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# Collaborative Efforts in Smoking Cessation Clinics: An Evaluation of Healthcare Professionals' Contributions in Thailand

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#### Abstract

*Background*: Thailand implemented the FAH-SAI Clinic smoking cessation service program in 2010, which provides services through a multidisciplinary team. However, the contribution of each healthcare professional in terms of activity frequency and time spent has not been formally assessed, and the appropriate incentive compensation needs to be evaluated.

*Method*: We performed a prospective observational study, focusing on individuals aged 13 and above who were in the action stage. We utilized an activities-based approach and work points system to measure time contribution and calculate incentive compensation. Data were collected through a paper/electronic case record form and questionnaire. Descriptive statistics were used to report the outcomes.

*Results*: Our study analyzed 2041 participants and 4098 visits, which reported 37,356 frequencies across 10 activities provided by healthcare professionals in smoking cessation clinics following the 5 As model. Nurses had the highest frequency of contributions (N of activity = 23,979; 64.19%). Public health technical officers spent time the most with an average of 27.74 min. The top three professionals receiving incentive compensation per case were public health technical officers at 31.67 Baht, followed by nurses at 28.41 Baht, and physicians at 21.74 Baht.

*Conclusion*: All healthcare professionals play important roles in smoking cessation service program with varying contributions based on time, frequency, and activities involved. To implement these findings, it is important to consider the performance of each setting and involve non-study stakeholders.

Keywords: Smoking cessation clinic, Tobacco control, Smoking cessation, Thailand

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# 1. Introduction

T obacco smoking is the most common preventable cause of morbidity and mortality in the world [1-4]. The number of tobacco smoking consumption remains high around 80 percent live in low-and middle-income countries (LMIC) [3]. Many studies confirmed that smoking has a negative impact on the health-related and overall quality of life [5-11].

To reduce tobacco-related morbidity and mortality, preventing and reducing the number of new smokers as well as helping current smokers to quit tobacco is considered a high-ranking global agenda [1,2,4,9]. Only 26 countries have national comprehensive cessation services with full or partial costcoverage which account for one-third of the world population [2]. Cost of services, smoking culture, client resistance, and lack of trained health care professionals are important barriers to the smoking cessation programs [12-14]. The result of a qualitative study conducted in Taiwan [12] showed that trained health professional played an important role to help patients quit smoking. The study also suggested that smoking cessation training program should provide health professional with the skills to mobilize community resources as well as increasing the reimbursement for smoking cessation services might encourage hospital administrators to allocate additional resources to smoking cessation programs.

The report from World Health Organization Noncommunicable diseases (NCDs) Global action plan [15] showed that provision of cost-covered cessation, effective, and population-wide support was very high cost-effective in low- and lowermiddle-income country as well as high cost-effective in upper-middle-and high-income countries. However, the percentage of the world population with access to cost-covered cessation support in primary care setting still low in low-income countries only 15% can access the services. In contrast, in 2018, 78% and 97% of the world population can access the services in middle-income and high-income countries [4].

In Thailand [16], Infrastructures for tobacco control at the provincial level need to be address as well as adequate resources including funding and workforce is necessary for the implementation of smoking control interventions. Since 2010, Thailand has launched the smoking cessation service program under the SMART Quit Clinic Program (FAH-SAI Clinic) which provides smoking cessation services by a multidisciplinary team. To date, FAH-SAI Clinics include 552 settings covering all of 77 provinces of Thailand [17]. To ensure the successful implementation and sustainability of the program as well as to validate the funding required for compensating healthcare providers' services, it is crucial to formally evaluate the allocation of human resources in terms of frequency and time spent and the provision of proper incentives for healthcare professionals working in multidisciplinary smoking cessation clinics. This study aims to understand the contribution of each healthcare professional to service delivery of smoking cessation in Thailand and to identify, measure and value the cost of smoking cessation services provided by each type of health care practitioner in FAH-SAI Clinic.

#### 2. Methodology

This study was conducted according to a previously published protocol [18]. We conducted a multicentre prospective observational study. In terms of method of incentive calculation, this study uses a work point system with activities-based approach method.

