth remains challenging, along with fostering awareness about e-cigarette risks among them. The significantly decreasing number of tobacco retail establishments in Aotearoa New Zealand could lead to a rise in the illicit tobacco trade and criminal activity (Hoek et al., 2023).

Efforts to monitor marketing activities across digital platforms may prove challenging. The tension between promoting e-cigarettes as cessation aids while discouraging dual usage necessitates ongoing consideration. Moreover, the presence of menthol-flavoured traditional cigarettes exposes a gap in addressing flavour attractiveness (Gendall & Hoek, 2023). E-cigarettes continue to be accessible through various channels, such as friends and family, indicating gaps in curbing easy access.

Thailand's elevation of the minimum tobacco purchase age to 20 carries various potential benefits. This approach can delay or deter smoking initiation among young people and reshape social norms. The policy may also limit access to tobacco products for teenagers, particularly those younger, who may struggle to procure cigarettes illicitly.

While raising the age requirement is a positive step, effective enforcement, and the need for improvement in comprehensive health education, particularly in educational institutions, remain challenges. Despite regulations, tobacco product access through older peers and family and e-cigarettes through online purchases persist.

Continuously evaluating and adapting cessation support programs for young smokers is crucial. Addressing the lack of awareness about tobacco dangers and e-cigarette illegality among young individuals presents a substantial challenge. The persistent availability of e-cigarettes through online platforms presents a challenge in enforcing the ban effectively.

Despite the bans on the importation, sale, and promotion of e-cigarettes, accessing those products from online sales by young individuals remains a significant challenge. Moreover, gaps persist in zoning strategies to regulate cigarette retail shops near educational institutions (Phetphum & Noosorn, 2019).

In conclusion, New Zealand and Thailand's tobacco control efforts reflect their unique attributes. Their strategies, though robust in some aspects, exhibit weaknesses, challenges, and gaps. To ensure the well-being of their youth, both nations must remain adaptable, enforce regulations, promote education, and adopt collaborative efforts.

5.3 Cross-Country Learning and Recommendations

The comparative analysis of tobacco control policies and strategies in New Zealand and Thailand provides a valuable opportunity to derive cross-country insights and propose recommendations aimed at safeguarding the well-being of young people against the detrimental impacts of tobacco and e-cigarette usage. These two countries, each with its distinct social and cultural contexts, have developed diverse approaches to tackle the multifaceted challenges associated with youth tobacco consumption

and vaping. By examining their respective experiences, we can extract valuable lessons to fortify global tobacco control efforts.

Cross-country learning is a cornerstone of evidence-based policymaking. By examining the experiences of New Zealand and Thailand, policymakers can identify successful or effective strategies that have yielded positive outcomes. For instance, New Zealand's ambitious goal to achieve less than five per cent smoking prevalence by 2025 demonstrates the power of setting clear targets. This approach aligns with the WHO FCTC, which emphasizes the importance of setting time-bound targets for reducing tobacco use. Thailand's decision to raise the minimum legal age for purchasing tobacco products to 20 years old offers an innovative approach that could be explored by other countries. This strategy not only delays smoking initiation but also sends a strong message about the unacceptability of tobacco use among young adults.

In terms of smoking cessation support, both countries have implemented diverse initiatives aimed at assisting individuals in quitting smoking. New Zealand offers accessible services through the Ministry of Health's official website, with a strong focus on inclusivity, including young people. The prominent Quitline service provides round-the-clock telehealth support for smoking cessation at no cost, with a particular emphasis on vulnerable groups. Local stop-smoking services and pharmacies further extend the network of support. Thailand's efforts include the National Quitline Center (Quitline 1600), operational since 1993, and the SMART Quit Clinic Program since 2010, offering a multidisciplinary approach to smoking cessation. The Thai Pharmacy Network for Tobacco Control (TPNTC) also actively engages community pharmacies in supporting smokers to quit. Both countries have witnessed positive outcomes, with a notable increase in successful smoking cessation, especially among young individuals. These collaborative efforts underscore their commitment to curbing tobacco use and fostering healthier communities, although ongoing monitoring is vital to ensure long-term effectiveness.

5.3.1 Recommendations for the Thai Government:

Law Enforcement and Outlet Limitation: New Zealand's proactive standpoint in limiting tobacco outlets and enhancing law enforcement to restrict access can provide Thailand with an effective model. Implementing stricter regulations to control the density and accessibility of tobacco retail establishments can deter young individuals from initiating tobacco use. By reducing the availability of tobacco products, Thailand

can curb the ease with which young people can access these harmful substances. However, while implementing stricter regulations such as taxation to reduce affordability, Thailand must remain vigilant about potential unintended consequences. Lessons from New Zealand's experience indicate that as tobacco taxes were increased, there was a risk of store robbery cases targeting tobacco products. Thus, careful monitoring is crucial to prevent such incidents and ensure the intended benefits of outlet limitations are achieved.

Integrating Smoke-Free Education: Thailand can draw inspiration from New Zealand's approach to extensively integrating smoke-free education into the school curriculum. The majority of schools already offered some kind of smoke-free education in New Zealand for many years (Walker & Darling, 2007). Incorporating comprehensive education about the detrimental consequences of tobacco and e-cigarette usage can equip young people with the knowledge and critical thinking skills needed to make informed choices. Raising awareness about the misleading attraction of these products is crucial for preventing initiation.

Smoking Cessation Services: New Zealand's provision of smoking cessation services in schools and accessible community-based centers serves as a valuable lesson for Thailand. By offering targeted support to quit smoking within educational institutions and nearby community hubs, Thailand can offer support to young individuals seeking to overcome addiction. This approach creates a supportive environment conducive to quitting.

Regulations on E-Cigarettes: New Zealand's experience, where e-cigarettes were legalized and subsequently saw a significant increase in usage, provides a crucial lesson for Thailand. Considering the growing popularity of e-cigarettes among young individuals, Thailand should reaffirm its commitment to total bans and consider stricter enforcement of existing laws, especially in preventing online sales. The goal is to make e-cigarettes entirely unavailable for purchase, both physically and online. This comprehensive approach can effectively reduce the attraction of e-cigarettes among young people and safeguard them from potential harm.

Despite the illegality of vaping devices in the country, they are widely available for purchase at street stalls, particularly in popular tourist areas. This accessibility issue has contributed to a concerning statistic: approximately 9.1% of Thai youths

are reported to engage in the use of illegal vape products (Wipatayotin, 2023). In this context, earlier this year, the Thailand Committee on Public Health engaged in a discourse regarding the potential lifting of the e-cigarette ban in Thailand. The committee deliberated on the prospect of implementing Harm Reduction measures alongside the existing tobacco control policies (The Nation, 2023). However, the issue of dual usage between smoking and vaping is a challenge that requires targeted intervention. Lessons from New Zealand's experience, where a trend of transitioning between smoking and vaping has emerged despite the decline in smoking rates, underscore the need for ongoing monitoring and regulation of vaping products, particularly as a cessation (Mason et al., 2023). Striking a balance between promoting e-cigarettes for quitting smoking while mitigating the risk of dual usage is imperative.

5.3.2 Recommendation for the New Zealand Government:

Consider Raising the Legal Age: New Zealand could explore the possibility of raising the minimum legal age for purchasing tobacco products, as Thailand has done. Increasing the age to 20 or higher can delay or deter smoking initiation among young people and send a strong message about the unacceptability of tobacco use among young adults. This measure has the potential to reshape social norms and limit access to tobacco products for teenagers.

To effectively address the global public health concerns curtailing the tobacco epidemic and the complexities of e-cigarette usage, countries must adopt a comprehensive approach that involves contextual adaptation and collaborative efforts. This approach is crucial for moving towards a future with minimal negative impacts linked to tobacco and vaping.

5.4 Implications and Future Research Directions

This comparative study provides some key implications for decision-making and future research in youth tobacco protection:

5.4.1 Informed Policy Decisions: Policymakers in both New Zealand and Thailand can adopt successful strategies from each other, such as raising the legal age for tobacco purchase or regulating tobacco outlet density.

5.4.2 Global Learning: Insights from this study can inform youth tobacco protection efforts globally, inspiring strategies like setting clear targets, integrating comprehensive education, and holistic e-cigarette regulation.

5.4.3 Future Research Directions: Future studies can delve into identified gaps, conduct longitudinal research on policy effectiveness, explore young individuals' perspectives, and investigate international collaboration mechanisms.

5.4.4 Adapting to Evolving Technologies: Research should stay adaptable to emerging tobacco and nicotine delivery systems, assessing their appeal and developing effective regulation strategies.

This study provides practical guidance not only for policymakers, but also for researchers and the global community to enhance youth tobacco protection, emphasizing adaptability, collaboration, and evidence-based approaches.

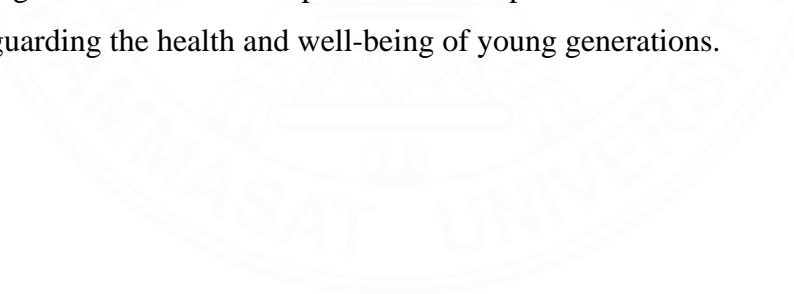
5.5 Limitations of Study

There are a few limitations to this study. Firstly, some documents related to Thailand are not available in English, and certain valuable research papers are inaccessible in full-text versions, potentially resulting in incomplete information. Measuring the effectiveness of policies and strategies is constrained due to limited data availability. Moreover, relying solely on existing documentary sources may lead to gaps, as they might not comprehensively encompass each country's tobacco control efforts or provide the latest updates on policy developments and their real-world impact. Additionally, the scope of the study might not cover all relevant factors influencing tobacco control policies and their impact on young people. Furthermore, the research relies on publicly accessible documents, potentially omitting internal government reports or unpublished data that could offer deeper insights into the subject matter.

CHAPTER 6

CONCLUSIONS

In conclusion, this comparative study provides a deeper understanding of the tobacco control policies and strategies in New Zealand and Thailand, aimed at protecting young people from the harms of tobacco and e-cigarette use. By analyzing the strengths, weaknesses, challenges, and cross-country learning between the two nations, this study underscores the significance of comprehensive regulations and adaptable approaches. Drawing from New Zealand's experiences, Thailand can leverage successful tactics such as law enforcement to limit tobacco outlets, extensively integration of smoke-free education, accessible cessation services, and considering stricter enforcement of existing laws on e-cigarettes. Conversely, New Zealand can learn from Thailand's proactive approach in raising the legal age for tobacco purchases to further deter young people from smoking initiation. Both countries must navigate the complexities of dual usage patterns and emerging trends. The findings emphasize the importance of continuous monitoring, adaptable policymaking, and collaborative efforts in addressing this evolving global public health challenge. Ultimately, the study underscores the significance of learning from each other's experiences to shape effective tobacco control measures for safeguarding the health and well-being of young generations.



