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นิพนธ์ต้นฉบับ

การจัดการระบบสุขภาพระดับอำเภอเพื่อการพัฒนาคุณภาพของระบบบริการอนามัยแม่และเด็กของอำเภอกะพ้อ จังหวัดปัตตานี ประเทศไทย

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บทคัดย่อ

การศึกษาครั้งนี้เป็นการศึกษาข้อมูลย้อนหลังเชิงพรรณนา โดยมีวัตถุประสงค์เพื่อศึกษาผลลัพธ์ของการจัดการระบบสุขภาพระดับอำเภอเพื่อการพัฒนาคุณภาพของระบบบริการอนามัยแม่และเด็กของอำเภอกะพ้อ จังหวัดปัตตานีของประเทศไทย การเก็บรวบรวมข้อมูล โดยทบทวนข้อมูลที่ได้มีการจัดเก็บอย่างเป็นระบบไว้ก่อนหน้านี้แล้ว ข้อมูลที่นำมาศึกษาและวิเคราะห์ในครั้งนี้แบ่งออกเป็น 2 ช่วง คือ ข้อมูลที่จัดเก็บตั้งแต่ปี 2542-2549 ในส่วนนี้ผู้วิจัยได้วิเคราะห์สถานการณ์ร่วมกับประสบการณ์ในการบริหารจัดการและระบบบริการอนามัยแม่และเด็กที่ผ่านมา สำหรับข้อมูลที่จัดเก็บตั้งแต่ปี 2550–2555 นำมาวิเคราะห์ทางทฤษฎี ผลการศึกษาพบว่า การจัดการระบบสุขภาพระดับอำเภออย่างชัดเจนมีผลต่อคุณภาพของการดูแลอนามัยแม่และเด็ก กล่าวคือ อัตราส่วนการตายของมารดาเป็นศูนย์ต่อ100,000 การเกิดมีชีพ ตั้งแต่ปีงบประมาณ 2550-2555 และอัตราการตายปริกำเนิดค่อนข้างต่ำ คือ 3.09 ต่อ 1,000 เกิดทั้งหมดในปี 2555 นอกจากนี้บริการอนามัยแม่และเด็กยังมีความครอบคลุมมากขึ้น ตัวอย่างเช่น การฝากครรภ์ครบ 4 ครั้งตามเกณฑ์มีแนวโน้มดีขึ้น (69.9%, 79.0%, 80.4%) จากปี 2553 ถึง 2555 ทั้งนี้เนื่องมาจากระบบการจัดการระบบสุขภาพระดับอำเภอที่ครอบคลุม อันประกอบไปด้วย 6 องค์ประกอบหลักคือ: (i) การให้บริการ (ii) กำลังคนด้านสุขภาพ (iii) ระบบข้อมูลสุขภาพ (iv) การเข้าถึงยาที่จำเป็น (v) กลไกการเงิน และ (vi) ภาวะการนำและธรรมาภิบาล

คำสำคัญ: *ระบบสุขภาพระดับอำเภอ, อนามัยแม่และเด็ก*

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Original Article

District Health System Management to Improve the Quality of Maternal and Child Health from Kapho District in Pattani Province, Thailand

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Abstract

This study was performed in a descriptive retrospective design to evaluate the results of District Health System management, aiming to improve the quality of maternal and child health care (MCH) in Kapho District, Pattani Province, Thailand. Data were collected from records. Data management and analysis were divided into two phases. In the first phase, covering the years 1999 to 2006, a situation analysis and past experiences were studied. The second phase lasted from 2007 to 2012, wherein a theoretical analysis was done. The findings demonstrated that the District Health System management positively influenced the quality of MCH care. As examples, Maternal Mortality Ratio was shown to be zero per 100,000 live births, since the fiscal year 2007 to 2012, and the Perinatal Mortality Rate was as low as 3.09 per 1,000 total births in 2012. Furthermore, there revealed improved service coverage to the MCH populations. For instance, four-section observation of antenatal care coverage showed an optimistic trend (69.9%, 79.0%, and 80.4%) from the year 2010 to 2012. This was due to the comprehensive management system, comprising the following six core components: (i) service delivery, (ii) health workforce, (iii) health information systems, (iv) essential medication access, (v) financing, and (vi) leadership or governance

