Family Medicine and Community Health
QUALITATIVE EXPLORATION

# Assessing the implementation of the family care team in the district health system of health region 2, Thailand

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**Abstract**

**Background**: The family care team (FCT) was established to improve the quality of care. This study aimed to explore the perceptions of FCT implementation and describe the challenges inherent in implementing the FCT.

**Methods**: Forty in-depth interviews were conducted. The interviewees consisted of five primary care managers in the provincial medical health office, five directors of community hospitals, five administrators in district health offices, ten subdistrict health-promoting hospital directors, representatives from ten local organizations, and five heads of village health volunteers. Data were collected in accordance with semistructured interview guidelines and analyzed by thematic analysis.

**Results**: Participants' expressed their opinions through five themes: (1) the role and scope of practice, (2) the communication in collaboration of the FCT, (3) the management of the FCT, (4) the impact of the FCT on the team members' feelings and primary care performance, and (5) the main challenges, including the insufficiency of a teamwork culture and a biomedical approach.

**Conclusion**: The information suggests the importance of issues such as the clarification of the team members' roles and managers' roles, communication within and across FCTs, and the preparation for training of interprofessionals to enhance collaborative management to achieve the optimal care for people in the district health system.

**Keywords**: Family care team; district health system; primary care; interprofessional collaboration

**Significance statement**: This study was conducted to gain in-depth understanding of the implementation of the family care team (FCT) in Thailand and its challenges. Since there had been no previous qualitative study that combined views from primary care managers, community hospital directors, administrators in district health offices, subdistrict health-promoting hospital directors, local organizations, and heads of village health volunteers, this study filled the gap by integrating all the views of the stakeholders in implementing the FCT. It was found that the FCT requires a range of interprofessional collaboration that involves the role and scope of practice, the communication, the management, and the impact of the FCT. The main limitation of the FCT was the insufficiency of a teamwork culture, and a biomedical approach was needed to overcome the challenges.

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## Introduction

The World Health Organization has encouraged many countries to strengthen their health care systems through the principles of primary care [1]. Primary care has been a cornerstone of the Thai health care system for



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several decades. Since the 1970s the Ministry of Public Health (MoPH) has focused on building a strong district health system (DHS) based on the network of community hospitals and health centers [2]. In the Thai health system, primary care denotes a complex primary health care system that coordinates a wide range of social care and home care services.

Thailand has maintained a health care policy in implementing a DHS based on the primary care approach since 2013. This concept supports primary health care activities by mobilizing and sharing resources in a district and collaborative working with local organizations and other stakeholders in communities in improving health; this enhances community participation and provides complex care by a referral system [3]. Traditional teams of health professionals provide passive activites that are curative in nature and rehabilitation, rather than proactive activites and community participation. In addition, health care systems face a demographic transition and its consequences on the aging population, with an increase in the incidence of chronic diseases, which increases the demand for health care services. Care of the elderly and treatment of chronic disease requires the collaboration of individuals, the health sector, the social sector, and broader society. Care has shifted away from a physician-centered approach to a team-based approach [4]. It is necessary for professionals from several disciplines and organizations to be involved in caring for people.

While the challenges of health care system occurred, the family care team (FCT) was developed. This signifies that many professionals from different disciplines work as a team to ensure that there are no mistakes in or duplication of the service. According to the World Health Organization [5], to deal with the complex health care demand, different health care units need to collaborate. This is called *interprofessional collaboration*, which is defined as follows: "Multiple health workers from different professional backgrounds work together with patients, families, carers and communities to deliver the highest quality of care." Interprofessional collaboration has been implemented in many countries, and is called different names under the same concept. It has been designed on the basis of the health care system of each country. In Brazil, the family health team (FHT) includes the collaboration of lay workers with health care professionals, while in Ontario, Canada, FHT refers to the collaboration of health care professionals and social workers [6, 7].