REFERENCES

- Action for Smokefree 2025 (ASH). (2022). *ASH Year 10 Snapshot Survey 2021: Youth Vaping in Aotearoa New Zealand*.
- Action on Smoking and Health. (2015). *2015 Factsheet 1 - ASH Year 10 Snapshot Survey: Topline Results*.
https://d3n8a8pro7vhm.cloudfront.net/ashnz/pages/215/attachments/original/1635885373/ASH_Y10_Snapshot_2015_Factsheet_1_-_General__Topline.pdf?1635885373
- Action on Smoking and Health. (2017). *2017 ASH Year 10 Snapshot: E-cigarettes*.
https://assets.nationbuilder.com/ashnz/pages/265/attachments/original/1635824525/2017_ASH_Y10_Snapshot_E-cigs.pdf?1635824525
- Action on Smoking and Health. (2019). *2019 ASH Year 10 Snapshot: Vaping and E-cigarettes*.
https://d3n8a8pro7vhm.cloudfront.net/ashnz/pages/196/attachments/original/1632951937/2019_ASH_Y10_Snapshot_E-cigs_and_vaping_FINAL.pdf?1632951937
- Action on Smoking and Health. (2021). *2021 ASH Year 10 Snapshot: Youth Vaping in Aotearoa New Zealand*.
https://assets.nationbuilder.com/ashnz/pages/309/attachments/original/1645674087/2021_ASH_Y10_Snapshot_Vaping.pdf?1645674087
- Action on Smoking and Health. (2022). *ASH Year 10 Snapshot Survey 2022: Topline-Youth Smoking and Vaping*.
https://assets.nationbuilder.com/ashnz/pages/357/attachments/original/1670892009/2022_ASH_Y10_Snapshot_Topline_smoking_and_vaping_FINAL.pdf?1670892009
- Aung, M. N., Yuasa, M., Moolphate, S., Lorga, T., Yokokawa, H., Fukuda, H., et al. (2019). Effectiveness of a new multi-component smoking cessation service package for patients with hypertension and diabetes in northern Thailand: a randomized controlled trial (ESCAPE study). *Substance Abuse Treatment, Prevention, and Policy*, 14(1), 10. <https://doi.org/10.1186/s13011-019-0197-2>
- Bassett, B. (2016). New Zealand Country Report Quitline Smoking Cessation Services. *Asian Pacific Journal of Cancer Prevention*.
<https://doi.org/10.7314/APJCP.2016.17>
- Benjakul, S., Nakju, S., & Termsirikulchai, L. (2022). Use of e-cigarettes among public health students in Thailand: Embedded mixed-methods design. *Tobacco Induced Diseases*, 20, 78. <https://doi.org/10.18332/tid/152256>
- Prohibition of Sales and Service of “Hookahs, Electronic Hookahs, and Electronic Cigarettes, Smoking Materials for Hookahs, and Liquids for Filling Electronic Hookahs and Electronic Cigarettes, (2015).
- Burrowes, K. S., Fuge, C., Murray, T., Amos, J., Pitama, S., & Beckert, L. (2022). An evaluation of a New Zealand “vape to quit smoking” programme. *The New Zealand Medical Journal (Online)*.
- Campaign for Tobacco-Free Kids. (2022). *Legislation by Country: Thailand - E-cigarettes Main Policies*. Retrieved 20 August 2023 from <https://www.tobaccocontrolaws.org/legislation/thailand/e-cigarettes>

- Centers for Disease Control and Prevention. (2021). *Health Effects of Cigarettes Smoking*. Retrieved 6 April 2023 from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm
- Chaisai, C., Chaiyakunapruk, N., Thavorn, K., Wattanasirichaigoon, S., Rungruanghiranya, S., Thongphiew, A., et al. (2022). Assessment of the real-world impact of the Thai smoking cessation programme on clinical outcomes: protocol for a multicentre prospective observational study. *Primary Health Care Research & Development*, *23*, e71. <https://doi.org/10.1017/S1463423622000548>
- Chaisai, C., Thavorn, K., Wattanasirichaigoon, S., Rungruanghiranya, S., Thongphiew, A., Dilokthornsakul, P., et al. (2022). The impact of Thai multidisciplinary smoking cessation program on clinical outcomes: A multicentre prospective observational study. *Frontiers in Public Health*, *10*, 965020. <https://doi.org/10.3389/fpubh.2022.965020>
- Chankaew, T., Baiya, P., Chinwong, D., Yoodee, V., & Chinwong, S. (2022). Electronic Cigarettes in Thailand: Behaviour, Rationale, Satisfaction, and Sex Differences. *International Journal of Environmental Research and Public Health*, *19*(14). <https://doi.org/10.3390/ijerph19148229>
- Chudech, S., & Janmaimool, P. (2021). University students' knowledge about and attitudes toward e-cigarette use and factors influencing students' e-cigarette use. *Health Education*, *121*(2), 215-226. <https://doi.org/10.1108/he-11-2020-0107>
- Donny, E. C., Walker, N., Hatsukami, D., & Bullen, C. (2017). Reducing the nicotine content of combusted tobacco products sold in New Zealand. *Tobacco Control*, *26*(e1), e37-e42. <https://doi.org/10.1136/tobaccocontrol-2016-053186>
- Edwards, R., Hoek, J., Waa, A., & Ball, J. (2023). *What is happening with vaping among adolescents and young adults in Aotearoa?*
- Gendall, P., & Hoek, J. (2021). Role of flavours in vaping uptake and cessation among New Zealand smokers and non-smokers: a cross-sectional study. *Tobacco Control*, *30*(1), 108-110. <https://doi.org/10.1136/tobaccocontrol-2019-055469>
- Gendall, P., & Hoek, J. (2023). Regulating flavours and flavour delivery technologies: an analysis of menthol cigarettes and RYO tobacco in Aotearoa New Zealand. *Tobacco Control*. <https://doi.org/10.1136/tc-2022-057823>
- Glover, M., Shepherd, R., Nazari, H., & Selket, K. (2021). Store robberies for tobacco products: Perceived causes and potential solutions. *Journal of Community Safety and Well-Being*, *6*(4). <https://doi.org/10.35502/jcswb.210>
- Glover, M., Shepherd, R., Selket, K., & Paramanathan, S. K. (2021). Price hikes, crime fad or political football? What caused a spike in store robberies for cigarettes in New Zealand: analysis of news reports (2009-2018). *Safer Communities*, *20*(3), 172-188. <https://doi.org/10.1108/sc-09-2020-0034>
- Gurram, N., Thomson, G., Wilson, N., & Hoek, J. (2019). Electronic cigarette online marketing by New Zealand vendors. *The New Zealand Medical Journal (Online)*.
- Hardie, L., McCool, J., & Freeman, B. (2022). Online retail promotion of e-cigarettes in New Zealand: A content analysis of e-cigarette retailers in a regulatory

- void. *Health Promotion Journal of Australia*, 33(1), 91-98.
<https://doi.org/10.1002/hpja.464>
- Hardie, L., McCool, J., & Freeman, B. (2023). E-Cigarette Retailers' Use of Instagram in New Zealand: A Content Analysis. *International Journal of Environmental Research and Public Health*, 20(3). <https://doi.org/10.3390/ijerph20031897>
- Health New Zealand. (2020, 23 January 2020). *Smokefree in the classroom*. Retrieved 19 August 2023 from <https://www.smokefree.org.nz/smokefree-environments/smokefree-at-school/smokefree-in-the-classroom>
- Health New Zealand. (2021, 23 August 2021). *Introduction to Smokefree Schools*. Retrieved 19 August 2023 from [https://www.smokefree.org.nz/smokefree-environments/smokefree-at-school/introduction-to-smokefree-schools#:~:text=2025%20\(ASH\).-,The%20Smokefree%20Environments%20and%20Regulated%20Products%20\(Vaping\)%20Amendment%20Act%202020,at%20vapingfacts.health.nz.](https://www.smokefree.org.nz/smokefree-environments/smokefree-at-school/introduction-to-smokefree-schools#:~:text=2025%20(ASH).-,The%20Smokefree%20Environments%20and%20Regulated%20Products%20(Vaping)%20Amendment%20Act%202020,at%20vapingfacts.health.nz.)
- Health New Zealand. (2022). *Smokefree and Vapefree School Policy*.
- Health New Zealand. (2023a, 31 Jan 2023). *Smokefree environments: Legislation*. Retrieved 6 May 2023 from [https://www.smokefree.org.nz/smokefree-environments/legislation#:~:text=The%20Smokefree%20Environments%20and%20Regulated%20Products%20\(Smoked%20Tobacco\)%20Amendment%20Act,to%20sell%20smoked%20tobacco%20products](https://www.smokefree.org.nz/smokefree-environments/legislation#:~:text=The%20Smokefree%20Environments%20and%20Regulated%20Products%20(Smoked%20Tobacco)%20Amendment%20Act,to%20sell%20smoked%20tobacco%20products)
- Health New Zealand. (2023b). *Stop smoking services*. Retrieved 17 August 2023 from <https://www.smokefree.org.nz/help-advice/stop-smoking-services>
- Hoek, J., Graham-DeMello, A., & Wilson, N. (2023). Perceptions of Illicit Tobacco Sources Following a Proposed Reduction in Tobacco Availability: A Qualitative Analysis of New Zealanders Who Smoke. *Nicotine and Tobacco Research*, 25(7), 1348-1354. <https://doi.org/10.1093/ntr/ntad034>
- Institute for Health Metrics and Evaluation. (n.d-a). *New Zealand*. Retrieved 6 April 2023 from <https://www.healthdata.org/new-zealand>
- Institute for Health Metrics and Evaluation. (n.d-b). *Thailand*. Retrieved 6 April 2023 from <https://www.healthdata.org/thailand>
- Institute for Population and Social Research Mahidol University. (2022). *Thai Health 2022: the Thai Family & COVID-19*.
https://ipsr.mahidol.ac.th/en/post_research/thai-health-2022/
- Jankhotkaew, J., Pitayarangsarit, S., Chaiyasong, S., & Markchang, K. (2021). Price elasticity of demand for manufactured cigarettes and roll-your-own cigarettes across socioeconomic status groups in Thailand. *Tobacco Control*, 30(5), 542-547. <https://doi.org/10.1136/tobaccocontrol-2019-055480>
- Kaewsutha, N., & Karawekpanyawong, R. (2023). Tobacco and E-Cigarette Use among Thai Dental Students: A Cross-Sectional National Survey, 2021. *Journal of International Society of Preventive and Community Dentistry*, 13(1), 68-74. https://doi.org/10.4103/jispcd.JISPCD_203_22
- Kochsiripong, P., & Pitirattanaworranat, P. (2021). Attitudes and perceptions toward electronic cigarettes among undergraduate health science students, Rangsit University, Thailand. *Songklanakarin Journal of Science & Technology*.
- Lertsinudom, S., Kaewketthong, P., Chankaew, T., Chinwong, D., & Chinwong, S. (2021). Smoking Cessation Services by Community Pharmacists: Real-World

