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Brief communication (Original)

Engaging local governments in health promotion and chronic disease prevention activities: the case of Local Health Security Funds in Thailand

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Background: Health care systems should use community-driven activities to promote health and prevent disease to address the challenges from noncommunicable diseases (NCDs) such as diabetes mellitus and high blood pressure. In Thailand, Local Health Security Funds (LHSF) are an initiative to encourage local governments to play a more active role in promoting health. Universal Health Coverage provides funding for this initiative. However, the effectiveness of such initiatives has not been fully assessed.
Objectives: To investigate the effectiveness of LHSFs in conducting activities to promote health and prevent disease related to diabetes and hypertension.
Methods: We administered a questionnaire to local governments responsible for LHSFs in April 2014 to survey information about their communities, leadership, and activities to promote health.
Results: Complete answers to our questionnaire were provided by 1,144 respondents (98.4%). About 94% of those surveyed had already joined LHSFs. Most LHSFs implemented a variety of community activities to promote health, and prevent diabetes and hypertension. We classified these activities into 5 main areas according to the Ottawa Charter. LHSFs most commonly strengthened community action, while building a local health policy was least common. Only 20.8% of the LHSFs had implemented activities in all 5 areas. A number of factors were associated with the activities, including the development of networks and personal skills.
Conclusions: LHSFs are useful for engaging local governments in promoting health, and preventing diabetes and hypertension in their communities. Good relationships between local government leaders and public health officers are linked to more effective LHSFs.

Keywords: Community, health promotion, local governments, Thailand, NCDs

Noncommunicable diseases (NCDs) have gained significance in the agenda of global economic and social development because of the rising burden of NCDs worldwide. These diseases not only create health burdens, but also have economic and social impacts [1]. Total deaths from NCDs were approximately 36 million worldwide, accounting for 63% of all deaths in 2008. Similarly, NCDs account for 56% of deaths in the Thai population. Diabetes mellitus (DM) and high blood pressure (HBP) are 2 major NCDs whose incidence in the population is steadily increasing. Although their mortality rates are decreasing because of medical and technological advancements, their morbidity rates have tended to rise continuously [2-5].

Appropriate management of DM and HBP requires holistic approaches. The chronic care model [6-8] suggests that there should be a strong connection between health services and the community to provide continuous uninterrupted care for their populations. This model uses community capability to drive the community to organize health promotion and disease prevention activities in parallel with medical treatments. With its transition into an ageing society, Thailand is experiencing more people at risk of chronic diseases, and it is now even more important than ever to invest in activities to prevent NCDs.

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Local governments are key agencies for conducting activities to promote health for DM and HBP prevention. They are key because these agencies can work directly and effectively with people in the community. Local governments understand the actual problems according to specific circumstances in each community [7]. Thai and international policies have placed a focus on community participation as a key approach to solve health problems with cooperation from related organizations.

The Ministry of Public Health (MOPH) has been the key player in health promotion in Thailand, playing the roles of both decision-makers and policy implementers. The MOPH works through its network of health centers, which are situated in every subdistrict of Thailand. Since 1997, local governments have been set up according to the decentralization law, and they are required to be responsible for local livelihood and wellbeing including for health. However, public health activities have not been high on the agenda of local governments. Consequently, the National Health Security Office (NHSO) launched the Local Health Security Fund (LHSF) Program in 2003 to subsidize local governments to establish LHSFs to conduct suitable activities to promote health in the community and to prevent chronic diseases.

Although the concept of promoting health has gained interest from local governments, there are some limitations that prevented them from effectively implementing activities to promote health and prevent disease. Central government does not have an obvious and concrete means for the community to follow [9]. Health promoting actions should be promoted through multiple approaches as proposed in an international framework called the Ottawa Charter, from the community level to the national level. Beside this, specific community circumstances need to be taken into consideration when the programs are designed [10-15]. Health promoting actions can be classified into 5 categories according to the Ottawa Charter. Namely, devising public policies for promoting health, adjusting the environment to facilitate promoting health, strengthening the community for effective problem-solving, developing individual capability for self-management, and improving service systems in the community for promoting health.

This study explored ongoing activities by local governments in Thailand to promote health and prevent disease, focusing on DM and HBP related interventions under LHSF management. It used the framework according to the Ottawa Charter in the analysis of community situations to promote health. The findings would be useful for subsequent development and adaptation of related policies to enhance the support for activities by local governments to promote health.