Findings from previous studies [8–11] also confirmed that the effectiveness of the interprofessional collaboration approach resulted in improvement in health outcomes and performance. For example, the benefits of the Family Health Program in Brazil, which includes health professionals and lay health workers in the team, contribute to the reduction of health inequalities [8] and improve accessibility [9]. Consistently, Gougeon et al. [12] suggested that interprofessional health care teams for community-dwelling seniors' health have positive effects on patient-reported measures of health (e.g., increased satisfaction with care and quality of life). Furthermore, Brown et al. [13] found that FHT members from different backgrounds improved the continuity of care related to both access and patient-centered care, and the FHT perceived that the coordination of care reduced unnecessary walk-in clinic and emergency department visits, and facilitated a smoother transition from the hospital to home.

Since 2014, Thailand has implemented FCTs through an interprofessional collaboration including not only the health sector but also the social sector and the local people. The FCT operates through decision making, communication, and sharing the knowledge and skills of the health care providers within and across FCTs by knowledge management, context-based learning, and improving quality of care through primary care award in the district. The outcomes of implementation of FCTs were equity, financial risk protection, and prompt response to high-risk groups. In Thailand's health care system, FCTs provide primary care for the population in the DHS, and are organized geographically in their catchment areas and the primary care is provided by interprofessional health care teams to achieve the common purpose for members of the community [14]. The working environment in the DHS will enhance an atmosphere of working as a team. The FCT members are from different professions, disciplines, the patterns of working, and domains, and work collaboratively, ranging from consultation to integrated practices in the district, toward a common goal that is consistent with the definition of interprofessional collaboration. In the first phase of implementation, the FCT is responsible for the care of the elderly, the disabled, and patients who need palliative care in communities. FCTs have in common the caring for the same

population in a district and difference in the backgrounds and roles of the team members.

When an FCT is launched in the DHS, the funding and resources from the community hospital at district level are allocated to the subdistrict health-promoting hospital at subdistrict level, which is a formal structure in the health care system. At the community level, the FCT is composed of representatives of local organizations that received funding and resources from the Ministry of the Interior [3, 14] and lay people, who are human capital of the health care system. Therefore the FCT is a pattern of mobilizing the resources in a district to work together. The referral pathway is conducted by the formal health care system and consultation of each level among team members and the team leader.

FCTs are classified into three levels: district, subdistrict, and community. This system currently consists of 66,353 teams. There are 3890 teams at the district level, 12,237 teams at the subdistrict level, and 50,326 teams at the community level. At the district level, the FCT includes physicians, dentists, pharmacists, nurse-practitioners, physiotherapists, etc. The physician acts as the head of the team in handling health problems of the teams at the community and subdistrict levels. At the same time, the members of this team will supervise medical care as well as improve the knowledge and skills of the teams at the community and subdistrict levels. This FCT will also support resources, monitor the referral process to other facilities, and cooperate in caring for patients through the DHS to achieve first-contact care, longitudinal care, comprehensive care, coordination, and community orientation [14]. At the subdistrict level, the FCT consists of nurse-practitioners, dental assistants, junior sanitation personnel, etc. The FCT at this level provides a set of health-promoting activities and disease prevention to families and communities by working together with local organizations and other sectors in the community. Moreover, at this level, basic clinical care throughout the life span of patients is provided, and patients will be transferred to secondary care if needed. At the community level, the FCT is composed of village health volunteers, members of local organizations, community leaders, carers, etc. The community-level FCT promotes self-care to both patients and their families, and cooperates with health professionals when patients need to be referred to primary care. This cooperation will help to reduce social and economic burdens on the family. The FCT at each level works collaboratively toward a common objective through referral and coordination. When the FCT was launched, the definition, structure, and role of the FCT at each level are defined so as to reduce ambiguity in implementation [14]. In addition, the National Health Security Office provides training called *district health management learning* for the district health care team of 10–12 participants, including professionals, social workers, and lay workers, to learn together how to enhance collaborative practice. The training occurs every two months via the concept of participatory learning through action [15]. However, it is voluntary, and does not cover the FCT in every district.

The leader of each level acts as a manager. The role of the manager is determined as (1) communicating policy, (2) monitoring key performance indicators, (3) solving initial problems of the team, and (4) collaborating with several disciplines of the FCT [14]. The manager is part of the team, but may not have any specific qualification or background to be the manager. However, in the hierarchical health care system, professionals usually act as the leader. At the district level, physicians are generally leaders of the teams; at the subdistrict level, nurses or public health personnel act as the leader, and local organizations or community leaders do so at the community level.