- Practice in Thailand. *International Journal of Environmental Research and Public Health*, 18(22). <https://doi.org/10.3390/ijerph182211890>
- Marsh, L., Ajmal, A., McGee, R., Robertson, L., Cameron, C., & Doscher, C. (2016). Tobacco retail outlet density and risk of youth smoking in New Zealand. *Tobacco Control*, 25(e2), e71-e74. <https://doi.org/10.1136/tobaccocontrol-2015-052512>
- Mason, A., Riordan, B. C., Winter, T., Conner, T. S., Sibley, C. G., & Scarf, D. (2023). Effects of vaping on uptake and cessation of smoking: Longitudinal analysis in Aotearoa New Zealand adults. *Drug Alcohol Rev.* <https://doi.org/10.1111/dar.13702>
- National Cancer Institute. (n.d.). *cigarette*. Retrieved 28 May 2023 from <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/cigarette#>
- Nelson, S., & Li, J. (2016). Smoking cessation behaviours in the past 12 months: Quit attempts and use of support. *Wellington: Health Promotion Agency Research and Evaluation Unit.*
- Smoke-free Environments (Prohibiting Smoking in Motor Vehicles Carrying Children) Amendment Act 2020, (2020a).
- The Smokefree Environments and Regulated Products (Vaping) Amendment Act 2020, (2020b). <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/regulation-vaping-herbal-smoking-and-smokeless-tobacco-products/about-smokefree-environments-and-regulated-products-vaping-amendment-act>
- New Zealand Ministry of Health. (2021a). *Smokefree Aotearoa 2025 Action Plan - Auahi Kore Aotearoa Mahere Rautaki 2025*. Retrieved 08 August 2023 from <https://www.health.govt.nz/publication/smokefree-aotearoa-2025-action-plan-auahi-kore-aotearoa-mahere-rautaki-2025>
- Smokefree Environments and Regulated Products Regulations 2021, (2021b). <https://www.legislation.govt.nz/regulation/public/2021/0204/latest/LMS524981.html>
- New Zealand Ministry of Health. (2023a, 07 June 2023). *Information for or about Specialist Vape Retailers.*
- New Zealand Ministry of Health. (2023b). *New policies will help reach Smokefree goal and address increase in youth vaping.* <https://www.health.govt.nz/news-media/news-items/new-policies-will-help-reach-smokefree-goal-and-address-increase-youth-vaping>
- Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act, (2023c). <https://www.health.govt.nz/our-work/regulation-health-and-disability-system/smoked-tobacco-products/smokefree-environments-and-regulated-products-smoked-tobacco-amendment-act>
- Smokefree Environments and Regulated Products Act 1990, (2023d).
- New Zealand Ministry of Health. (n.d-a). *New Zealand Health Survey: Tobacco Use*. Retrieved 03 May 2023 from https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_895a26a5/#!/explore-indicators
- New Zealand Ministry of Health. (n.d-b). *New Zealand Health Survey: Vaping/e-cigarette use*. Retrieved 03 May 2023 from https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_895a26a5/#!/explore-indicators

- New Zealand Ministry of Health. (n.d.-a). *Tobacco use - Indicator: Current smokers (has smoked more than 100 cigarettes in lifetime and currently smokes at least once a month)*. Retrieved 01 September 2023 from https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_06500603/#!/explore-indicators
- New Zealand Ministry of Health. (n.d.-b). *Tobacco Use - Indicator: Quit smoking in past 12 months (among daily smokers and recent quitters)*. Retrieved 30 August 2023 from https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_06500603/#!/explore-indicators
- New Zealand Ministry of Health. (n.d.-c). *Vaping / e-cigarette use - Indicator: Vaping/e-cigarettes - ever tried*. Retrieved 01 September 2023 from https://minhealthnz.shinyapps.io/nz-health-survey-2021-22-annual-data-explorer/_w_06500603/#!/explore-indicators
- New Zealand Telehealth Services. (2021). *About the Quit Group*. <https://quit.org.nz/about-us>
- Nicolaou, A., Moore, A., Wamamili, B., Walls, T., & Pattemore, P. (2022). E-cigarette use patterns, brand preference and knowledge about vaping among teenagers (13–16 years) and parents of children attending Christchurch Hospital. *The New Zealand Medical Journal (Online)*, *135*(1561).
- Ninkron, P., Yau, S., & Noosorn, N. (2022). Predictors of smoking initiation among Thai adolescents from low-income backgrounds: A case study of Nakhon Pathom low-cost housing estates. *Tobacco Induced Diseases*, *20*, 21. <https://doi.org/10.18332/tid/145143>
- Patanavanich, R., Aekplakorn, W., Glantz, S. A., & Kalayasiri, R. (2021). Use of E-Cigarettes and Associated Factors among Youth in Thailand. *Asian Pacific Journal of Cancer Prevention: APJCP*, *22*(7), 2199-2207. <https://doi.org/10.31557/APJCP.2021.22.7.2199>
- Patanavanich, R., & Glantz, S. (2021). Successful countering of tobacco industry efforts to overturn Thailand's ENDS ban. *Tobacco Control*, *30*(e1), e10-e19. <https://doi.org/10.1136/tobaccocontrol-2020-056058>
- Phetphum, C., & Noosorn, N. (2019). Tobacco Retailers Near Schools and the Violations of Tobacco Retailing Laws in Thailand. *Journal of Public Health Management and Practice*, *25*(6), 537-542. <https://doi.org/10.1097/phh.0000000000000880>
- Phetphum, C., Prajongjeep, A., Thawatchaijareonying, K., Wongwuttiyan, T., Wongjamnong, M., Yossuwan, S., et al. (2021). Personal and perceptual factors associated with the use of electronic cigarettes among university students in northern Thailand. *Tobacco Induced Diseases*, *19*, 31. <https://doi.org/10.18332/tid/133640>
- Phetphum, C., Prajongjeep, A., Youngiam, W., & Thawatchaijareonying, K. (2023). Susceptibility to smoking and determinants among never-smoking high school students in Thailand. *Tobacco Induced Diseases*, *21*, 02. <https://doi.org/10.18332/tid/156456>
- Phetphum, C., Wangwonsin, A., & Noosorn, N. (2017). Predicting Factors for Retailers Sale of Cigarettes to Adolescents in the Lower Part of Northern Region of Thailand. <http://jrhs.umsha.ac.ir/index.php/JRHS/article/view/3254>

- Robertson, L., Gendall, P., Hoek, J., Cameron, C., Marsh, L., & McGee, R. (2017). Smokers' Perceptions of the Relative Effectiveness of Five Tobacco Retail Reduction Policies. *Nicotine & Tobacco Research, 19*(2), 245-252. <https://doi.org/10.1093/ntr/ntw193>
- Robertson, L. A., & Marsh, L. (2015). Smoke-free policies in New Zealand public tertiary education institutions. *Health Education Research, 30*(2), 347-358. <https://doi.org/10.1093/her/cyv004>
- Tobacco Products Control Act B.E. 2535 (1992), (1992).
- Tobacco Products Control Act B.E. 2560 (2017), (2017).
- Savigamin, C., Jitwimungsanon, J., Rattananupong, T., Sittipunt, C., & Sriprasart, T. (2021). Prevalence and Risk Factors of E-cigarette Users in Thai College Student. *Clinical Medicine Research, 10*(2). <https://doi.org/10.11648/j.cmr.20211002.13>
- Seeherunwong, A., Tipayamongkholgul, M., Angsukiattitavorn, S., Muangsakul, W., Singkhon, O., Junda, S., et al. (2023). Association between socioecological factors and electronic cigarette use among Thai youth: an institution-based cross-sectional study. *BMJ Open, 13*(7), e069083. <https://doi.org/10.1136/bmjopen-2022-069083>
- Notification of the Ministry of Commerce Prohibition of importing Hookah and Electronic Hookah or Electronic cigarette into Thailand B.E. 2557 (A.D.2014), (2014).
- Thailand National Quitline. (n.d.). *Thailand National Quitline Background*. <https://www.thailandquitline.or.th/site/about/history>
- The Nation. (2023). *Committee on Public Health suggests e-cigarette regulation, upgrading related measures to international standards*. Retrieved 27 August 2023 from <https://www.nationthailand.com/pr-news/thailand/general/40025743>
- Thongsutt, T., Yusote, C., Jubprang, S., Sasisuwan, A., Poonchuay, N., Chanawong, A., et al. (2023). Factors Associated with Knowledge and Attitude towards E-Cigarettes among Undergraduate Students in Thailand: A Cross-Sectional Study. *Asian Pacific Journal of Cancer Prevention: APJCP, 24*(2), 559-567. <https://doi.org/10.31557/APJCP.2023.24.2.559>
- Tobacco Control Research and Knowledge Management Center TRC. (2022). *Thai Cabinet announces a five-year plan to lower tobacco consumption on February 17, 2022*. Retrieved 08 August 2023 from <https://www.trc.or.th/en/thai-cabinet-announces-a-five-year-plan-to-lower-tobacco-consumption-on-february-17-2022/>
- Umnuaypornlert, A., Dede, A. J., & Pangtri, S. (2021). Community health workers improve smoking cessation when they recruit patients in their home villages. *Journal of Primary Care & Community Health*. <https://doi.org/10.1177/21501327211048363>
- Walker, J., & Darling, H. (2007). Tobacco education: have New Zealand primary schools done their homework? *Australian and New Zealand Journal of Public Health, 31*(1), 23-25. <https://doi.org/10.1111/j.1753-6405.2007.00005.x>
- Wipatayotin, A. (2023, 30 June 2023). 9% of youth smoke illegal vapes, study finds. *Bangkok Post*. <https://www.bangkokpost.com/thailand/general/2602466/9-of-youth-smoke-illegal-vapes-study-finds>