Method

The study protocol was approved by the Institutional Review Board, Faculty of Medicine, Chulalongkorn University (approval No. 248/55). We collected data from local governments who have participated in LHSFs in Thailand. The calculated sample size of the study was 780 respondents. Data regarding the LHSF activities were sought from all chiefs or vice-chiefs of the local governments who participated in the Annual Conference of the Local Governments in 2014. The chief of a local government is the highest decision makers of the local government who also serves as the LHSF secretary to administer and manage a LHSF to achieve its objectives. These chiefs or vice-chiefs are considered suitable respondents for our questionnaire survey because they can provide answers to our questionnaire that reflect community-related situations.

The questionnaire or survey instrument was developed based on an extensive review of health promotion theories and studies of community participatory approaches conducted both in Thailand and abroad. We also conducted an additional review of the literature regarding health promotion and prevention of DM and HBP in communities from the following countries: the United States of America, Switzerland, Australia, Japan, and Singapore. A group of local government chiefs from 4 communities that had been awarded LHSFs and 4 additional local government chiefs from communities in the same province that had not been awarded LHSFs were also interviewed, and the elicited information was used to draft the questionnaire. A panel of experts who had studied LHSFs evaluated the questionnaire to ensure content validity. We designed all questions in accordance with the framework to promote health and prevent disease based on the Ottawa Charter.

The self-administered questionnaire was distributed on the first day of the conference. There were at least 2,300 participants at the conference from a total of 7,776 local governments in the country. As an incentive to participate in the study, an appropriate lucky draw was conducted for the respondents if they

had returned a completed questionnaire to the researchers within the specified time.

Microsoft Excel and SPSS for Windows were used to analyze the data. Data regarding demographic characteristics of the participants were analyzed in terms of frequency, proportion, mean, and standard deviation. A factor analysis was conducted for group related questions. A Chi-square test was employed to determine the association between the characteristics of local governments and their activities to promote health as based on the Ottawa Charter. We also analyzed the completeness of activities conducted by these LHSFs to promote health as based on the Ottawa Charter.

Results

Of the 2,300 conference participants, 1,159 (50.4%) were willing to respond to the questionnaire. Of these respondents 1,149 (98.4%) provided completed answers. Among those respondents that provided completed answers, 1,072 (93.7%) already joined LHSFs and had conducted health promotion activities.

Among the 1,149 respondents who provided completed answers, the ratio of men to women was almost 1 to 1. The mean age of the respondents was 43 years. About 77% had graduated with a Bachelor degree. The duration of work experience with the community was up to 13 years, with a mean duration of 8 years.

Almost half, or 47%, of the respondents, came from the northeastern region of Thailand. When classifying the size of local governments, 79.9% came from Subdistrict Administration Organizations (SAOs), the smallest size of local government in Thailand. The remaining came from urban or rural municipalities. The characteristics of the respondents and their local governments are shown in **Table 1** below.

Overview of activities to promote health supported by LHSFs

Local governments conducted many types of activities aimed to promote health and prevent NCDs. When classifying these activities according to the Ottawa Charter, we found that most local governments conducted activities aimed to promote health according to almost all categories of the Ottawa Charter. For example, 90 percent of local governments conducted activities to strengthen community development, including setting up community plans, increasing community strength, and establishing community networks. About 70% initiated health education programs, and about 60% provided support to local health officers to improve activities aimed to promote health. Finally, >60% implemented environmental change programs to facilitate health promotion. However, about 30% of all local governments did not use regulations or policy development to facilitate the promotion of health in their communities. The prevalence of each category of health promotion activities according to the Ottawa Charter is shown in **Figure 1**. A description of activities to promote health aimed to prevent DM and HBP is provided in **Table 2**.