In a previous study it was reported that the limitations of team-based primary care include reconsideration of the traditional role, scope of practice, managerial leadership, time and space, interprofessional initiatives, and previous perceptions of collaborative care [16]. Furthermore, Ambrose-Miller and Ashcroft [17] also identified the challenges of social workers as members of interprofessional collaborative health care teams, including culture, self-identity, role clarification, decision making, communication, and power dynamics. Brown et al. [13] stated that the sources of conflict in interprofessional primary care teams include role boundary issues, scope of practice, and accountability as well.

Thailand has just promoted FCTs in primary care. A previous study [18] used quantitative research in assessing FCTs, but given the real situation of complexity in health care systems and the context-dependent nature of interprofessional collaboration in working as a team such as an FCT with several professionals,





a qualitative approach for in-depth understanding is required. Since there is still limited literature on the views of FCT members' toward the implementation of FCT policy, this study is crucial as the first stage of implementation, and it will contribute to the management of FCTs. The results of the study can be used to improve the delivery of collaborative health care by teamwork-based working in the DHS to achieve equity, financial risk protection, and prompt response to high-risk groups.

## Objective

This study aimed to explore the implementation of the FCT policy and describe the challenges in implementing the FCT in the DHS.

## Methods

This study used the qualitative method of phenomenology to provide an in-depth exploration of the individual participants' experiences in implementation of the FCT [19] including how they work as a team, and the knowledge they gained as an individual and shared with other participants [20] in implementation of the FCT. Data collection was conducted through in-depth interviews, which offered the possibility of collecting new data and answered questions with the goal of formulating suggestions for improving FCTs. This exploration also provides understanding of the complexities of FCT implementations and offers suggestions to questions relating to context, adaptation, and response to change.

### *Settings*

There are three levels of health care services in Thailand: primary care, secondary care, and tertiary care. At the subdistrict level, subdistrict health-promoting hospitals (previously called *health centers*) provide primary care services and public health activities. For the district level, the community hospitals are secondary care hospitals. At the provincial level, the general hospitals are tertiary care hospitals. The DHS concept was originated to support primary health care activities by adding the essential element of the community hospital, which provides referral services and the sharing of resources for primary care. The community hospital acts as a contracting unit of primary care and supervises the subdistrict health-promoting hospitals, which are primary care facilities. This study was conducted in the DHS in health region 2, covering five provinces of the lower northern part of Thailand (Phitsanulok, Sukhothai, Uttradit, Petchaboon, and Tak). The health status of the population in health region 2 showed that, in the period from 2009 to 2013, the birth rate decreased, while the death rate increased; therefore the population growth rate decreased. In 2014 the mortality rate was 6.69 per 100,000 population, and the main causes of death were tumor and cancer, circulatory system disease, and infectious disease. The ratios of health care providers to the population were as follows: for physicians 1:4446; for dentists 1:14,056; for pharmacists 1:8961; and for nurses 1:6266 [21]. This region was purposively selected because it is a medical hub serving the lower northern part of Thailand. The DHS was purposively selected by the highest population registered in each DHS of each province because the FCTs were more likely to have experiences in caring for people in their areas, and thus the analysis comprises five DHSs.

### *Participants*

Participants were selected by purposive sampling to maximize variation of participants. Purposive sampling strategies emphasize the similarity to increase the credibility of results by means of identifying and selecting all cases that meet some predetermined criterion of importance so as to obtain experience with a phenomenon of interest [22]. The pitfall of purposive sampling was minimized by our determining the criterion of the participants and including participants from more than one organization according to the purpose of the sampling technique. Participants were selected to ensure inclusion of working in the DHS that they had been responsible for in each position for at least 3 years so as to understand the working environment of the DHS and for them to be willing to participate. In each province, the managers of each DHS were selected to participate in this study on the basis of their responsibilities in the DHS to cover the health sector, local organization and local people as well as to cover all levels, including provincial, district, and subdistrict levels. The interviews started with five primary care managers at the provincial medical health office. Then five community hospital directors and five administrators in district health offices were invited to participate in interviews to represent the managers at the district level. Ten subdistrict health-promoting hospitals

and 10 local organizations were invited at the subdistrict level, while the representatives of the local people were five heads of village health volunteers in each district. The interviews were stopped after data saturation, as identified by the first two authors.