- World Health Organization. (2004). *WHO framework convention on tobacco control*.
- World Health Organization. (2016). *Global Youth Tobacco Survey Thailand 2015*.
- World Health Organization. (2019). *Health Topics: Adolescent health*. Retrieved 27 May 2023 from <https://www.who.int/southeastasia/health-topics/adolescent-health>
- World Health Organization. (2021a). *The WHO Framework Convention on Tobacco Control: an overview*.
- World Health Organization. (2021b). *WHO global report on trends in prevalence of tobacco use 2000-2025 4th edition*.
- World Health Organization. (2021c). *WHO Report on the Global Tobacco Epidemic, 2021: addressing new and emerging products*.
- World Health Organization. (2022a, 24 May 2022). *Tobacco*.
<https://www.who.int/news-room/fact-sheets/detail/tobacco>
- World Health Organization. (2022b). *Tobacco: E-cigarettes*.
<https://www.who.int/news-room/questions-and-answers/item/tobacco-e-cigarettes>
- World Health Organization. (n.d-a). *MPOWER measures*. Retrieved 6 April 2023 from <https://www.emro.who.int/tfi/mpower/index.html>
- World Health Organization. (n.d-b). *Smoking makes you more vulnerable to Covid19?* Retrieved 6 April 2023 from <https://www.who.int/southeastasia/health-topics/tobacco/smoking-makes-you-more-vulnerable-to-covid19>
- World Health Organization. (n.d-c). *Tobacco Control and the Sustainable Development Goals*.
https://www.euro.who.int/__data/assets/pdf_file/0020/340193/TOBACCO-CONTROL-AND-THE-SUSTAINABLE-DEVELOPMENT-GOALS_Edited.pdf



APPENDICES

Appendix A

Data Matrix Table

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
1	13.08.2023	Research Article	The impact of Thai multidisciplinary smoking cessation program on clinical outcomes: A multicenter prospective observational study	24.08.2022	Chaisai, C., Thavorn, K., Wattanasirichaigoon, S., Rungruanghiranya, S., Thongphiew, A., Dilokthornsakul, P., et al.	<p>Smokers receiving services from the Thai multidisciplinary smoking cessation clinics had CAR of 17.49 and 8.33% at 3 and 6 months, respectively. For those with cardiovascular disease (CVD) or cerebrovascular disease, CAR was found to be 26.36% at 3 months and 13.81% at 6 months. While participants with chronic obstructive pulmonary disease (COPD) had CAR ranging from 32.69% at 3 months to 17.31% at 6 months.</p> <p>The multidisciplinary team smoking cessation clinic was effective in assisting smokers in quitting smoking. The effectiveness of the clinic was more pronounced for smokers with CVD, cerebrovascular disease, or COPD. Findings from this study support a decision to include multidisciplinary smoking cessation clinics in the universal health care benefits package.</p>	Finding: Smoking Cessation Support

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
2	21.08.2023	Research Article	An evaluation of a New Zealand “vape to quit smoking” programme	19.08.2022	Burrowes, K. S., Fuge, C., Murray, T., Amos, J., Pitama, S., & Beckert, L.	The final dataset analysed consisted of 1,118 participants: 66.6% NZ European; 28.1% Māori; 3.1% Pacific; and 2.2% Asian. Māori participants were younger on average and had increasing vaping use. Māori were less likely to receive varenicline to assist with smoking cessation. Vaping use increased over time in all groups. Nicotine containing e-cigarettes were the most common smoking cessation products used, with >65% of each ethnic cohort utilising these products. Of the 100 participants in the “vape to quit” cohort 16% were smokefree and vapefree, 31% were smokefree and vaping, 31% were smoking and not vaping, and 22% were smoking and vaping. conclusions: The Te Hā – Waitaha service was successful in engaging Māori in their smoking cessation programme. Nicotine containing e-cigarette products were popular in all cohorts. Nicotine containing e-cigarettes are showing potential in smoking cessation programmes in support of the Smokefree Aotearoa 2025; however, 22% of those in the “vape to quit” programme became dual users.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
3	13.08.2022	Research Article	Assessment of the real-world impact of the Thai smoking cessation programme on clinical outcomes: protocol for a multicentre prospective observational study	09.08.2022	Chaisai, C., Chaiyakunapruk, N., Thavorn, K., Wattanasirichaigoon, S., Rungruanghiranya, S., Thongphiew, A., et al.	<p>The FAH-SAI Clinics Program was developed by the National Alliance for Tobacco-Free Thailand in 2010 to provide a comprehensive smoking cessation service to all Thai citizens. The programme is fully funded by the Thai Health Promotion Foundation, and all eligible citizens receive the service for free. Currently, there are 552 healthcare facilities that have joined the network covering 77 provinces across Thailand. The FAH-SAI Clinics is mainly operated by trained nurses who will consult with the attending physician if needed.</p> <p>Standard interventions</p> <p>At the FAH-SAI Clinics, the interventions and activities are standardised based upon a protocol developed by the Ministry of Health and National Alliance for Tobacco-Free Thailand. It follows the well-established 5As model in smoking cessation (Ask, Advise, Assess, Assist and Arrange). Activities include:</p> <ul style="list-style-type: none"> • Identify, diagnose and document tobacco use status • Assess for the severity of nicotine dependence status 	Finding: Smoking Cessation Support

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<ul style="list-style-type: none"> • Advise the patient to quit smoking • Assess for patient's that willing to quit smoking • Assist the patient to quit smoking using counselling techniques together with pharmacological methods such as nicotine replacement therapy, herbs and traditional therapy • Schedule follow-up with patient either in-person, through telephone contact or social network. <p>Interventions and activities vary slightly across settings depending on local context and availability of human resources. For instance, home visits may be arranged in some settings while in others only group counselling is conducted. Each session will typically last between 15 and 30 minutes, with follow-up at months 1, 3 and 6.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
4	20.08.2023	Research Article	Association between socioecological factors and electronic cigarette use among Thai youth: an institution-based cross-sectional study	05.07.2023	Seeherunwong, A., Tipayamongkholgul, M., Angsukiattitavorn, S., Muangsakul, W., Singkhon, O., Junda, S., et al.	Of 12 948 respondents (95.5%), 181 were excluded due to a lack of cigarette use status. Of 12 767, the prevalence of cigarette use was 4.3%, e-cigarette use was 3.5% and dual-use was 2.4%. E-cigarettes were a much more favourable choice among female youth than cigarettes. E-cigarette users tended to express more positive beliefs towards e-cigarettes than non-users. Although the use of e-cigarettes is illegal in Thailand, 66% of users obtained e-cigarettes from online markets and 4% from grocery stores. We found that having a girlfriend or boyfriend who uses e-cigarettes increased the odds of e-cigarette use by 3.239 times. Interestingly, higher odds of e-cigarette use were associated with peer use than with sibling use among e-cigarette users. (Adjusted OR 2.786, 95% CI 1.844 to 4.208 and 2.485, 95% CI 1.402 to 4.404, respectively). Exposure to e-cigarette use in school increased the odds of e- cigarette use by four times.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
5	20.08.2023	Research Article	Attitudes and perceptions toward electronic cigarettes among undergraduate health science students, Rangsit University, Thailand	2021	Kochsirikong, P., & Pitirattanaworranat, P.	in total of 415 students by quota sampling were mostly female. Approximately 20% of the students were e-cigarette users whereas 10% were tobacco users. The major source of knowledge about e-cigarettes was friends or close friends, while only 14% was from curriculum. The predictive factors of e-cigarette use were tobacco use, being around smokers, and alcohol consumption. E-cigarette users were found to have more misperceptions than those not using e-cigarettes in several dimensions: health impacts, addiction, appearance, smoking cessation, and legal exception.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks
6	14.08.2023	Research Article	Community Health Workers Improve Smoking Cessation When They Recruit Patients in Their Home Villages	06.09.2021	Umnuaypornlert, A., Dede, A. J., & Pangtri, S.	On average, patients reduced their cigarettes/day by 7.2% and 29% of patients were completely cigarette free at a 1-year follow-up. Patients marginally decreased exhalation CO levels and increased lung capacity. CHWs gained a good understanding of health risks associated with smoking and common methods to help quit. Their attitude became more sympathetic and caring.	Finding: Smoking Cessation Support