Table 1. Comparison of the collected data with the national data

Data	Participants study population	Proportion of	National data	Proportion of Thailand
Classified by area				
Urban municipality	8	0.7	155	2.0
Sub-district municipality	208	19.4	1,900	24.5
Sub-district administration organization	856	79.9	5,753	73.5
Total	1,072	100.0	7,808	100.0
Classified by region				
Northern	194	18.1	1,612	20.6
Southern	71	6.6	1,246	16.0
Northeastern	504	47.0	2,945	37.7
Central	303	28.3	2,005	25.7
Total	1,072	100	7,808	100.0

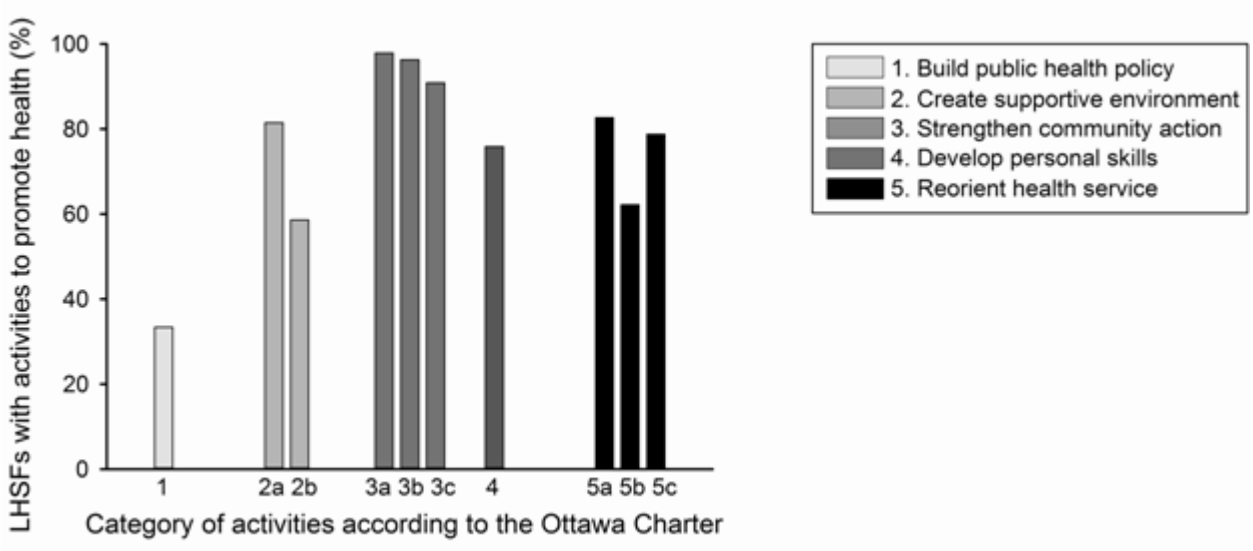

Figure 1. Percentage of LHSFs with activities according to the Ottawa Charter. 2a, Facility development, 2b. Creating community space. 3a, Community action plans. 3b, Community strengthening development 3c, Community networking. 5a, Type of activities. 5b, Methods of implementation. 5c, Integration health promotion activities into home visits.

Table 2. Health promotion and disease prevention activities for diabetes and high blood pressure in community

Type of activities	Number (n = 1,072)	Percentage (%)
Build healthy public policy		
Creating community policies & regulations to support health promotion	*358*	*33.4*
Identification of community role models	247	69.0
Awards for successful guideline follower	146	40.8
Punishment for violation of rules	53	14.8
Environment improvement to facilitate health promoting behavior		
Facility development or improvement	*874*	*81.5*
Sports or exercise areas	775	88.7
Public parks	287	32.8
Learning centers	274	31.4
Community areas for herb gardens	221	25.3
Healthy markets	68	7.8
Swimming pools	5	0.5
Creating community space or areas for health	*628*	*58.6*
Designation of smoke-free areas	436	69.4
Designation of alcohol-free areas	251	40.0
Requirement of public places such as temples and schools to be equipped with health risk assessment tools	242	38.5
Requirements of restaurants in the community to have a healthy menu	103	16.4
Strengthen community actions through group or network formation		
Community action plans	1049	97.9
Community strengthening development	1032	96.3
Community networking	974	90.9

Table 2. Health promotion and disease prevention activities for diabetes and high blood pressure in community (Cont.)