### Data collection

The in-depth interviews were performed in accordance with semistructured interview guidelines. Each interview took approximately 45–72 min. The selection of participants aimed to cover various group subjects to represent various professional profiles. A purposive sampling technique was used to select the key informants involved in the FCT in the DHS at the provincial, district, and subdistrict levels to examine the application of the FCT from provincial level to practice in the district. The selection of participants started with primary care managers who had at least three years experience in primary care at provincial medical offices. Then the author invited the community hospital directors, district administrative health officers, directors of subdistrict health-promoting hospitals, and executive chiefs of the Tambon Administrative Organization to represent the different member profiles in reflecting the views of the health sector and the local organization according to the disciplines and functions involved in the DHS. As representatives of the public sector, heads of village health volunteers who work as team members at the subdistrict level were invited to participate. If invited people were unavailable, people with a similar profile were invited as representatives. The total number of participants was 40, including five primary care managers at the provincial medical health offices, two community hospital directors (three representatives), five district administrative health officers, ten directors of health-promoting hospitals at the subdistrict level, ten representatives of local organizations, and five heads of village health volunteers.

The interview guidelines were used to explore the perceptions regarding the roles of team members, the impact of the FCT, and the challenges inherent in implementing a FCT. The same interview guidelines were used for the various positions. The participants answered questions regarding their backgrounds, their roles, their opinions, the implementation, the outcomes, and the challenges. The in-depth interviews were conducted until no new issues emerged from each participant. The participants were asked for permission to be interviewed, and all interviews were recorded.

### Ethical consideration

Before the study, ethics approval was obtained from the Naresuan University Ethical Committee (code no. COA no. 105/2015). Moreover, before data were collected, permission from the provincial health office, district health office, and local organization in the district was obtained. The objective of the study was explained to the participants, and they were asked to sign an informed consent form before participating in the study.

### Data analysis

Each interview was transcribed in verbatim and analyzed before the next interview was conducted. The data were manually analyzed with the thematic analysis approach [23]. Three steps in the qualitative data analysis were performed. First, the information collected from in-depth interviews was reviewed. The authors read the transcripts in Thai and made notes with keywords to create a separate sheet. Second, the researchers read the transcripts and sorted the contents into groups. Then the contents of the groups were compared with coding. Codes similar in meaning and nature were classified into the same category, into theme and subthemes. Then the first meeting was held with all researchers until a consensus was reached by discussion of construction of the final coding table to reflect emergent subthemes and themes. Last, a written report of the findings was produced. The second meeting was held to gain an understanding of the entirety of the information obtained from individual views of the researchers to shape the comprehensive understanding until a consensus was reached by the research team. After analysis, the Thai transcripts were translated into English for presentation in this article. The translation of subthemes and themes from Thai into English was conducted by the first author, and the translation was verified by two university lecturers in English.

### Trustworthiness

Creditability was ensured by use of audio recordings and verbatim transcripts and detailed field notes of each visit. Data were collected from various people from more than one level,

including provincial, district, and subdistrict levels. This procedure provides triangulation for personal data sources to enhance the degree of credibility. Member checking was achieved by the researchers providing the interpretations to participants. Peer debriefing of preliminary findings was refined with the research team when the process had finished. The field notes and reflections for each site were discussed among the research team. After the peer debrief had finished, the preliminary findings were validated, and the questions in the semistructured interview schedule were clarified in response to the feedback from the research team [24]. Thick description was conducted with sufficient detailed descriptions of the phenomenon under investigation. These methods enable readers to understand and compare the instances of the phenomenon described in the report with those that they have experienced in their own contexts [25]. The analysis of data was done simultaneously with the data collection. After each data collection session, the data were analyzed and the ambiguous points were identified for more interviews and elaborations. The research team members discussed the content of the study until a consensus was reached.