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						CHWs exhibited patient-specific solutions to help with smoking cessation and actively sought out people to participate in the smoking cessation program. A smoking cessation program combining CHWs and pharmacists was effective.	
7	21.08.2023	Research Article	E-Cigarette Retailers' Use of Instagram in New Zealand: A Content Analysis	19.01.2023	Hardie, L., McCool, J., & Freeman, B.	In 2019, there was no legislation to govern e-cigarette marketing in New Zealand. This period provides an ideal context for examining how e-cigarette companies promoted their products before the introduction of marketing regulations. We conducted a content analysis of the Instagram accounts of five prominent e-cigarette retailers based in New Zealand during 2019–2020. We assessed health- and risk-related claims and marketing techniques. Less than 10% of Instagram posts refer to smoking alternatives or risk of nicotine addiction. E-cigarette devices were more likely to be promoted for stylistic features such as colours and ease of use (29.7%). Music festival sponsorship (19.1%), social media influencers (9.2%), and lifestyle marketing (41.5%) were identified as youth-oriented promotional strategies.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						E-cigarette retailers claim to promote harm-reduction tools to smokers, yet this study finds few references to smoking alternatives in any content. Instead, retailers utilised strategies to engage with a young audience, including festival sponsorship and stylish influencers. This youth-oriented marketing, in combination with weak and delayed government action, may have contributed to the high use of e-cigarettes among young New Zealanders.	
8	21.8.2023	Research Article	E-cigarette use patterns, brand preference and knowledge about vaping among teenagers (13–16 years) and parents of children attending Christchurch Hospital	02.09.2022	Nicolaou, A., Moore, A., Wamamili, B., Walls, T., & Pattemore, P.	Vaping was common among teenagers and parents. More parents than teenagers vaped in home or in car when other people were present. Teen-agers, most commonly, vaped for curiosity and flavour and obtained e-cigarettes from sources other than vape shops, suggesting current vape shop regulations are unlikely to prevent teenagers from accessing vape products. Further educative and regulatory input is needed to reduce e-cigarette use in young people.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
9	14.08.2023	Research Article	Effectiveness of a new multi-component smoking cessation service package for patients with hypertension and diabetes in northern Thailand: a randomized controlled trial (ESCAPE study)	2019	Aung, M. N., Yuasa, M., Moolphate, S., Lorga, T., Yokokawa, H., Fukuda, H., et al.	The median age of the participants was 64 years, with females constituting 28.84%. Most of the participants smoke hand-rolled cigarettes (85%). The intervention arm participants achieved a significantly higher smoking cessation rate than the control arm 25.62% vs 11.32%, with an adjusted odd ratio of 2.95 and 95% confidence interval 1.55–5.61. In relation to accessing smoking cessation services within the primary health care setting, participants who received the evidence-based intervention package were about three times more likely to succeed in giving up smoking than those who received the routine service. Utilizing community resources as major intervention components, the evidence from this trial may provide a useful and scalable smoking cessation intervention for low and middle income countries.	Finding: Smoking Cessation Support
10	21.08.2023	Research Article	Electronic cigarette online marketing by New Zealand vendors	29.11.2019	Gurram, N., Thomson, G., Wilson, N., & Hoek, J.	A total of 59 New Zealand vendor websites were identified; of these, only 10% (6/59) required age proof before purchase. A majority (68%) had no detectable health warnings, and only 25% mentioned nicotine addiction.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						Most (92%) of the websites used at least one social networking or video sharing site in their marketing. The lowest ENDS price advertised in the websites reviewed was \$NZ9.95 (US\$6.60) and the cheapest 10ml e-liquid bottle was \$NZ3.50. All 60 accessible Facebook accounts, and nearly all (96%; 25/26) accessible Twitter accounts associated with New Zealand vendors, had no health or addiction warnings. Of the 52 accessible YouTube videos that had links to New Zealand vendor websites, none had a health or addiction warning.	
11	20.08.2023	Research Article	Electronic Cigarettes in Thailand: Behaviour, Rationale, Satisfaction, and Sex Differences	06.07.2022	Chankaew, T., Baiya, P., Chinwong, D., Yoodee, V., & Chinwong, S.	Of 1050 participants, 936 were male (89.1%). The average age was 31.2 ± 8.4 years. The participants were from all regions of the country, but most (64.5%) were from central Thailand. Most e-cigarettes users comprised private employees (43.2%). The main source of e-cigarettes in Thailand is online sources such as social media. Tank-style e-cigarettes were popular among users.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>Amongst e-cigarettes users, the top three rationales for using e-cigarettes were fewer harmful effects from e-cigarettes than conventional cigarettes (81.0%), smoking cessation aids (80.6%), and their lack of attaching cigarette odour (58.2%). The top three reasons for satisfaction were using e-cigarettes as a conventional cigarette cessation aid (5.1 ± 1.3), lessening cravings for conventional cigarettes (5.1 ± 1.3) and reducing conventional cigarettes withdrawal symptoms (5.0 ± 1.3). Online purchase was the main source of e-cigarettes in Thailand. The general rationale for using electronic cigarettes was that they are less harmful and to quit conventional cigarettes. Thai users were satisfied to use e-cigarettes as a conventional cigarette cessation aid. Males and females differed in behaviour, rationale, and satisfaction of e-cigarettes. Public health organisations should provide accurate information about the harm of electronic cigarettes and their efficacy for tobacco cessation.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
12	20.08.2023	Research Article	Factors Associated with Knowledge and Attitude towards E-Cigarettes among Undergraduate Students in Thailand: A Cross-Sectional Study	29.01.2023	Thongsutt, T., Yusote, C., Jubprang, S., Sasisuwan, A., Poonchuay, N., Chanawong, A., et al.	A total of 507 participants were recruited, The participants' mean age was 20.6 ± 1.9 years. About 98.6% of the participants knew about e-cigarette, and 74.4% had never been taught about e-cigarettes. Moreover, 68.8% of the participants declared that people around them were smokers. Logistic regression analysis indicated that the participants who declared that they were not sure if e-cigarettes contain nicotine or not were 10.5 more likely to consume e-cigarettes (AOR = 10.5; 95 % CI 3.130-35.181; P <0.001). Male participants who were at the academic year of three and four were more likely to use e-cigarettes than female students who were at the academic year of five and six (AOR 2.9; 95 % CI 1.599-5.214; P <0.001; AOR = 4.5; 95 % CI 1.412-14.571; P <0.001; AOR = 3.9; 95 % CI 1.263-12.511; p = 0.018). Conclusion: Our study findings showed that pharmacy students lacked knowledge about e-cigarettes and misunderstood about e-cigarettes substances. Future research is necessary to develop educational programs for health professionals to be ready to advise patients about e-cigarettes.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
13	18.08.2023	Research Article	New Zealand Country Report: Quitline Smoking Cessation Services	2016	Bassett, B.	Quit Success Rates: Quitline assesses Quit Success by two approaches: i) Ongoing Tracking. As reported in February 2015, the four week quit rate measured for the December 2014 cohort of clients was 32.9% (self-reported and based on receiving quit status from 71.9% of the cohort); ii) Evaluation. Quitline's 2012 Quit Services Evaluation established a six month quit rate of 24.2% (7-day Point Prevalence, Intention to Treat); iii) Client Satisfaction: Clients' satisfaction with the Quitline service has been assessed annually by asking clients a number of questions about their experience in using the Quitline service. The 2014 survey established an overall client satisfaction level of 94%.	Finding: Smoking Cessation Support
14	21.08.2023	Research Article	Online retail promotion of e-cigarettes in New Zealand: A content analysis of e-cigarette retailers in a regulatory void	2022	Hardie, L., McCool, J., & Freeman, B.	Price was variable, with disposable devices sold from as little as \$9.99 (NZD). Online e-cigarette retailers frequently presented health (79%) and smoking cessation (71%) messages. Nicotine addiction warnings were explicit in less than half of retailer sites (43%) and only 29% of retailers stated that the use of devices may pose health risks.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>Marketing techniques with potential youth appeal included sweet flavours (80%) and cartoon characters on e-liquid products (20%). Only one retailer had an age verification procedure to purchase a product.</p> <p>In the absence of regulations, e-cigarette retailers in NZ have actively marketed products to consumers, which may include youth and nonsmokers. It is uncertain what health messages and warnings will become mandatory when final regulation details are agreed. In the meantime, retailers continue to promote sales using tenuous health and benefit claims to market products to all potential consumers. There is an urgent need to develop online marketing regulations to protect public health, particularly youth. Findings from this study indicate that flavour restrictions, standardised packaging, age verification measures and restrictions on health-related claims should be key policy areas for future regulation.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
15	15.08.2023	Research Article	Perceptions of Illicit Tobacco Sources Following a Proposed Reduction in Tobacco Availability: A Qualitative Analysis of New Zealanders Who Smoke	04.03.2023	Hoek, J., Graham-DeMello, A., & Wilson, N.	<p>Tobacco companies claim that substantially reducing tobacco retail outlets in Aotearoa New Zealand will increase illicit tobacco trade and crime. However, we know little about whether people who smoke anticipate using illicit tobacco once this measure is implemented. Exploring current illicit tobacco use and expected market development would clarify the likely scale of this potential problem.</p> <p>We undertook online in-depth interviews with 24 adults who smoke and explored their experiences of illicit tobacco, perceptions of illicit market growth once legal tobacco became less available, intentions to engage in this market, and potential measures that could curb illicit market development. We interpreted the data using a qualitative descriptive approach.</p> <p>Few participants had purchased illegally imported or stolen tobacco. While most did not know how to access illicit tobacco products, many expected illicit trade and crime would increase, if legal tobacco became difficult to access.</p>	Discussion - Strengths, Weakness, Challenges, gaps

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>While cheaper tobacco appealed to many, most perceived illicit supply routes as unsafe and saw products obtained via these sources as likely to be of poor quality. Few suggested measures to control illicit markets, though a minority called for social reforms to reduce poverty, which they thought fueled il-legal practices. Although illicit trade may appear to threaten new policy initiatives, participants' limited knowledge of these markets and concerns regarding product safety suggest illegal tobacco may pose less of a threat than tobacco companies have claimed. Policy makers should not be deterred from reducing tobacco availability by industry arguments. Although participants believed illicit trade would increase if the number of tobacco retailers was substantially reduced, few anticipated purchasing illegal tobacco. They viewed supply routes as unsafe and product quality as likely to be low. Industry predictions that il- licit tobacco trade will grow if tobacco becomes less available do not reflect how people who smoke expect to engage with these markets and should not deter the introduction of retail reduction measures.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
16	20.08.2023	Research Article	Personal and perceptual factors associated with the use of electronic cigarettes among university students in northern Thailand	22.02.2021	Phetphum, C., Prajongjeep, A., Thawatchaijareonying, K., Wongwuttiyan, T., Wongjamnong, M., Yossuwan, S., et al.	The study revealed that 18.1% of the participants used e-cigarettes in the past 30 days. The personal factors associated with e-cigarette use among Thai university students included: studying in non-health related faculties (AOR=11.21; 95% CI: 4.88–25.71); having a friend using e-cigarettes (AOR=10.48; 95% CI: 5.96–18.41); having a lower GPA than the mean (AOR=1.93; 95% CI: 1.14– 3.28); and having a monthly income higher than the mean (AOR=1.74; 95% CI: 1.09–2.78). Regarding perceptual factors, there was a significant link between e-cigarette use and the perception that these modern cigarettes are less harmful than conventional cigarettes (AOR=2.47; 95% CI: 1.50–4.07), and perception that using e-cigarettes in public is not illegal (AOR=1.93; 95% CI: 1.19–3.15).	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks
17	12.08.2023	Research Article	Predicting Factors for Retailers' Sale of Cigarettes to Adolescents in the Lower Part of Northern Region of Thailand	14.08.2017	Phetphum, C., Wangwonsin, A., & Noosorn, N.	60.2% did not have any warning signboard to indicate that the shop did not sell cigarettes to persons younger than 18 years. In addition, most of the shops (93.8%) sell alcoholic drinks; more than half (60.3%) of the participants' shops have never been checked in the previous one year to determine whether or not their selling cigarettes is in compliance with the law.	Finding: Preventing Young People's Access to Tobacco Products

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						in the previous month, over half of the participants (61.4%) did not check ages of buyers before selling them (61.4%), 77.20% sold cigarette in sticks, 73.7% display cigarettes at the point of sale, 52.1% sold cigarette by self-service, and 58.7% of the participants confided selling cigarettes to adolescents or persons below the age of 18.	
18	11.08.2023	Research Article	Predictors of smoking initiation among Thai adolescents from low-income backgrounds: A case study of Nakhon Pathom low-cost housing estates	20.02.2022	Ninkron, P., Yau, S., & Noosorn, N.	<p>Table 1. Correct knowledge about harmful effects of cigarettes among adolescents of low-cost housing estate Nakhon Pathom Thailand, 2020 (N=240)</p> <p>Table 3. Source of information about smoking for adolescents of low-cost housing estates Nakhon Pathom Thailand, 2020 (N=240)</p> <p>The risk of smoking initiation among adolescents who lost one or both parents was 1.28 times higher than among those having both parents alive. The risk of smoking initiation among adolescents from divorced parents was 67% higher than the risk among their counterparts whose parents were married. Adolescents with poor academic performance had a significantly higher risk of smoking initiation than those with good performance.</p>	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
19	20.08.2023	Research Article	Prevalence and Risk Factors of E-cigarette Users in Thai College Student	12.04.2021	Savigamin, C., Jitwimungsanon, J., Rattananupong, T., Sittipunt, C., & Sriprasart, T.	The primary outcome was the prevalence of E-cigarette user. Secondary outcome were the characteristics and risk factors of E-cigarette users. Result: There were 1302 college students which 535 students (41.1%) were male, and 767 students (58.9%) were female. 289 students (22.2%) were E-cigarette users. 223 students had history of both cigarette and E-cigarette used. History of cigarette used in 30 days, history of cigarette used not in 30 days, water pipe user, marijuana user and male were risk factors of using E-cigarette by adjusted odds ratio 24.59 (95% CI 13.31- 45.43), 15.12 (95% CI 9.06 – 25.23), 10.08 (95% CI 6.38 – 15.92), 11.59 (95% CI 4.61 – 29.14), 1.90 (95% CI 1.25 – 2.90) respectively. Studying in non-health faculties was the risk factor for E-cigarette used with adjusted odds ratio of 2.07 (95% CI 1.05 – 4.10). Conclusion: Prevalence of E-cigarette users in Thai college student was high. Risk factors included male, history of cigarette smoking, marijuana use, water pipe and studying in non-health associated faculty. Effective control and education are needed.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
20	12.08.2023	Research Article	Price elasticity of demand for manufactured cigarettes and roll-your-own cigarettes across socioeconomic status groups in Thailand	2021	Jankhotkaew, J., Pitayarangsarit, S., Chaiyasong, S., & Markchang, K.	<p>the responsiveness of tobacco consumption on price change for four different types of manufactured cigarettes and roll-your-own cigarettes. The impact of pricing policy was greater for domestically manufactured cigarettes compared with imported manufactured cigarettes. In addition, less affluent smokers showed greater responsive to price change compared with more affluent smokers. The results of this study suggest that a tobacco pricing policy is more effective for low-income cigarette users.</p> <p>Pricing policy is effective across different types of cigarettes, particularly domestic manufactured cigarettes and roll-your-own cigarettes.</p> <p>Low-income smokers were the most responsive to price change of tobacco products.</p>	Finding: Preventing Young People's Access to Tobacco Products
21	15.08.2023	Research Article	Price hikes, crime fad or political football? What caused a spike in store robberies for cigarettes in New Zealand: analysis of news	29.03.2021	Glover, M., Shepherd, R., Selket, K., & Paramanathen, S. K.	<p>Reports on 572 robberies were unevenly distributed across the years with a large increase in 2016 and 2017, followed by a substantial decrease in 2018. Local community convenience stores were primarily hit – more so in lower socioeconomic communities.</p>	Finding: Preventing Young People's Access to Tobacco Products