#### 2.1. Study setting and population

This study focused on 24 multidisciplinary smoking cessation clinics throughout Thailand's 13 health regions. To ensure the sample representativeness based upon geographic regions across the nation, we employed a stratified random sampling according to the following criteria: 1) the recruitment rate and number of visits of each setting from the previous year; and 2) the location of multidisciplinary smoking cessation clinics utilizing Thailand's 13 health regional strata. Our study population consisted of people getting smoking cessation treatments from 2 university hospitals, 10 tertiary hospitals, 11 secondary hospitals, and 1 private hospital.

The study included two distinct cohorts. The first cohort was composed of healthcare professionals who were employed at a multidisciplinary smoking cessation clinic and were required to complete a questionnaire. The second cohort consisted of individuals who attended the same multidisciplinary smoking cessation clinic and were recruited based on specific inclusion and exclusion criteria.

*Inclusion Criteria:* We recruited individuals aged 13 years or older who are in the contemplation or action stage and first commence to smoking cessation program in the multidisciplinary smoking cessation clinics.

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*Exclusion Criteria:* Participants were excluded from the study if they have been diagnosed with any cancers or intellectual disabilities that impair their ability to complete the exhaled carbon monoxide (CO) testing at the time of eligibility screening.

The FAH-SAI Clinics: The FAH-SAI Clinics were created by the National Alliance for Tobacco-Free Thailand in 2010 to provide free smoking cessation services to all Thai citizens. Currently, there are 552 healthcare facilities in 77 provinces that offer standardized interventions based on the 5As model (Ask, Advise, Assess, Assist, and Arrange) developed by the Ministry of Health and National Alliance. Trained nurses primarily operate the clinics and may consult with a physician if needed. Interventions vary slightly depending on local resources, but typically last 15-30 min with follow up at months 1, 3 and 6. Fig. 1 demonstrated the process of tracking the progress of participants and determining the participation of healthcare professionals during each phase.

# 2.2. Definition of the term

1) Work point system-activities base approach: one of the standard methods in Thailand handbook of pay per performance [19] to measure, value, and evaluate the performance of work of healthcare professional based on activities that healthcare professional provided to patients.

- 2) Activities: the activities that provided by each healthcare professional in FAH-SAI Clinics. The main activities were followed the well-established 5As model in smoking cessation [20] (Ask, Advise, Assess, Assist, and Arrange.) but separate into 10 items as list below
  - i. A1: Identify, document tobacco uses status and diagnosis.
  - ii. A2: Persuade tobacco users that they need to quit.
  - iii. A3: Determine readiness to make a quit attempt.
  - iv. A4: Assessing nicotine dependence status.
  - v. A5: Assessing social smoking status.
  - vi. A6: Assessing mental smoking status.
  - vii. A7: Help the patient with a quit plan.
  - viii. A8: Provide practical counselling and recommend the use of approved medication if needed.
  - ix. A9: Schedule follow up contact.
  - x. A10: Adverse event monitoring.
- 3) Average time spent on each activity by each healthcare professional: the data from case record form. Every participant who received interventions by a healthcare professional in FAH-SAI Clinics were recorded the time that each healthcare professional spent on average.
- 4) Time allocation fraction: time allocation fraction used as a fraction in the process of distribution of average time spent on each activity by each healthcare professional to the frequency of

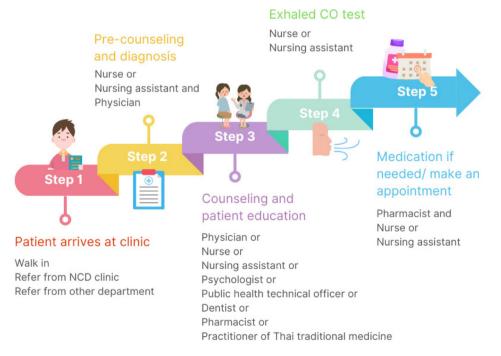


Fig. 1. Mapping the journey of participants and identifying the involvement of healthcare professionals at each stage.

activities provided by each healthcare professional. Because of a lack of human resource and multicentre setting, it was limited to collect the time that spent on each activity in a directly way. Thus, we used time allocation fraction method as an indirect method to distribute time to activities.