## Results

The findings reflect five key issues regarding the FCT as follows: (1) role and scope of practice, (2) communication in collaboration of the FCT, (3) management of the FCT, (4) the impact of the FCT on the feeling of the team members and primary care performance, and (5) the main challenges, including insufficiency of a teamwork culture and a biomedical approach.

### *Theme 1: Role and scope of practice*

There were considerable changes in the FCT in the provision of care because the local organization and local people were invited to participate as team members working with the health sector. This transition involved uncertainty in terms of the roles and responsibilities of each team member. Some participants reported that they were working as multiprofessional in the community hospital before FCT implemented, they confuse regarding the new roles.

> *"At the district level, the director of community hospitals asked for the cooperation of the district officers and chief executives of the Tambon Administrative Organization to serve as chairpersons or committee members of the board to work together in the family care team. Moreover, village health volunteers were invited to be team members at the community level." (Community hospital director 2)*

> *"I'm a social worker [working in a local organization] therefore I know how to be a social worker in the community and how to support the subdistrict health-promoting hospital in caring for people and improving the environment of the community. I don't know how to be a team member in a family care team." (Local organization 3)*

> *"At subdistrict level, nurses and public health practitioners actually do several things, including primary medical care and public health activities at the facility and in the community. When a family care team is implemented, how do I expand my work with the other members?" (Director of subdistrict health-promoting hospital 2)*

> *"The team-based learning at the district level with the collaboration of three sectors (public health sector, local organization and local people) requires appropriate implementation. This is because of the variety of experiences and concepts of members. The practice of working together will require them to have effective preparation in team skills and assessment for the development of the family care team." (District Health Offices Administrator 4)*

> *"Some areas designate a social worker as a team member when home visits are conducted but some areas do not." (Local organization 3)*

### *Theme 2: Communication in collaboration of the FCT*

At the country level, the communication of the FCT is done by the MoPH by means of written information and formal interaction through meetings of the executives who work at the provincial and district levels within the organizational structure of the MoPH. Open patterns of communication within districts (horizontal communication) among the health care sector, the local organization and local people were found at the district level. Internal communication and communication among

FCTs became problematic for collaboration. The FCT members working in the DHS both in the facility and in the community collaborated through the leader of the team at each level.

*"The Ministry of Public Health announces this policy by circulating the written command that affects all regions. The formal letters go through the chain of command within the Ministry of Public Health as well as in the general meeting at the IMPACT Exhibition Convention Center among health professionals. After the policy announcement, the provincial public health offices implemented it in public health care practice at the provincial and district levels respectively." (Primary care manager 1)*

*"The village health volunteers, people in the area, and the public health practitioners who are members of the family care team at the subdistrict level will inform the new policy in the monthly community meetings." (Local organization 4)*

*"We consult the family care team leader for the uncertainty in caring for people; however, we did not have a forum to share our practices." (Village health volunteer 3)*

*"Patient information was recorded at the community hospital, subdistrict hospital, and local organization; however, the record forms are not developed for this family care team. When we would like to know, we ask for collaboration from the facility." (Primary care manager 2)*

*"If I have a problem in caring for people, I consult the nurse at the subdistrict health-promoting hospital [the leader at subdistrict level]." (Village health volunteer 5)*

*"When working in the community, the family care team at district level visits complex patients. The physicians diagnose the disease and monitor the outcome of treatment. The nurses provide information for taking care of the patients and collaborate with the family care team at the subdistrict level in planning the home visit. The family care team at the community level is also consulted if more social support, such as improvement of accommodation, is needed." (Primary care manager 2)*

### Theme 3: Management of the FCT

The implementation of the FCT was in the initial phase in which the team members had to share their visions and goals in working together because of their coming from various providers. Each sector had its own unique characteristics in terms of values, codes of conduct, and work practices. Therefore, the role of each level manager included the management, coordination, monitoring of team's goal, and team development was ambiguity. The team members were confused about the manager's role because when the FCT was implemented, the focus was on the role of each professional in the FCT.