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
			reports (2009-2018)			Robberies occurred nationwide and disproportionately so during colder months in lower socioeconomic communities. Many robberies were aggravated resulting in serious injury to shopkeepers. Tobacco and cash were predominantly targeted.	
22	19.08.2023	Research Article	Reducing the nicotine content of combusted tobacco products sold in New Zealand	2017	Donny, E. C., Walker, N., Hatsukami, D., & Bullen, C.	Banning cigarettes may be more likely to lead to black markets, present significant legal/trade barriers and be less likely to be supported by smokers and opponents of government interference. Large reductions in nicotine content could dramatically reduce reinforcement from and dependence on cigarettes	Finding: Preventing Young People's Access to Tobacco Products
23	25.08.2023	Research Article	Regulating flavours and flavour delivery technologies: an analysis of menthol cigarettes and RYO tobacco in Aotearoa New Zealand	23.02.2023	Gendall, P., & Hoek, J.	Results Menthol brands accounted for a relatively small but nonetheless sizeable proportion of NZ's tobacco market and in 2021 constituted 13% of NZ's factory made cigarette market and 7% of the RYO market, representing 161 million cigarettes and 25 tonnes of RYO. The introduction of capsule technologies using menthol flavours corresponded with a rise in menthol sales among factory made cigarettes.	Discussion - Strengths, Weakness, Challenges, gaps

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						Conclusions Capsule technologies using menthol flavours work synergistically to enhance the appeal of smoking and appear likely to encourage experimentation among non-smoking young people. Comprehensive policy that regulates menthol flavours and innovations used to deliver flavour sensations will support tobacco endgame goals in NZ and could inform policy in other countries.	
24	21.08.2023	Research Article	Role of flavours in vaping uptake and cessation among New Zealand smokers and non-smokers: a cross-sectional study	2021	Gendall, P., & Hoek, J.	Irrespective of smoking status, flavour was one of the main reasons respondents gave for vaping (smokers 83%; former smokers 77%; VSNS 80%). Flavour was less important to former vapers; 47% of smokers, 57% of former smokers and 64% of VSNS cited flavour as a reason for originally taking up vaping. Fruit flavours were most popular among all three groups; smokers also favoured tobacco flavour, while former smokers also favoured mint or menthol, and never smokers also favoured confectionery/sweets/lolly flavours.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						Conclusions Flavours play a major role in vaping initiation for current smokers, former smokers and vaping-susceptible non-smokers, and remain important to those who continue vaping. Our findings highlight the need for regulation that allows some flavour diversity without the extravagant marketing currently used to promote vaping and e-liquids.	
25	19.08.2023	Research Article	Smoke-free policies in New Zealand public tertiary education institutions	13.01.2015	Robertson, L. A., & Marsh, L.	Of the 29 TEIs in NZ, nine had a written policy that required the campus to be 100% smoke-free without any exceptions. Seventeen institutions had partial smoke-free policies. These comprised policies that allowed smoking on outdoor campuses except in particular areas (e.g. building entrances, food consumption areas); those that prohibited smoking on campus except in designated areas (e.g. shelters), or policies that prohibited smoking on all areas of campus but which contained exceptions (e.g. allowing the smoke-free requirement to be disregarded at certain times, or mandating the use of designated smoking shelters off campus but at the campus perimeter). Of these 17, 6 were actively in the process of progressing a 100% smoke-free campus policy. For three TEIs, no current policy could be identified.	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
26	18.08.2023	Research Article	Smokers' Perceptions of the Relative Effectiveness of Five Tobacco Retail Reduction Policies	2017	Robertson, L., Gendall, P., Hoek, J., Cameron, C., Marsh, L., & McGee, R.	<p>Reducing the widespread retail availability of tobacco could help realize tobacco endgame strategies. We assessed New Zealand smokers' perceptions of five potential policies designed to reduce the retail supply of tobacco, relative to a "benchmark" policy of annual tobacco tax increases.</p> <p>The policy scenarios in which tobacco was only sold at half the existing liquor stores or only at pharmacies were rated more likely to prevent youth smoking initiation, and at least as likely to help smokers to quit, relative to the benchmark policy.</p> <p>Conclusions: This is the first study to compare potential retail interventions against a measure known to reduce smoking prevalence. Policies that substantially reduce tobacco availability and remove it from smokers' usual places of purchase are perceived as being at least as effective in reducing smoking initiation and supporting cessation, as tax increases.</p>	Finding: Preventing Young People's Access to Tobacco Products

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
27	18.08.2023	Research Article	Smoking cessation behaviours in the past 12 months: Quit attempts and use of support. [In Fact]. Wellington	2016	Nelson, S. & Li, J.	The four most common kinds of cessation support used in the past 12 month were NRT product(s), Champix, GPs and the Quitline. Help, advice, programmes and products used Weighted % No support 42% Nicotine replacement therapy (NRT) including patches, gum, microtab, lozenges and inhalers 26% Champix 16% Help from a General Practitioner (GP) 14% Quitline over-the-phone support 12% A friend or family member 7% Zyban or Bupropion 5%	Finding: Smoking Cessation Support
28	14.08.2023	Research Article	Smoking Cessation Services by Community Pharmacists: Real-World Practice in Thailand	12.11.2021	Lertsinudom, S., Kaewketthong, P., Chankaew, T., Chinwong, D., & Chinwong, S.	Of 58 community pharmacies, 532 smokers (93% male, mean age of 42.4 ± 14.9 years) received smoking cessation services from community pharmacists. Of 235 smokers with complete data, 153 (28.8%, 153/532) smokers reported smoking abstinence by self-report. The mean number of cigarettes smoked daily reduced from 15.3 ± 8.7 to 1.9 ± 3.8 cigarettes, p -value < 0.001 . The exhaled CO levels of smokers significantly reduced from 11.7 ± 5.9 ppm to 7.2 ± 4.4 ppm, p -value < 0.001 . The %PEFR also significantly increased from 84.2 ± 19.4 to 89.5 ± 19.5 , p -value < 0.001 . In conclusion,	Finding: Smoking Cessation Support

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						Thai community pharmacy smoking cessation services could aid smokers to quit smoking. This study is the outcome of the real-world community pharmacy smoking cessation service; policymakers should consider this service to be included in the national healthcare policy.	
29	15.08.2023	Research Article	Store robberies for tobacco products: Perceived causes and potential solutions	Dec-2021	Glover, M., Shepherd, R., Nazari, H., & Selket, K.	Robberies of New Zealand convenience stores for tobacco products spiked between 2016 and 2017. According to media reports, many robberies involved the use of weapons and resulted in injury to retailers. We conducted a content analysis of all online media articles containing commentary about these robberies, published between 2014 and 2019, to identify the perceived causes of the increase in robberies for tobacco and remedies implemented or demanded. The commentators in the articles were categorized into three groups of stakeholders: elites, grassroots, and interest groups. Overall, there was a mismatch between perceiving the primary cause to be socially and economically determined and suggesting solutions that were mostly situational shop level changes or tertiary prevention strategies, such as more and harsher policing.	Finding: Preventing Young People's Access to Tobacco Products

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						A further mismatch was that existing policing policy was not adapted to balance the perverse consequences of the tobacco excise tax increases. Early commentators tended to deflect blame away from their own sector. Later commentary converged to agree that the high tobacco excise tax was a critical causal factor.	
30	22.08.2023	Research Article	Successful countering of tobacco industry efforts to overturn Thailand's ENDS ban	2021	Patanavanich, R., & Glantz, S.	Although ECST and PMTL continuously worked to revoke the ban since 2017, the government still kept ENDS illegal as of October 2020. This decision resulted from the strong commitment and collaboration among Thai tobacco control organisations and their shared vision to protect the public's health from harmful tobacco products. The similar strategies used by the pro-ENDS movement in Thailand and the tobacco companies could inform health advocates and policymakers in other low and middle income countries facing pressure to market ENDS.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
31	12.08.2023	Research Article	Susceptibility to smoking and determinants among never-smoking high school students in Thailand	21.01.2023	Phetphum, C., Prajongjeep, A., Youngiam, W., & Thawatchaijareonying, K.	A total of 16.4% of Thai never-smoking youth were susceptible to smoking. Several variables of interest were identified in multivariable analysis as significantly associated with increased susceptibility to smoking: being male (AOR=3.16; 95% CI: 25.4–3.92), having a positive attitude toward smoking – agreeing that smoking displays maturity (AOR=1.49; 95% CI: 1.07–2.09), the perception that smoking helps relieve stress (AOR=1.57; 95% CI: 1.14–2.15), the presence of current smoking peers (AOR=2.04; 95% CI: 1.57–2.66), exposure to secondhand smoking in public (AOR=1.51; 95% CI: 1.17–1.94), exposure to online cigarette and smoking-related advertising occasionally (AOR=1.98; 95% CI: 1.49–2.65), attendance at schools where there are sometimes anti-smoking education activities (AOR=1.57; 95% CI: 1.18–2.07); as well as exposure to anti-tobacco messages rarely (AOR=1.40; 95% CI: 1.05–1.87), occasionally (AOR=1.48; 95% CI: 1.12–1.96) and infrequently (AOR=1.41; 95% CI: 1.07–1.87).	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
32	11.08.2023	Research Article	Tobacco and E-Cigarette Use among Thai Dental Students: A Cross-Sectional National Survey, 2021	27.02.2023	Kaewsutha, N., & Karawekpanyawong, R.	Table 3: Attitudes and training toward tobacco control in the Thai dental curriculum (n = 1968) Attitudes toward tobacco control Should health practitioners serve as role models for patients and the public (85.1%) Should health practitioners routinely advise patients to stop smoking (95.4%) Training on tobacco control in the dental curriculum During classes, were you taught about the dangers of smoking?(72.8%) Have you ever received training in smoking cessation?(39.3%) Have you ever been taught about tobacco cessation aids such as medication and nicotine replacement therapies?(40.4%) Have you ever been taught about the advertising strategies of tobacco companies?(21.2%)	Finding: Youth-Specific Interventions and Education Programs
33	27.08.2023	Research Article	Tobacco education: have New Zealand primary schools done their homework?	2007	Walker, J., & Darling, H.	More than 90% of schools offered some form of education about the harmful effects of tobacco use and many relied on external providers for this education. Conclusion: Although most schools offered some form of smoke-free education, there was a lack of rigorous program evaluation, particularly of programs provided by external agencies.	Discussion: Cross-Country Learning and recommendations