Type of activities	Number (n = 1,072)	Percentage (%)
Types of groups		
Exercise groups	694	71.3
Women's groups	638	65.5
Youth groups	414	42.5
Alcohol drinking cessation group	151	15.5
Smoking cessation group	85	8.7
Types of support		
Budget	890	88.9
Supplies	530	52.9
Study visits	359	35.9
Personnel	286	28.6
Organizing contests	281	28.1
Monitoring, evaluation, and support	221	22.1
Search and promotion of role models	120	12.0
Develop personal skills through health education	814	75.9
Target population		
General population	674	82.8
Elderly persons	454	55.8
Overweight persons	282	34.6
Alcohol drinkers	183	22.5
Smokers	171	19.8
Channels of health education		
Workshops/seminars/lectures	498	46.5
Leaflets/brochures	486	44.3
Counselling	373	34.8
Community news broadcast	313	29.2
Billboards in the community	251	23.4
Training camps	142	13.2
Contents of health education in relation to NCDs		
General knowledge	829	77.3
Risk factors	798	74.4
Severity and complications of diseases	728	67.9
Behavior and practice		
Diet	842	78.5
Exercise	829	77.3
Alcohol drinking cessation	817	76.2
Smoking cessation	815	76.0
Stress management	770	71.8
Self-care practice during illness	747	69.7
Self-monitoring or screening		
Blood glucose screening	731	68.2
Monthly blood pressure monitoring	705	65.8
Monthly waist measurement	636	59.3
Weekly weight measurement	602	56.2
Reorient health services to facilitate health promotion activities against NCDs		
Type of activities or support to health facilities or health staff	887	82.7
Provision of financial support to carry out health promotion activities	662	74.6
Provide data on vulnerable groups e.g. people with diabetes and hypertension	606	68.3
Provision of supplies for use in health promotion activities	424	47.8
Registration of vulnerable groups	361	40.7
Hiring more staff to work at the healthcare settings	168	18.9

Table 2. Health promotion and disease prevention activities for diabetes and high blood pressure in community (Cont.)

Type of activities	Number (n = 1,072)	Percentage (%)
Methods of implementation	667	62.2
Health promoting activities while waiting for services at the hospital	595	89.2
Relaxation activities while waiting for services at the hospital	191	28.6
Integration of health promotion activities into home visits	845	78.8
Blood sugar screening	714	84.5
Blood pressure screening	751	88.9
Weight measurement	648	76.7
Waist circumference measurement	531	62.8

To improve the environment for encouraging activities to promote health, most of the communities (88.7%) prepared specific areas for sport activities or exercise, public parks, and learning centers where people could gather to participate in health promoting activities with one another. In addition, public places in the communities were designated as smoke-free areas (69.4%) and alcohol-free areas (40.0%) to accommodate the policy regarding health promotion. About 38.5% of the local governments made equipment and tools to assess health risks available in public places. Collaboration was sought from local restaurants to prepare a healthy menu as an alternative for people in the community in only 16.4% of the LHSFs.

Public policies for community health promotion and disease prevention were implemented by only about 30% of LHSFs. The most common methods were identifying and promoting role models in health behavior for others (69.0%), offering an award to persons who had successfully followed the health promotion guidelines (40.8%), and imposing means of punishment such as collecting a fine when health promotion rules or regulations were violated (14.8%).

Many LHSFs supported the establishment of and activities by health promotion groups or networks in the community. Most common group support by various LHSFs was for elderly people (77.7%). These were followed by the exercise groups and local housewife societies. Only few local governments supported the formation of smoking cessation groups or no alcohol support groups (8.7% and 15.5%, respectively). These group and networks were mainly supported through provision of budgets (88.9%), followed by site study visits to areas with best practices for benchmarking (12%).

Characteristics of LHSFs with active health promotion activities

We found that about 20% of LHSFs (223 out of 1,072 local governments) conducted all 5 categories of health promotion activities according to the Ottawa Charter. When considering the details of the 5 aspects, it could be seen that a higher proportion of the local governments in the northeastern region were able to complete the 5 categories compared with other regions. Local governments with an internal public health office and LHSFs with better relationship between heads of local government offices and public health officers had a more complete proportion. The proportion of LHSFs completing all 5 categories of health promotion activities is shown in **Table 3**.