*"I think we [team members] should have a meeting on what we will provide for patients and how we work as a team. Everybody seems to be overworked." (District Health Offices Administrator 3)*

*"We work in the environment of health care professionals, now we have got members in the field of social work, people, village health volunteers, and caregivers, so the environment of working has changed. How do we work together?" (Primary care manager 2)*

*"Even when everyone was working as a team, no one convinced the team to share values. They know only the activities that they need to do." (Primary care manager 4)*

*"The family care team manual identified the team member's role because of team members coming from several backgrounds. When working in the practice or community, they [team member] sometimes didn't know who is the manager and how to share experience." (Director of subdistrict health-promoting hospital 5)*

### Theme 4: Impact of the FCT regarding the feelings of team members and primary care performance

*Impact on team members: Having respect for team members:* The division of the team at the subdistrict, and community levels and the roles of the team at each level was

straightforward. Team culture, such as trust among members, and respect for others' skills appeared.

*"At the district level of the family care team (i.e., the former multidisciplinary team of the community hospital), we will review the list of [potential members of] the committee before appointing them. It is useful because we already know each other and will take advantage of each other's disciplines in collaborative working." (Primary care manager 3)*

*"I agree with the development of the family care team at the community level to include the local organization, community leaders, and local people to join as this will allow them to get involved in health care." (District Health Offices Administrator 2)*

*"In my opinion, family care team policy ensures people have better understanding of with whom to communicate when people are not feeling well. It emphasizes the importance of village health volunteers. Moreover, people in the community trust me [village health volunteer] as a member of the health teams." (Village health volunteer 3)*

*"I have been trained to be a caregiver and be able to communicate with the people in the community and the health care personnel at the subdistrict health-promoting hospital. I feel it is worthwhile for me and important that the patients and their relatives trust me." (Village health volunteer 4)*

*Impact on primary care performance: Improvements in accessibility, continuity of care, and coordination:* The vulnerable group gained access to health care service more easily and received more continuous care. This is due to the FCT working through family medicine principles. The first phase of implementation focuses on serving the elderly, bedridden patients, people with physical disabilities, and palliative care. Moreover, coordination has emerged due to communication across organizations that provides a smooth transition in care.

*"Those who are not able to see the physician by themselves will be contacted by the family care team in the community. A staff member from the Tambon Administrative Organization will help transport the patients to the health facility. (Director of subdistrict health-promoting hospital 2)*

*"When people can get access to the health care sector, there will be continuity of care." (District Health Offices Administrator 2)*

*"The target group will receive continuity-of-care services and social care." (Director of subdistrict health-promoting hospital 1)*

*"Collaboration of the family care team was found from top to bottom, bottom to top, and at the same level. For example, when the patients leave the hospital, they will be contacted to arrange a visit, and in the case of an emergency, they will be transferred from the home or health center to the community hospital. Collaboration at the same level occurs in the family care team at each level. For instance, the family care team at the community level will cooperate to visit the homes of patients, bedridden patients, assist with disability compensation and allowances for the elderly, and so forth." (Primary care manager 4)*

### Theme 5: The main challenges

*Insufficiency of a teamwork culture:* The team context is inadequate regarding the concept of teamwork such as shared goals and communication. In some areas, FCT members did not share values of teamwork, which originated from a lack of communication. Some participants propose that teamwork skills training should be available for all team members.

*"The working of the family care team looks like a project with a starting point and an end point. If the regional inspector did not monitor the work, the work would be conducted separately in each sector because of the huge workload." (Primary care manager 2)*

*"The family care team at each level did not have opportunities to exchange information among the team and across teams to improve their work. We did not know*

*who was responsible for this activity." (Director of subdistrict health-promoting hospital 3)*

*"The members of the family care team come from various backgrounds, [so] to work as a team is not easy. It needs training before working together. Only the formal communication did not build the team to achieve the family care team's goal. Relationships and sharing of information also contribute in working as a team." (DHAO3)*

*Biomedical approach:* The professional has the paradigm of a biomedical approach in patient care that focuses on disease and the physical aspect rather than other determinants of health that affect health as a whole. This challenge illustrates a uniprofessional approach.