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
34	19.08.2023	Research Article	Tobacco retail outlet density and risk of youth smoking in New Zealand	2016	Marsh, L., Ajmal, A., McGee, R., Robertson, L., Cameron, C., & Doscher, C.	This research adds to the evidence base that the high density of tobacco retail outlets around a school is associated with an increase in susceptibility of smoking among non-smoking students, and the likelihood of purchasing their own tobacco among current smokers. Of the 27 238 students surveyed, 3.5% (952) were current smokers, 4.1% (n=1 128) were experimental smokers, and 39.8% (10 454) of nonsmokers were susceptible to smoking. An inverse relationship was found between the density of tobacco retail outlets and current smoking.	Finding: Preventing Young People's Access to Tobacco Products
35	12.08.2023	Research Article	Tobacco Retailers Near Schools and the Violations of Tobacco Retailing Laws in Thailand	Dec-2019	Phetphum, C., & Noosorn, N.	Most of the tobacco retailers (75.2%) were female and their average age was 44 ± 14 years. In total, 74.4% had completed undergraduate degrees and 85.1% of the shops were grocery stores. The majority of tobacco retailers were located in the commercial zone and near schools. There were 57 tobacco retailers (47.1%) within 500 m of schools, and the ratio of number of schools to tobacco retailers within a 500- m radius was 1:8. The tobacco retailers were most densely located around primary schools, followed by secondary schools, and vocational schools and opportunity expansion schools at the ratios of 1:13, 1:10, and 1:7, respectively.	Finding: Preventing Young People's Access to Tobacco Products

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>The average distance from the tobacco retailers to the nearest school was 859.0 ± 91.2 m (min = 54.7 m; max = 3346.3 m). Most of the tobacco retailers admitted that they had violated the tobacco retailing laws in the past 30 days: 67.8% of them did not check the buyer's age before selling tobacco products, 70.2% sold cigarettes individually, 67.8% displayed tobacco products at the point of sale, 21.5% sold tobacco products by self-service, and 53.7% sold cigarettes to minors at least 1 time in the past month.</p> <p>Table - The Relationship Between the Proximity of Tobacco Retailers to the Nearest Schools and the Violation of the Tobacco Product Control Law</p>	
36	20.08.2023	Research Article	University students' knowledge about and attitudes toward e-cigarette use and factors influencing students' e-cigarette use	17.01.2021	Chudech, S., & Janmaimool, P.	<p>The results revealed that students' EC use was associated with knowledge about ECs: Students with less knowledge about the harmful effects of ECs were more likely to use them. In addition, students who were EC users had more positive attitudes toward EC use than those who were not EC users. The results also revealed that male students, students who had also smoked tobacco cigarettes and students with friends who smoked tobacco cigarettes were more likely to use ECs.</p>	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						These results could suggest strategies to reduce the use of ECs among university students.	
37	20.08.2023	Research Article	Use of e-cigarettes among public health students in Thailand: Embedded mixed-methods design	21.07.2022	Benjakul, S., Nakju, S., & Termsirikulchai, L.	Overall, 3.9% (95% CI: 3.1–4.6) of the students currently used e-cigarettes in the past 30 days. The significant factors that could explain 43.4% of e-cigarette use were predisposing factors: being male (adjusted odds ratio, AOR=1.8; 95% CI: 1.0–3.3), having a neutral attitude toward e-cigarette use (AOR=2.2; 95% CI: 1.1–4.5), and not believing that public health professionals should serve as non-smoking role models for clients and the general public (AOR=2.3; 95% CI: 1.2–4.0). The enabling factor was having tried tobacco products (AOR=40.7; 95% CI: 19.1–87.1), and the reinforcing factor was having three or more close friends who smoke cigarettes (AOR=3.2; 95% CI: 1.8–5.8). CONCLUSIONS Students' behaviors should be modified through curriculum-based teaching and learning activities to develop negative attitudes toward e-cigarette smoking, increase students' awareness as non-smoking role models, and establish smoke-free environments.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
38	20.08.2023	Research Article	Use of E-Cigarettes and Associated Factors among Youth in Thailand	09.07.2021	Patanavanich, R., Aekplakorn, W., Glantz, S. A., & Kalayasiri, R.	Prevalence of ever e-cigarette use was 7.2% and current e-cigarette use was 3.7%. We found that current cigarette smoking (AOR 4.28, 95% CI: 2.05-8.94), parental e-cigarette use (AOR 6.08, 95% CI: 2.81-13.17), peer e-cigarette use (AOR 3.82, 95% CI: 2.19-6.65), peer approval of smoking (AOR 1.95, 95% CI: 1.11-3.41), and unaware of e-cigarettes' risk (AOR 5.25, 95% CI: 2.67-10.34). were significantly associated with current use of e-cigarettes. Male sex, poor academic achievement, and poor life assets (power of wisdom) were only significantly associated with ever e-cigarette use.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks
39	21.08.2023	Report	What is happening with vaping among adolescents and young adult in Aotearoa?	17.05.2023	Edwards, R., Hoek, J., Waa, A., & Ball, J.	Updated Trends of smoking and vaping over many years. In 2021, Most secondary students who vape are daily vapers, most of whom use high-strength nicotine vapes and over half perceive they are addicted to vaping. Social supply from friends and family was an essential source of vaping products, particularly among 14-15 years students. However, buying from dairies may also be a common source of supply among older school students.	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
40	27.08.2023	News Article	9% of youth smoke illegal vapes, study finds	30.06.2023	Apinya Wipatayotin	Vaping devices are illegal in the country but are sold widely at street stall, especially in popular tourist areas. 9.1 % of young people in Thailand use e-cigarettes	Discussion
41	18.08.2023	Webpage	About the Quit Group	2021	New Zealand Telehealth Services	<p>The Quit Group is an incorporated charitable trust established in 1999. The Quit Group is committed to helping all New Zealanders quit smoking, with a particular focus on Māori, Pacific peoples and pregnant women.</p> <p>From 1999 to 2015 The Quit Group, with funding from the Ministry of Health, operated the Quitline, offering a multi-faceted service to all New Zealanders who wanted to quit smoking.</p> <p>In 2015, the operation of the Quitline service was contracted to Homecare Medical under the umbrella of the National Telehealth Service. Under this arrangement the Quit Group retains the rights to the Quitline brand.</p>	Finding: Smoking Cessation Support
42	21.08.2023	Report	ASH Year 10 Snapshot Survey 2021 Youth Vaping in Aotearoa New Zealand	2022	Action for Smokefree 2025 (ASH)	<p>The most common source of vapes is from friends</p> <ul style="list-style-type: none"> • Among daily vapers, the most common source of vapes was either bought from friends (23%) or given by friends (23%), followed by “some other way” (17%) 	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<ul style="list-style-type: none"> • For all vape users, the most common source was given by friends (43%) followed by “some other way” (17%) • The least common source of vapes for all vape users was “buying online” (1.7%) or purchasing from a “supermarket, dairy, petrol station, convenience stores or other shop” (2.1%). The most common reason given for vaping was “just to give it a try” • The most common answers for all vape users was “just to give it a try” (40%), followed by “I enjoy it” (15%) • For daily vapers “I enjoy it” was most common (31%) followed by “other reason” (24%) • Among daily smokers who vape, a significant proportion vaped to “quit” or “cut down smoking cigarettes” (16.1%). 	
43	27.08.2023	News Article	Committee on Public Health suggests e-cigarette regulation, upgrading related measures to international standards	16.03.2023	The Nation	Dr Ekkapob Pianpises, or Dr Eak, unveiled a report of the sub-committee on the Study of Impacts on Health and Monitoring the Enforcement of Public Health Related Laws under the Committee on Public Health. The report points out that the e-cigarette ban is ineffective; instead, it has led to issues in terms of the clarity of the law,	Discussion

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>which has caused unaligned interpretations of the law for relevant agencies, unfair treatment towards e-cigarette users and problems of corruption while being unable to reduce the smoking rate or prevent the sale of products to children and young people. The report suggests that the government lift the ban on e-cigarettes and apply Harm Reduction measures along with current tobacco control policies.</p>	
44	21.08.2023	Webpage	Information for or about Specialist Vape Retailers	07.06.2023	New Zealand Ministry of Health	<p>Specialist Vape Retailers are a specific class of retailer that are exempt from some of the restrictions that apply to general retailers. If you're currently a general retailer that sells vaping products and wants to expand your business or you're intending to set up a new business, then you need to have at least one fixed premise or store that has or will have at least 70 percent of its total sales from vaping products in order to be a Specialist Vape Retailer (SVR). Importers, manufacturers and distributors cannot apply to be an SVR as they do not sell vaping products to the public.</p>	<p>Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks</p>