Keyword: *District Health System, Maternal and Child Health*

Introduction

Since 1978, with the declaration of Alma-Ata, the World Health Organization (WHO) pronounced the concept of "Primary Health Care" (PHC). It is increasingly recognized that stronger health systems (WHO, 1978; Tarimo & Fowkes, 1989; Görgen, Kirsch-Woik, & Schmidt-Ehry, 2004; WHO, 2007). The World Health Report 2000 defined overall health system outcomes as improved health and health equity (WHO, 2000). The strengthening of health care systems is an essential step. It is reflected in the 11th General Program of Work (2006-2015) (WHO, 2006) and the Medium-term Strategic Plan (2008-2013) to WHO's response (WHO, 2008). In addition, a District Health System (DHS) can be used as an excellent practical model for improved performance (Görgen, Kirsch-Woik, & Schmidt-Ehry, 2004). In the DHS, human resource development is concerned with the provision of relevant in-service training and support and supervision, and the re-orientation of health workers (Görgen, Kirsch-Woik, & Schmidt-Ehry, 2004; WHO, 1988, 2009; AHWO, 2009; Mwita et al., 2009).

No issue is more central to global well-being than maternal and perinatal health. Yet every day, 1,600 women and over 5,000 newborns (0-28 days) die due to complications arising from pregnancy, childbirth and postnatal period, many of which could have been prevented (UNICEF, 2009; WHO, 2009, 2013). Thailand had the maternal mortality ratio has shown a decreasing trend (Chowdhury & Phaholyothin, 2012) while maternal mortality is much higher in Thailand's Muslim majority southern provinces than elsewhere in the country, Health Ministry records show that, from October 2007 to June 2008 the maternal mortality rate was 42.4 per 100,000 live births. In 2007 that number stood at 39.5, according to Health Ministry figures, as opposed to 17.7 nationwide. Thus, MCH remains a major challenge in Thailand's deep South (IRIN, 2008).

Kapho District, Pattani Province faces the same challenge of the need to improve MCH. The planning cycle starts with a situation analysis focusing on relevant MCH-related policies, services, human, material and financial resources, as well as governance (Görgen, Kirsch-Woik, & Schmidt-Ehry, 2004; WHO, 1988, 1997, 2009; ERGO, & EICHLER, 2013). With this information, managers and planners can then decide how to ensure MCH quality services, to make MCH program improvements and to achieve objectives and goals (WHO, 2009; Heywood & Choi, 2010). The purpose of the MCH situation analysis as an initial planning step is to assess the status of national and district MCH strategy/program implementation. This assessment is expected to help in identifying strengths and weaknesses as well as possible solutions. Its output is also essential for priority setting (WHO, 1997, 2009).

Research Objectives

- **General objectives**

To study the results of DHS management to improve quality of MCH in Kapho District.

- **Specific objectives**

To describe health systems in terms of six core components: (i) service delivery, (ii) health workforce, (iii) health information systems, (iv) access to essential medicines, (v) financing, and (vi) leadership/governance in Kapho District

Conceptual framework adapted from WHO, (2010) and Nitayarumphong & Mercenier (1992) and Realistic evaluation (Pawson & Tilley, 1997) (Figure 1)

Methods

This study used a descriptive retrospective study design. Kapho District in Pattani Province of Thailand was selected as the study site. Methodology for MCH situation analysis includes: Literature review; trends analysis of MCH statistics (national surveys; DHS etc.).Definition of the target population and study sites(facilities to be assessed).Identifying sources of data: (i) policy statements, publications, technical reports, health statistics; national census report, etc.; (ii) Health management information systems; Country MCH profile; (iii) National surveys, DHS, maternal mortality survey reports, etc.

By focusing on key factors affecting MCH strategy implementation, now and in the future, the SWOT analysis provides a clear basis for examining performance and prospects as well as providing guidance for effective implementation of the proposed plan. Health system impact assessment. Assess district health system management strategies described in previous plans and reports on their implementation. Review the most recent district plans for MCH care. Develop a list

of possible strategies for achieving each objective.

- **Data management and analysis**

Phase 1: For the period of 1999-2006 a situation analysis and past experience were used. Phase 2: For the period 2007-2012 a Theoretical analysis was used. Design of district health system management to improve quality of MCH in Kapho District used descriptive statistics, including frequency distributions and trends analysis of MCH statistics.

Results

- **Assessment of the health district**

Kapho District is located in the Southeastern part of Pattani Province, Thailand. It is situated about 68 kilometers far from the center of province. Agriculture is the major economic activity in the area. Agricultural areas cover approximately 89.96 km^2 of live stock on household consumption. Major transportation to Kapho District is mainly by driving through a Highway number 4060 (Sai Buri-Rueso District, Narathiwat Province) and Provincial Highway No. 4075.