*"Each sector has different discipline backgrounds. When they are working together as a team, the discipline backgrounds affect their thoughts, values, and activities. We should set a commitment of caring before working together through meetings." (Primary care manager 3)*

*"Some physicians place emphasis on the laboratory and medicines for cures. However, there are several factors that affect health behavior and medication adherence. Sometimes less discussion between the team and patients impedes adherence." (Director of subdistrict health-promoting hospital 3)*

*"Some physicians don't trust traditional medicine that the patients received. However, we need to listen to their [patients'] beliefs and courteously share information among health professional and patients to change their [patients'] behaviors." (Director of subdistrict health-promoting hospital 4)*

## Discussion

The findings show the perception of implementation of the FCT and the challenges were (1) the role and scope of practice, (2) the communication in collaboration of the FCT, (3) the management of the FCT, (4) the impact of the FCT regarding the feeling of team members and primary care performance, and (5) the main challenges, including insufficiency of a teamwork culture and a biomedical approach. Evidence has reveled that improving the process of care is worthwhile. However, there was the opportunity for improvement of the FCT in terms of working together. These findings will be taken into consideration in moving forward FCTs in the future.

The theme "Role and scope of practice" was used to define the role and responsibility of team members in the FCT in collaborative work at each level. The results of this study are in agreement with those of previous studies [7, 16] regarding interprofessional collaboration. It is an expansion of the role of district health care teams that includes collaboration from the local administrative offices and people in the local area. The operation reflects the definition of the DHS [14].

Regarding the FCT at the district and subdistrict levels, it can be classified as across FCT collaboration. According to Brown et al. [13], one of the conflicts on an interprofessional primary care team is lack of understanding of each other's roles. In accordance with Ambrose-Miller and Ashcroft [17], the challenge that social workers encounter when working as a team member on the interprofessional collaborative health care team is role clarification. Consistent with this study, it was revealed that the challenge of the FCT lies in insufficiency of a teamwork culture. Therefore room for improvement in clarification of the roles and responsibilities within and across FCTs is needed.

The theme "Communication in collaboration of the FCT" implies that practicing FCT policy needs vertical as well as horizontal communication and working relationships among professionals and other sectors to improve health care services for patients and the community. Communication in this form may occur during structured meetings or informal conversations [26]. Since each sector contributes to their work, exchange of information within the same level is needed. It was inherent in the present study that there was a challenge of team culture in exchanging information among the team members and across teams to improve their work. This will create a unified understanding consequent to collaboration in caring for people, which is consistent with the work of Slater et al. [27] claiming that effective communication among health care teams has been an ongoing issue, even among teams who work in the same area.

The theme "Management of the FCT" was an important contributor to management within the team and across teams.

While the role of the FCT is an expansion of the role of health care teams that includes collaboration with the local administrative offices and people in the local area [16, 28, 29], management is the organizational factor that related to the composition of the team, shared vision and mission, leadership, and administrative support [30]. The leader of the FCT should manage the team and reinforce collaborative ideas to the team. Consistent with Goldman et al. [16], it is suggested that the FHT leader needs to understand the interprofessional intervention that will lead to management and support of the role of team members.

The theme "Impact of the FCT regarding the feelings of team members and primary care performance" portrayed the implementation of the FCT in the DHS, and the result was that the atmosphere of the FCT is mutual trust. In line with the study of Van Dongen et al. [30], a relation of trust and respect will enhance professionals' courage to think and act more broadly than their own disciplines through collaborative working. In addition, participants perceived a positive impact of the accessibility and continuity of care for vulnerable groups and coordination because of several sectors working together regarding their responsibility. This is in agreement with the results of Carroll et al. [31], who explored the perception of patients toward the FHT [a collaborative team practice in primary care in Canada similar concept with FCT]. Their studies showed that patients were satisfied with access to care because the early phase of FCT implementation emphasized elderly, homebound, and bedridden patients and disability in providing home visits. In this study, accessibility was achieved through the visit of the FCT, and it will lead to enhancement of the continuity of care. When the FCT agrees to the transfer, it will collaborate with the public health sector or local organization, resulting in efficiency of coordination. These coordinating activities are the approaches that respond to factors influencing health.