- 5) Work points per minute: Work point per minute calculated based on overtime (OT) payment per day of each healthcare professional the value of work point per minute shown in Appendix Table I.
- 6) Cost per work point: Following the Thailand handbook of pay for performance [19], in Thailand, cost per work point is 10 Baht per work point.
- 7) Extra work fraction: Extra work fraction was depending on difficult of work or extra interventions that provide for some patient. Normally, Extra work fraction was 1.0, 1.2, and 1.5 for normal work, moderate work, and difficult work.
- 8) K-value: the incentive money for each health-care professional.

#### 2.3. Research instruments

- Designed paper case record form and electronic case record form were developed. The main items in case record form include the date of collection, Fagerstrom test for nicotine dependence score, exhaled carbon monoxide result, as well as socio-demographic characteristics data. The data from the electronic case record form will be encrypted and sent to the researcher directly. Moreover, in the case record form, we collected the average time spent on one patient and frequency of activities provided by each healthcare professional as well as the type of interventions and who is a service user.
- 2) The questionnaire for the healthcare professional who works for FAH-SAI Clinics. Each healthcare professional has to answer the question "in 100 percent of the workload in FAH-SAI Clinics, what is the percentage that you spent on each treatment-related activities for one patient?

#### 2.4. Ethical considerations

The protocol of this study was approved by The Ethical Review Committee for Research in Human Subjects, Ministry of Public Health, Thailand. Protocol number 24/2562 and document number 51/2019. Furthermore, we submitted this protocol to the local ethical review committee for sites that require and all of them have been approved already.

#### 2.5. Data collection and calculation methods

We utilize an indirect method to compute the time spent by healthcare professionals on each treatment-related activity for each individual patient, as we cannot collect this information directly. Data collection consisted of 2 parts, part 1 were sociodemographic characteristics data as well as the average time spent on one patient and frequency of activities provided by each healthcare professional which collected from designed paper/electronic case record form the result of this part were frequency of activities provided by each healthcare professional and average time spent on activities by each healthcare professional; part 2 was collected the percentage that each healthcare professional spent on each treatment-related activities for one patient by using the questionnaire. Then data was used to calculate the time allocation fraction to distribute the average time spent by each health care professional to each activity as shown in Fig. 2. Appendix I provides the equation for calculating the time spent on each activity and the K-value.

#### 2.6. Statistical analysis

Baseline characteristics of the participants and characteristics of interventions were described using descriptive statistics (mean, SD, median, IQR, and percentage). All data were analysed using STATA version 14.0.

#### 3. Results

There was a total of 2041 participants in this study. Participant characteristics, smoking pattern, and intervention characteristics of the participants were summarized in Table 1. The mean age of participants was 44.56 years (standard deviations; SD = 17.41), and the most (24.06%) of participants were between the ages of 18 and 30 years. The majority of participants were men (90.79%) and are married (54.48%). The most frequently used smoking product was the cigarette (64.23%), followed by hand-rolled, natural, or light cigarettes accounted for 41.35%. The majority of smokers consumed between 11 and 20 cigarettes per day, with the average number of cigarettes smoked per day being 11.82 (SD = 7.76). Most participants were classified as having low dependence, according to the Fagerstrom Test for Nicotine Dependence (FTND).

The baseline characteristics of interventions used in this study. Most participants refer to smoking

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Part 1: Case record form Data was collected by healthcare professional at the time of participants follow up. The results were frequency of activities provided by each healthcare professional and average time spent on activities by each healthcare professional.	Part 2: The questionnaire <u>The percentage</u> that each healthcare professional spent on each treatment-related activities for one patient. The result was <u>the time allocation</u> <u>fraction</u> to distribute the average time spent by each health care professional to each activity.	Time spent on each activity. The time allocated to each activity was determined by calculating the average time spent on each activity and the corresponding time allocation fraction.
Calcu	Result of calculation	

Fig. 2. Data collection process and calculation.

cessation by themselves (82.90%). The primary intervention consisted of individual counseling, group counseling, and combined individual and group counselling, which accounted for 81.87%, 6.27%, and 8.8%. Face-to-face brief counselling in hospitals/clinics was the most common intervention (87.56%), followed by rehabilitation camps (9.21%).