Discussion

Our study shows that the majority of local governments joined the LHSF program by the NHSO. Many types and forms of health promotion activities have been implemented. The most common area of LHSF activities according to the Ottawa Charter classification was strengthening of community actions such as devising community plans, increasing community participation in community actions, and establishing community networks and groups for health promotion actions. The second most common area was to reorient health services towards health promotion. This includes supporting local health care providers and community health officers to conduct health promotion activities, and to integrate them into

Table 3. Diversity of 5 main categories of health promotion activities

LHSF characteristics	Total number of LHSFs (n = 1,072)	LHSFs with all 5 categories (n=223)	% complete within each group
Regions*			
Northern	194	38	19.6
Southern	71	12	16.9
Northeastern	504	120	23.8
Central	303	53	17.5
Size of area			
Urban municipality	8	2	25.0
Rural municipality	208	42	20.2
SAOs	856	179	20.9
Existence of public health office in the local government*			
Yes	338	85	25.1
No	730	179	18.8
Educational level of local government knowledge			
Bachelor's degree or lower	408	80	19.6
Higher than Bachelor's degree	657	143	21.8
Work experience of local government chiefs			
More than one term in office	401	76	19
First term in office	657	103	19.5
Relationship between head of local government and public health officers*			
Excellent	186	44	23.7
Good	718	159	22.1
Fair	142	15	10.6
Poor	19	3	15.8

*$P < 0.05$ by chi-square or Fisher exact tests

routine health service provision. The third common area was environment improvement to facilitate health-promoting behaviors. For example, many LHSFs supported regulations on smoking areas and alcohol drinking restriction areas in the communities. In terms of personal skill development, this study mainly focused on health education. Several types and channels of health education activities were conducted for various target groups. However, it was not as common as the other 3 areas, because only about 75% of LHSFs had health education interventions for NCDs. Least common area of activities was development of healthy public policies or regulations in the community.

Strengthening of community actions in health promotion took many forms. Establishment and development of health promotion networks and interest groups is one popular mechanism among LHSFs in Thailand. Major methods to support establishment of networks and groups were provision of budgets, equipment, and other related necessities. This is likely because it is easy to operate and practical. Networks that were mainly supported by LHSF to prevent DM and HBP were groups for the elderly and for exercise. This could be the result of the existing formation of groups for the elderly in most communities, and because elderly individuals are easier to recruit. A survey conducted by the College of Population Studies, Chulalongkorn University, and the Foundation of Thai Gerontology Research and Development Institute in 2012 revealed that there were as many as 3,487 elderly clubs and exercise groups in the country [16]. By contrast, nonsmoking and no-alcohol groups did not receive as much support. Even though more support should be offered to these individuals in these categories in the community, latest scientific evidence suggests that networking of these risk groups may not be effective [17-19]. Other effective and worthwhile methods to shape their behaviors should be considered, such as creation of no-smoking areas in the community, skill development workshops to reduce or quit smoking and drinking, policies to increase taxes on tobaccos and alcohols, restriction of access to tobacco and alcohol, and a ban on tobacco- and alcohol-related advertising.

Many LHSFs provided support to health care providers and health officers to conduct health promotion and disease prevention activities. In theory, various measures could be used to encourage health officers to implement health promotion tasks [20]. For example, the health care providers should be engaged in policy planning and public health operations by local governments. They could work together in mutual goal-setting and LHSFs could provide resources and social support to attract these health care staff to do more health promotion and disease prevention. They should exchange health information and knowledge on a continuous and consistent basis. It is noteworthy that the results of this study show that LHSFs could increase their support to public health staff to conduct health promotion activities because currently they took less than 33% of the LHSF budget. Our survey also found that almost three quarters of the participants, or 72.4%, felt that there were not enough public health officers for health promotion activities.

Development and adjustment of the community environment to promote healthy behavior is found to be an effective health promotion measure that could be used by local governments. In our study, we found that LHSFs mainly focused on construction of sports stadiums, exercise fields, or public parks, which required a large budget. This may be a result of the political attractiveness of such programs, which show concrete and visible results to the voters in the community. However, there are other approaches to adjust and improve the environment in the community such as encouragement of healthy menus and options in community food stores or restaurants. This was not very common, probably because it was not considered as an option. Other settings for health promotion activities such as temple-based health promotion projects or school-based health promotion projects could also be implemented, but the current practice seems to be quite limited. This is an area where future health promotion advocacy could be implemented to persuade LHSFs and local governments to do more.

Personal skill development is an important area for health promotion. This study asked questions on health education activities, which was a relatively common approach in Thailand. We found that common health knowledge dissemination methods include training, seminars, lectures, and written documents that covered or related to DM and HBP including general information, severity, risk factors, and prevention guidelines. Although dissemination of health education is relatively easy, its effectiveness may be limited [14-15]. More active approaches such as self-risk assessment, especially weight measurement and waist circumference measurement are more likely to be more effective. Unfortunately, from our findings they were conducted less than other health education activities.