The last theme, "The main challenges, including insufficiency of a teamwork culture and a biomedical approach," depicted the challenges of FCTs in the DHS. When an FCT comprises members of several backgrounds and differing points of view, teamwork becomes more difficult. The results are in agreement with previous work [18] after FCTs had been launched in health region 2 in terms of communication across FCTs and the ambiguous roles of each team member. The composition of the FCT is in line with that in Mitchell et al. [32] that includes the patient and family to be team members at the community level. The key element of teamwork should include mutual goals, close coordination, and feedback channels. Moreover, teamwork culture is a factor in predicting the cohesiveness of the team in primary care [33]. Since findings from this study showed a lack of shared values and almost no opportunities to exchange information among the team and across teams, interprofessional training is needed.

A subtheme regarding the challenges of implementation of an FCT is the biomedical approach that emerged because of the health system emphasizing curative services. Health professionals are dominant in the health system, while an FCT requires a collaborative approach among horizontal complementary health sectors, local organization and local people to tackle health inequality. This approach contributed to public health perspectives. As such, the interprofessional collaboration literature has identified the challenge as a medically oriental approach [34]. This finding emphasizes the paradigm shift among FCTs toward public health perspectives.

In 2015, Thailand developed human resources to promote the work of the DHS and train the district health teams, called *district health management learning*. This team is composed of health professionals, members of local organizations, and local people in the district. The learning team numbers 10–12, including professionals, social workers, and lay workers, who learn together every 2 months via the concept of participatory learning through action to improve their skills [15]. District health management learning can be regarded as interprofessional training to shift the paradigm in working together.

The FCT was implemented in a DHS by delivery of care to a geographically defined population. It improved community health by the extent of responsibility of all organizations in the district to improve health outcomes according to the health needs of the population. The working pattern of the FCT is similar to the principle of team-based health care, including shared goals, clear roles, mutual trust, effective communication, and measurable processes and outcomes [32]. Thailand has attempted to improve the quality of the human workforce in primary care by means of FCTs in the DHS. The National Health Security Office supports district health management learning and identifies team competency, not individual professional competency. The concept of training was consistent

with the definition of *interprofessional* to enhance collaborative practice. Parse [35] indicted that *interprofessional* means that professionals in health care settings offer their unique disciplinary knowledge to serve individuals and families who are living with particular health challenges; interprofessional practice is presided over by medicine.

The advantage of this study is the in-depth opinion of the FCT members resulting from the use of the qualitative approach. This valuable information could contribute to the development of FCTs. However, the limitation of this study is that the data were gathered from only one region. The results of this study can be applied to areas that have the same geographical, social, and cultural dimensions. For future study, the same approach should be applied to the FCT members of other regions, to widen perspectives toward the findings. The next steps in the implementation of FCT policy are clarification of the team members' and managers' roles at each level, communication within an FCT and across FCTs, and preparation for training of interprofessionals to enhance collaborative management and monitoring of the training programs. Moreover, in the long run, health outcomes need to be evaluated.

## Conclusion

This study supports the perception of implementation and key challenges of interprofessional collaboration through the FCT in the DHS that are based on the initial phase. This study sheds further light on the importance of many issues, such as clarification of the team members' and managers' roles at each level, communication within an FCT and across FCTs, and preparation for training of interprofessionals to enhance collaborative management and monitoring of the training programs. Moreover, health outcomes need to be evaluated in the long term. To ensure full realization of the FCT, further studies to ensure optimal operationalization of interprofessional collaborative care and inclusion of requisite human resource efforts will be required.

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## Conflict of interest

The authors declare that they have no competing interests.

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## Author contributions

The first author was the principal investigator. She designed this study, conducted the interviews, performed data analysis, and wrote the manuscript. The second, third, and fourth authors were co-investigators. They conducted interviews, performed data analysis, and reviewed the manuscript. All authors read and approved the final manuscript.

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## Ethics approval and consent to participate

Ethics approval was obtained from the Naresuan University Ethical Committee (code no. COA no. 105/2015).

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