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>However, the retailers they sell products to may apply to be an SVR. If you are an importer, manufacturer or distributor who also sells to the public then you can apply to be an SVR as well. SVRs are the ones that own the vaping products and sell them to the public.</p> <p>An online-only business (ie, without a physical store) cannot be a Specialist Vape Retailer as they do not have physical retail premises.</p>	
45	19.08.2023	Webpage	Introduction to Smokefree Schools	23.08.2021	Health New Zealand	<p>Under the Smokefree Environments and Regulated Products (Vaping) Amendment Act 2020 which commenced on 11 November 2020, amending the Smokefree Environments Act 1990 and renaming it to the Smokefree Environments and Regulated Products Act 1990 all schools, kura kaupapa, early childhood education centres, and kōhanga reo must be smokefree and vapefree - indoors and out, 24/7.</p> <p>You must take all reasonably practicable steps to ensure that no person smokes vapes in any part of your school, whether inside or outside, at any time of day.</p>	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						From 11 May 2021, all schools, early childhood education facilities and care centres must, in addition to the existing requirement to display 'no smoking' notices they will be required to display 'no vaping' notices. Smoking and vaping notices can be combined or on separate signage.	
46	20.08.2023	Webpage	Legislation by country: Thailand - E-cigarettes Main Policies	30.09.2022	Campaign for Tobacco-Free Kids	Summary of the E-cigarettes policies in Thailand	Finding: Regulating Electronic Cigarettes: Safeguarding Young People from the Risks
47	19.08.2023	Legal or policy	Smokefree and Vapefree School Policy	Jul-2022	Health New Zealand	<p>The Smokefree Environments and Regulated Products Act 1990 directs that all school buildings and grounds are smokefree and vape free 24 hours a day, seven days a week (with no exemptions). The education provisions in the Act aim to:</p> <ul style="list-style-type: none"> • prevent the exposure of children and young people to second-hand smoke • prevent children and young people being influenced by seeing others smoke or vape • prevent students from taking up smoking and vaping; and 	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<ul style="list-style-type: none"> • send a positive message about a smokefree and vape-free lifestyle as the norm and as the right of all young people. 	
48	19.08.2023	Webpage	Smokefree in the classroom	23.01.2020	Health New Zealand	<p>Within The New Zealand Curriculum, the health and physical education learning area “makes a significant contribution to the wellbeing of students beyond the classroom, particularly when it is supported by school policies and procedures, and by the actions of all people in the school community”. Similarly, Te Marautanga o Aotearoa describes the aspiration of developing “successful learners, who will grow as competent and confident learners, effective communicators in the Māori world, healthy in mind, body and soul and secure in their identity and sense of belonging.” Both of these visions align with the goal of being smokefree. Educating people about the benefits of a smokefree lifestyle is essential. It provides a highly relevant area for developing curriculum competencies, especially “managing self” and “participating and contributing”.</p>	Finding: Youth-Specific Interventions and Education Programs

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
49	18.08.2023	Webpage	Stop Smoking Services	24.07.2023	Health New Zealand	Local Stop Smoking Services Quitline Pharmacists with quit smoking services	Finding: Smoking Cessation Support
50	13.08.2023	Webpage	Thailand National Quitline Background	n.d.	Thailand National Quitline	2007) For Thailand, telephone smoking cessation services are included in the national tobacco control policy. and as a result of the meeting "Cigarettes and National Health" No. 6 on September 10, 2007. There was a brainstorming session to exchange knowledge about telephone counseling. Between academics, experts who have direct experience in Quitline or Help line from abroad. Worker at a smoking cessation clinic as well as those working at the health promotion policy level. and those working for a smoke-free Thai society There is consensus that telephone counseling is a service that leads to a smoke-free society. together to establish a telephone smoking cessation service as a national policy The service model must take into account the context of Thai society. All groups of people can access services conveniently, economically and continuously.	Finding: Smoking Cessation Support

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>The first phase of 1600 calls to quit smoking (Quitline1600) was established in 1993 by the Campaign for Non-Smoking Foundation. Provide support to quit smoking by counselors and volunteers. There are only 2 telephone lines. Later in the year 2007, after consultation, an agreement was made between 3 agencies: the Ministry of Public Health (MOPH), the National Health Security Office (NHSO) and the Office. The Thai Health Promotion Foundation (ThaiHealth) was established as a "National Smoking Cessation Telephone Center", which is a project under the supervision of the Thai Happiness Foundation. Providing services since January 2009, with Dr. Wichai Chokwiwat as the president of the foundation And there is a committee to supervise the direction of the Smoking Cessation Service Center, which is led by Dr. Siriwat Thiptharadol, Deputy Permanent Secretary of the Ministry of Public Health. Prof. Dr. Jintana Uniphan is the director of the Smoking Cessation Service Center.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
51	12.08.2023	Report	WHO Report on the Global Tobacco Epidemic, 2021, Addressing new and emerging products	2021	World Health Organization	The World Health Organization recommends a minimum 75% tax share of the retail price of tobacco New Zealand - 82.0%, less affordable since 2010 Thailand - 78.6%, no significant change since 2010	Finding: Preventing Young People's Access to Tobacco Products
52	24.07.2023	Legal or policy	Smokefree environments: Legislation	31.01.2023	Health New Zealand	The Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act came into force on 1 January 2023 and makes three key changes to the Act: From 1 July 2024, decreasing the numbers of retailers able to sell smoked tobacco products From 1 April 2025, reducing the amount of nicotine that is allowed in smoked tobacco products From 1 January 2027, prohibits the sale of smoked tobacco products to anyone born on or after 1 January 2009.	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
53	18.08.2023	Report	Thai Health 2022: the Thai Family & COVID-19	2022	Institute for Population and Social Research Mahidol University.	In 2021, smoking among Thais age 15 years or over declined to 17.4% from 19.1% in 2017, and COVID-19 may have played a role. Data from the smoking cessation hotline #1600 showed that more people were calling for advice based on fear of increased risk of contracting COVID-19 if they were a smoker. Plus, the social isolation and online study among youth reduced exposure to peers and peer pressure to smoke.	Finding: Relationship between Policies and Trends

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
54	23.07.2023	Webpage	Smokefree Aotearoa 2025 Action Plan	2021	New Zealand Ministry of Health.	Our 2025 goal is for a daily smoking prevalence of less than five percent for all population groups. We will know we are succeeding when we achieve our outcomes: Eliminate inequities in smoking rates and smoking-related illnesses Create a smokefree generation by increasing the number of children and young people who remain smokefree Increase the number of people who successfully quit smoking To achieve these outcomes, we will take action under six focus areas: Ensure Māori leadership and decision-making at all levels Increase health promotion and community mobilisation Increase evidence-based stop smoking services Reduce the addictiveness and appeal of smoked tobacco products Reduce the availability of smoked tobacco products Ensure manufacturers, importers and retailers meet their legal obligations	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
55	20.07.2023	Webpage	New policies will help reach Smokefree goal and address increase in youth vaping.	2023	New Zealand Ministry of Health.	New vaping policies New Specialist Vape Shops (SVRs) will not be able to open up in the immediate vicinity of schools and marae. Vape products and their packaging will only be able to have generic flavour descriptions.	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						<p>Maximum nicotine strength allowed in single-use (disposable) vapes to be reduced so they are less addictive All vaping products will have removable batteries and child-safety mechanisms to improve their safety and better protect our young people. New smoked tobacco policies Finalised criteria that will be used to select approved smoked tobacco retailers for the smoked tobacco retail scheme has responsible people, business location, safety, security and training at the forefront of all considerations. The scheme takes effect from 1 July 2024 and will see the number of tobacco retailers drop to no more than 600.</p> <p>Finalised product testing requirements so that from 1 April 2025, we can ensure only very low-level nicotine products are being sold. Full strength cigarettes contain approximately 15-16mg/g of nicotine and low nicotine tobacco will have no more than 0.8mg/g, resulting in a significantly less addictive product.</p>	

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
56	05.09.2023	Webpage	Tobacco use - Indicator: Current smokers (has smoked more than 100 cigarettes in lifetime and currently smokes at least once a month)	n.d.	New Zealand Ministry of Health.	Data of current smokers	Finding: Relationship between Policies and Trends
57	05.09.2023	Webpage	Tobacco Use - Indicator: Quit smoking in past 12 months (among daily smokers and recent quitters)	n.d.	New Zealand Ministry of Health.	Data of Quit smoking	Finding: Smoking Cessation Support
58	05.09.2023	Webpage	Vaping / e-cigarette use - Indicator: Vaping/e-cigarettes - ever tried	n.d.	New Zealand Ministry of Health.	Data of vaping/e-cigarette use	Finding: Relationship between Policies and Trends
59	18.06.2023	Legal or policy	Notification of the Ministry of Commerce Prohibition of importing Hookah and Electronic Hookah or Electronic cigarette into Thailand B.E. 2557 (A.D.2014)	2014	Ministry of Commerce Thailand	Law of prohibiting import of e-cigarette	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
60	18.06.2023	Legal or policy	Prohibition of Sales and Service of “Hookahs, Electronic Hookahs, and Electronic Cigarettes, Smoking Materials for Hookahs, and Liquids for Filling Electronic Hookahs and Electronic Cigarettes, (2015).	2015	Board of Consumer Protection Thailand,	Law of prohibiting sales and services of e-cigarettes	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
61	20.07.2023	Legal or policy	Smoke-free Environments (Prohibiting Smoking in Motor Vehicles Carrying Children) Amendment Act 2020	2020	New Zealand Ministry of Health	20D Smoking prohibited in motor vehicle carrying child occupant (1) A person must not smoke in a motor vehicle, whether moving or stationary, that is on a road and has a child occupant. (2) However, a person may smoke in a motor vehicle if (a) the person is the only occupant of the motor vehicle who is under the age of 18 years; or	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
62	18.07.2023	Legal or policy	Smokefree Environments and Regulated Products (Smoked Tobacco) Amendment Act	2023	New Zealand Ministry of Health	Timeline for smoked tobacco regulations	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
63	18.07.2023	Legal or policy	Smokefree Environments and Regulated Products Act 1990	2023	New Zealand Ministry of Health	new updated policy	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
64.	16.07.2023	Legal or policy	Smokefree Environments and Regulated Products Regulations 2021	2021	New Zealand Ministry of Health	Secondary regulation	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
65	16.07.2023	Legal or policy	The Smokefree Environments and Regulated Products (Vaping) Amendment Act 2020	2020	New Zealand Ministry of Health	Regulations on vaping products in New Zealand	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
66	15.07.2023	Legal or policy	Thai Cabinet announces a five-year plan to lower tobacco consumption on February 17, 2022	2022	Tobacco Control Research and Knowledge Management Center TRC	Thai Cabinet announces a five-year plan to lower tobacco consumption on February 17, 2022 The plan, with six strategies and a 498 million baht budget, will start this year and end in 2027. The six strategies include: Consumption regulation Enhance public awareness of the harmful effects of smoking	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16

No.	Reading Date	Document Type	Title	Published Date	Author/s	Data Extraction	Categories
						Assistance for those who want to quit smoking Disclosure of tobacco product contents Smoking bans in public places Tobacco tax reform and a crackdown on illegal tobacco sales	
67	23.06.2023	Legal or policy	Tobacco Products Control Act B.E. 2535 (1992),	1992	Royal Thai Government	The first Tobacco control Act in Thailand	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16
68	23.06.2023	Legal or policy	Tobacco Products Control Act B.E. 2560 (2017),	2017	Royal Thai Government	Current Tobacco Control Act in Thailand	Finding: Legal Framework and Regulatory Measures in Relation to the WHO-FCTC Article 16

BIOGRAPHY

Name	Sai Noon
Educational Attainment	Academic Year 2014: Bachelor of Medicine and Bachelor of Surgery (M.B.,B.S) Year 2021: Single Subject Diploma in Framework for Successful Health & Safety Management
Scholarship	Year 2022: Thammasat International Students Recruitment TISR Scholarship