The questionnaire was answered by 85 healthcare professionals, whose characteristics were displayed in Table 2. The average age of the healthcare professionals was 41.27 years (SD = 11.34). The majority of the respondents were female and held a bachelor's degree or higher. The highest number of respondents were nurses, followed by physicians and public health technical officers. Furthermore, 36.47% of the healthcare professionals reported having five or more years of experience working at the FAH-SAI Clinics.

According to the analysis of 4098 follow-up visits, the average time spent on the smoking cessation intervention by healthcare professionals was as follows: physicians spent 8.31 min, nurses spent 19.89 min, nursing assistants spent 11.16 min, public health technical officers spent 27.74 min, Thai traditional medicine practitioners spent 14.06 min, psychologists spent 12.24 min, pharmacists spent 6.33 min, and dentists spent 4.37 min. Public health technical officers spent 3.74 min, Public health technical officers spent 4.37 min. Public health technical officers spent most time on interventions (27.74 min; SD = 13.91), followed by nurses (19.89 min; SD = 23.69), Thai traditional medicine (14.06 min; SD = 8.82), and psychologist (12.24 min; SD = 10.79). The frequency of the most activities

that performed by all healthcare practitioners showed 1) Identify, document tobacco uses status and diagnosis was 4529 as 12.44%, followed by 2) Persuade tobacco users that they need to quit was 4412 as 12.12%, and 3) Determine readiness to make a quit attempt was 3917 as 10.76% (Table 3).

The frequency of activities provided by each healthcare professional subgroup by the activities was summarized in Table 4. Identify, document tobacco uses status and diagnosis were most activities that performed by physician (N of frequency = 643), nurse (N of frequency = 2814), and public health technical officer (N of frequency = 678).

The majority of nursing assistant (N of frequency = 277) and dentist (N of frequency = 112) interventions were designed to persuade cigarette users that they must quit. Help the patient with a quit plan was most activity that provided by Thai traditional medicine (N of frequency = 122), while psychologist and pharmacist most frequently provided assessing mental smoking status (N of frequency = 245) and provide practical counselling and recommend the use of approved medication if needed (N of frequency = 717).

When determining the time allocation proportion (Appendix Table II), we discovered that the physician and public health technical officer who spent the most time assisting a patient with a quit plan spent 18.6% and 17.5%, of their average time on whole interventions. Identification, documentation, and diagnosis of tobacco use consumed the most time for nurses and Thai traditional medicine,

Table 1. Participant characteristics, smoking pattern, and intervention characteristics of the participants (Visit 0; baseline).

characteristics of the participants (Visit 0; ba	seline).	
Variables	N=2041	(%)
Age (Mean, SD)	44.56	17.41
Less than 18	67	3.28
18-30	491	24.06
31-40	275	13.47
41-50	395	19.35
51-60	354	17.34
More than 60	417	20.43
Not known	42	2.06
Sex Male	1952	00.70
	1853	90.79
Marital status Married or living with partner	1112	54.48
Types of smoking		
Cigarette	1311	64.23
Hand-rolled, natural, light cigarette	844	41.35
E-cigarette	15	0.73
Not known	36	1.76
Mixed types smoking	180	8.82
Amount of cigarette per day		
Average (Mean, SD)	11.82	7.76
Less than 6	544	26.65
6–10	709	34.74
11–20 and higher	752	36.84
Not known	36	1.76
Time to smoke after waking up		
Less than 30 min	1188	58.21
60 min	463	22.68
120 min	329	16.12
Not known	61	2.99
	7.93	
Exhaled carbon monoxide (ppm) (Mean, SD)	7.95	5.54
Exhaled carbon monoxide	7	4-11
(ppm) (Median, p25-p50)	/	4-11
FTND (Mean, SD)	4.20	2.26
FTND (Median, p25-p50)	4	3-6
The severity of nicotine dependence	110	
Very low dependence	419	20.53
Low dependence	647	31.70
Medium dependence	263	12.89
High dependence	319	15.63
Very high dependence	172	8.43
Not known	221	10.83
Service users		
Patients without caregiver	1692	82.90
Patients with caregiver	293	14.36
Not known	56	2.74
Individual counselling	1671	81.87
Group counselling	128	6.27
Individual counselling and	181	8.87
group counselling		
Not known	61	2.99
Types of Intervention		
Brief advice in hospital/clinic	1787	87.56
	188	9.21
Rehabilitation camp		
Rehabilitation camp Other Not known	9 57	0.44 2.79