Devising public policies or regulations for community health promotion is another important approach that was recommended in the Ottawa Charter. However, according to our findings, community efforts to devise public policies or regulations were relatively insufficient. Policies developed at provincial or national level may not be implemented successfully at the community level [13]. For communities with close relationships between individuals, creating a law or regulation to enforce on others will not be easy nor acceptable, especially if people in the community did not have a chance to participate in its design and implementation. Therefore, a focus should be placed on community strengthening and socially driven measures with which local governments and people in the community have an opportunity to work together in order to make it successful and sustainable.

To support local governments to play a more active role of the supporter and promoter of health officers and other related agencies, further studies may be called for. The methodology such as community participation may be useful to help local governments and public health officers to identify and develop mechanisms to work collaboratively with community members towards better health promotion practices. It will also help create more conducive environment and policies for changes. In fact, there are many countries that have already utilized this method [21-23] with an objective to enable public health officers to adjust their work to integrate and operate health promotion activities to cover all major health risks. This could be employed to facilitate LHSFs to more actively and effectively fulfill their assigned roles and responsibilities in health promotion to prevent NCDs, especially DM and HBP.

Characteristics of LHSFs with extensive health promotion actions

When considering the extensiveness of health promotion activities based on the 5 areas of the Ottawa

Charter, our study also shows that there were statistically differences across geographical regions, existence of public health department in the local governments, and relationships between community leaders and public health officers. However, in our findings, the size of local governments or the knowledge and experience of community leaders were not statistically correlated with the extensiveness of health promotion activities conducted by the LHSFs.

In earlier studies, local health officers were the key persons who stimulate or encourage the chief and key staff of the local government and other LHSF committee members to understand the importance of public health and health promotion. They are crucial for the initiation and implementation of health promotion activities. It is therefore expected that local government with a public health department undertook more extensive health promotion activities for NCDs.

Good relationships between community leaders and public health officers were linked to the outcome in health promotion activities. Communities with a good relationship between community leaders and public health officers conducted more categories of health promotion actions. Such finding was similar to the findings from earlier study conducted by Srithamrongsawat [24]. By contrast, in communities with conflicts between the two, it was likely that the health promotion operation and activities would be limited.

To support health promotion and disease prevention activities by LHSFs, the relationship between community leaders and public health officers should be strengthened. A curriculum or training program should also be organized to equip public health officers with necessary skills and adjust their attitudes toward working collaboratively with local governments. Policy makers of local governments should emphasize and cooperate with staff who work for related organizations at all levels to implement health promotion policies including its health index. This should stimulate local governments to pay more attention to and become more responsible for community health problems and establishment, and to integrate working mechanisms to solve such problems. Support should be offered to local governments and public health organizations to solve health problems by means of participatory action research. Local governments and other supporting organizations could conduct further studies specific to their context and circumstances in order to invent appropriate mechanisms to strengthen the community and enable them to overcome their problems effectively and sustainably.

This study has a number of limitations. Even though the data were collected from a large number of participants with good representation of target population, the data were collected in one day at a conference where the attention of respondents may be relatively limited. Effort was made by the researchers to remind the respondents to ensure their answers were correct and complete. Incentives were also offered in the form of lottery for those who completed the questionnaire to increase participation and completeness of the answers. Another concern was that some respondents may have limited knowledge of how health promotion activities were implemented in their community and may not be able to provide accurate answers. However, we restricted our respondents to only chief or vice-chief of local governments who were supposed to have knowledge, capability, and experience to work with people in the community for a significant period of time already. This problem therefore should be minimal. Finally, our findings on the characteristics of LHSFs with extensive health promotion activities was based on bivariate analysis, which did not control for other factors that may impact upon the correlation across factors, so the results must be interpreted with care.

Despite the limitations, this study demonstrates the experience from Thailand in the use of financial incentives to provide incentives for local governments to be more engaged in health promotion and prevention of diabetes and hypertension activities in the communities. LHSFs were accepted by local governments as an instrument to promote health in the communities. A number of health promotion interventions have been implemented, but the areas and scope of those interventions can be improved. Good relationship between local government leaders and public health officers was found to be an important factor for active interventions of LHSFs. Policy actions should be implemented to improve the capacity of local health officers and local government leaders to work together.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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