including 19.8% and 21.2% of their average time spent on total interventions. The nurse assistant and dentist who spent the most time persuading tobacco users to quit accounted for 18.0% and 50.0%, of their average time spent on total interventions. Psychologists spent 13.9% of their time to assessing mental smoking status, whereas pharmacists spent an average of 26.1% of their time to providing practical counseling and recommending the use of approved medications when necessary.

The incentive money of each healthcare professional calculation by using work point system-activities base approach shown in Appendix Table III. Based on extra work fraction for normal work (extra work fraction = 1), the incentive money for one participant per visit who received interventions from all healthcare professionals was 146.91 Baht. When the incentive money was subgrouped by healthcare professional, the results indicated that physicians received 21.74 Baht, nurses received 28.41 Baht, nursing assistants received 12.74 Baht, public health technical officers received 31.67 Baht, Thai traditional medicine practitioners received 16.05 Baht, psychologists received 14.00 Baht, pharmacists received 10.84 Baht, and dentists received 11.45 Baht.

Table	2.	Healthcare	professional	cl	haracteristics
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Variables	N = 85	(%)
Age (Mean, SD)	41.27	11.34
18-30	19	22.35
31-40	25	29.41
41-50	20	23.53
51-60	19	22.35
More than 60	2	2.35
Sex		
Male	13	15.29
Female	72	84.71
Education		
High school	2	2.35
Bachelor degree or higher	83	97.62
Healthcare professional		
Physician	14	16.47
Nurse	29	34.12
Nursing assistant	9	10.59
Public health technical officer	10	11.76
Thai traditional medicine	4	4.71
Psychologist	8	9.41
Pharmacist	9	10.59
Dentist	2	2.35
Working experience at FAH-SAI clin	ics	
Less than 1 year	16	18.82
$\geq 1$ year but less than 3 years	18	21.18
$\geq$ 3 years but less than 5 years	20	23.53
≥5 years	31	36.47

Table 3. Characteristics of interventions (Visit 0, 1, and 2).

Variables	N=4098	(%)
Average time spent on inte	erventions by: (minu	tes) (Mean, SD)
Physician	8.31	6.49
Nurse	19.89	23.69
Nursing assistant	11.16	10.14
Public health technical	27.74	13.91
officer		
Thai traditional	14.06	8.82
medicine		
Psychologist	12.24	10.79
Pharmacist	6.33	3.03
Dentist	4.37	2.05
Activities (frequency)		
1. Identify, document	4529	12.44
tobacco uses status and		
diagnosis		
2. Persuade tobacco	4412	12.12
users that they need to		
quit		
3. Determine readiness	3917	10.76
to make a quit attempt		
4. Assessing nicotine	3563	9.78
dependence status		
5. Assessing social	3258	8.95
smoking status		
6. Assessing mental	3318	9.11
smoking status		
7. Help the patient with	3820	10.49
a quit plan		
8. Provide practical	3583	9.84
counselling and recom-		
mend the use of		
approved medication if		
needed	2220	
9. Schedule follow up	3339	9.17
contact	0/75	F 25
10. Adverse event	2677	7.35
monitoring		

#### 4. Discussion

Based on a sample size of 2041 participants and 4098 visits, it was observed that the nurse made the greatest contribution to the smoking cessation clinic in terms of frequency of activities. This was followed by the public health technical officer, physician, and pharmacist. The results suggest that the clinic was predominantly staffed by trained nurses. Furthermore, the public health technical officer devoted the most average time to interventions, followed by nurses, Thai traditional medicine practitioners, and psychologists. When examining the amount of time each healthcare professional spent on each subgroup of activities, it was noted that this was proportional to their respective roles or responsibilities. Nonetheless, the majority of the participants did not have the opportunity to engage with all of the healthcare professionals. This could potentially impact the number and duration of activities. Therefore, compensation for smoking services should consider the specific context of each setting and the diversity of healthcare professionals involved.

As per the Guidelines for the implementation of Article 14 of the World Health Organization's (WHO) Framework Convention on Tobacco Control, effective tobacco cessation and tobacco dependence treatment strategies must be based on the best available evidence of their effectiveness. Additionally, it is crucial to monitor and evaluate these strategies to ensure their success. In response to these guidelines, this study represents the first endeavour to investigate the unique roles of healthcare professionals working in a multidisciplinary smoking cessation clinic in Thailand. Using a prospective observational study design, we were able to provide real-world evidence of the distinct contributions made by each healthcare professional to the overall service delivery in the clinic. To further enhance the credibility of our study, we utilized a standard methodology outlined in the Thailand handbook of pay for performance to estimate the incentive money associated with these contributions. The resulting data from our study can serve as compelling evidence to assist policymakers in making informed decisions regarding public policy and resource allocation in the field of smoking cessation. Our findings can also be valuable for healthcare professionals, as they can help to improve the efficiency of smoking cessation services, ultimately leading to better health outcomes for patients.

However, depending on their respective circumstances and available resources, each multidisciplinary smoking cessation clinic may offer distinct services or activities. This variation could affect the program's effectiveness. Using a stratified random sample method, we attempted to address this variation in our study. Furthermore, the lack or insufficiency of human workforce, a lack of time, the absence of practice supports to identify smokers, and the absence of effective performance incentives were also cited in previous research [12–14,21–24] as potential barriers to the delivery of tobacco treatment in multidisciplinary smoking cessation programs.

There were several limitations in this study. First, activities conducted by healthcare professionals cannot be compared directly due to variations in their role and expertise, potentially affecting the pay-per-performance results. As a result, we sought to provide an overview of the activities and time

ORIGINAL	Table 4. T
VAL STUDY	Activities
	1. Identify
	ment to

 Table 4. The frequency of activities provided by each healthcare professional.

 Activities
 Frequency (N of activities)

	Frequency (N of activities)							
	Physician	Nurse	Nursing assistant	Public health technical officer	Thai traditional medicine	Psychologist	Pharmacist	Dentist
1. Identify, docu- ment tobacco uses status and diagnosis	643	2814	245	678	116	95	46	8
	542	2647	277	655	106	84	95	112
3. Determine readi- ness to make a quit attempt	403	2676	80	662	106	87	7	2
	119	2668	71	632	94	69	4	_
5. Assessing social smoking status	125	2211	71	632	98	218	1	_
	157	2211	72	633	98	245	_	_
õ	301	2580	190	659	122	74	16	_
1 1	368	2142	20	277	89	47	717	12
	228	2243	184	444	75	48	188	4
1	225	1787	17	213	36	24	400	11
Total	3111	23,979	1227	5485	940	991	1474	149
Grand Total	37,356							

spent on each activity by each healthcare professional, as an optional approach to reflect their contributions to a multidisciplinary smoking cessation clinic. This will enable policymakers to obtain a comprehensive understanding of the distinct roles played by each healthcare professional within the clinic. Second, we used indirect measurement to collect the average time that spent in activities by using case record form then calculated and distributed average time into each activity by using the time allocation fraction that retrieved from the questionnaire which may had recall bias. Finally, the performance of each setting, a quality of services that provided to participants not included into this analysis.

# 5. Conclusion

This study highlights the important roles played by all healthcare professionals in the smoking cessation service program, with varying contributions based on time, frequency, and activities involved. The results of this study can be used to improve the quality of services provided by healthcare professionals in smoking cessation clinics. To implement these findings, it is important to consider the performance of each setting, the quality of services provided, and the participation of stakeholders who were not included in this study. This can ensure that smoking cessation services are provided effectively and efficiently, ultimately leading to improved health outcomes for individuals seeking to quit smoking.

# Funding

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# **Conflict of interest**

None.

# Acknowledgments

We acknowledge support provided by the investigators of all participating institutions. We thank you all the participants in this study and the project staff.

# Appendix.

Appendix I. the equation for calculating the time spent on each activity and the K-value.

There were 2 parts of calculation method including;

**Part 1:** the distribution of average time spent on each activity by each healthcare professional to the frequency of activities provided by each healthcare professional. The equation as shown below.

*Time spent on each activity (minutes)* = *Average time spent on each activity by each HCP (minute)* × *The time allocation fraction* 

**Part 2:** K-value calculation. The equation for the calculation of incentive money of each health care professional shown below.

K value (Baht per unit) = Work points per minute (points) × Time spent on each activity (minute) × Extra work fraction × Cost per work point (Baht)

Appendix Table I. Work points of each healthcare professional [19].

Healthcare professional	Overtime per day; baht (7 hours)	Work points per hours (7 hr./day)	Work points per minutes
Physician/dentist	1100	15.71	0.26
Pharmacist	720	10.28	0.17
Nurse/public health technical officer	600	8.57	0.14
Social worker/nursing assistant/psychologist	480	6.85	0.12
Other	300	4.28	0.07

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Appendix Table II. The time allocation fraction.

Activities	Time allocation fraction										
	Physician	Nurse	Nursing assistant	Public health technical officer	Thai traditional medicine	Psychologist	Pharmacist	Dentist			
1. Identify, docu- ment tobacco uses status and diagnosis	0.107	0.198	0.162	0.128	0.212	0.136	0.000	0.200			
2. Persuade tobacco users that they need to quit	0.102	0.168	0.180	0.136	0.186	0.115	0.147	0.500			
3. Determine readi- ness to make a quit attempt	0.111	0.093	0.099	0.056	0.068	0.099	0.183	0.300			
4. Assessing nico- tine dependence status	0.077	0.070	0.054	0.056	0.045	0.092	0.000	0.000			
5. Assessing social smoking status	0.055	0.054	0.054	0.051	0.045	0.084	0.000	0.000			
6. Assessing mental smoking status	0.079	0.055	0.054	0.051	0.045	0.139	0.000	0.000			
7. Help the patient with a quit plan	0.186	0.156	0.126	0.175	0.052	0.121	0.055	0.000			
8. Provide practical counselling and recommend the use of approved medication if needed	0.135	0.075	0.108	0.102	0.170	0.059	0.261	0.000			
9. Schedule follow up contact	0.067	0.084	0.126	0.185	0.125	0.056	0.119	0.000			
10. Adverse event monitoring	0.080	0.047	0.036	0.059	0.051	0.100	0.234	0.000			
Total	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			

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Appendix Table II.	Ine	incentime	moneu	tor	pach	healthcare	nrotessional
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Activities	K-value (Baht)									
	Physician	Nurse	Nursing assistant	Public health technical officer	Thai traditional medicine	Psychologist	Pharmacist	Dentist		
A1	2.33	5.63	2.07	4.06	3.41	1.90	0.00	2.29		
A2	2.22	4.77	2.30	4.31	2.99	1.61	1.60	5.72		
A3	2.42	2.64	1.26	1.78	1.09	1.38	1.99	3.43		
A4	1.68	1.99	0.69	1.78	0.72	1.29	0.00	0.00		
A5	1.20	1.53	0.69	1.62	0.72	1.18	0.00	0.00		
A6	1.72	1.56	0.69	1.62	0.72	1.94	0.00	0.00		
A7	4.05	4.43	1.61	5.55	0.84	1.69	0.60	0.00		
A8	2.94	2.13	1.38	3.23	2.73	0.83	2.83	0.00		
A9	1.46	2.39	1.61	5.87	2.01	0.78	1.29	0.00		
A10	1.74	1.34	0.46	1.87	0.82	1.40	2.54	0.00		
Total	21.74	28.41	12.74	31.67	16.05	14.00	10.84	11.45		
Grand total	K-value per c	ase						146.91		

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