- **Impact of Economic, Social and Environmental conditions on lifestyle and health**

Composition of populations in the district was found to be as the followings:

- Male: Female ratio was 49.51:50.49.

- Majority (27.8%) of the population was aged between 0-14, followed by aged between 15-30 (26.3%). The percentage of population became less among the elderly (7.0%, aged 60-74) and very old groups (4.0%, aged 75-89).

- Virtually all (about 96 percent) of population were Muslim.

- The daily living style is in accordance with the religious beliefs. Yet, the local tradition tended to evolved further as the technology progresses and the easy accessibility to the Internet, particularly among the two major population groups.

The topography of the Kapho District is composed mostly of flat hills. As such, agriculture remains the chief source of living, particularly, rubber plantation. However, this major activity yielded declining income owing the lowering budget of the year 2012, which in turn, led to career and financial insecurity. Anthropometric data of Pattani revealed its leading level of poverty (approximately 20%) in parallel with Narathiwat Province in relation to the Thailand Millennium Development Goals Report 2004 indicated that while poverty levels have been declining steadily over the years both nationally and in the South, the proportion of poor people in those three southern most provinces remains two to three times higher than the national average. Child and maternal mortality rates are also higher in these provinces than elsewhere in the country with factors such as gender, culture, religion and language affecting the provision of and access to primary health care services (Sunchindah, 2005).

- **MCH Status and Problems**

Analysis deployed MCH health data, in the form of graph (Figure 2), in Kapho District from the year 1999 to 2007. Furthermore, the SWOT profile provides comparative advantages by focusing on key factors affecting MCH strategy implementation, as well as providing guidance for effective implementation of the proposed plan in the future.

The situation analysis derived from the graph, to solve MCH health problems in Kapho District, Pattani, since the year 1999 to 2007. This was based on Plan-Do-Check-Act (PDCA) problem solving scheme, by which over a period of time, being appended to form the following three aspects: I. Increasing service accessibility and motivation II. Improving service quality III. To promote community participation.

- **Progress towards Implementation of a District Health System**

- **Activities to strengthen MCH services**

In this MCH planning tool, key MCH activities in Kapho District will therefore focus on the following six HSS components:

1) **Health financing:** Reduced price mechanisms for poor section of the population to cover expenditures for MCH services related to the national policy (Thirty-baht health insurance program) and the province policy and Develop district grant proposal for MCH.

2) **MCH workforce:** In-service training on guidelines: Pregnancy, Childbirth, Postpartum and Newborn Care; Managing Complications in Pregnancy and Childbirth; Managing Newborn Problems; Setting up of deployment criteria, retention and motivation mechanisms; and Support MCH -- related continuing

medical education at district level; District Planning Tool for Maternal and Newborn Health Strategy Implementation

3) **Equipment, medicines and supplies:** Conduct district needs assessment for pharmaceutical management emphasizing MCH medicines; Provide required commodities; Purchase required equipment and supplies for maternity care.

4) **MCH information systems:** Data since 2007 to 2009 appeared to be collected with no clear goals, indicators or targets. There were mechanisms set up for clinic or hospital staff to routinely assess their work or to measure progress, achievements and constraints. The amount of data was enough to render of useful information. During a workshop in 2011 to 2012, clinic nurses made the following points about the clinic information system:

- Redundant data collection was cancelled. Instead, using only the data collected from the delivery room and antenatal care handbook.
- There was administrative staff to help with the collection of information.
- There was some important information being collected.

5) MCH service delivery: Update district MCH norms and standards: Kapho Hospital used Saiyairak hospital program to develop and accredit in 2009 and 2012; Provide ANC and Family Planning outreach services; Setting up of quality assurance mechanism; Supervision of district maternity services; Strengthening of referral and counter-referral system.

6) **Leadership or Governance:** This role could be fulfilled through the following activities, among others: Address equity issues through subsidies for poor people to have access to MCH services; Hold regular coordination meetings with stakeholders and other sectors to facilitateinter-sectorial synergies and transparent decision-making process and Promote best MCH practices. (Table 1).

The above activities affected the strengthening of MCH services. District monitoring indicators to improve the quality of maternal and child health were the followings (Table 2).

Conclusions and Discussion

- **Discussion**

The DHS management positively influenced the quality of MCH care. As examples, MMR was shown to be zero per 100,000 live births, since the fiscal year 2007 to 2012, and the Perinatal Mortality Rate was as low as 3.09 per 1,000 total births in 2012. Furthermore, there revealed improved service coverage to the MCH populations. For instance, four -– section observation of ANC coverage showed an optimistic trend (69.9%, 78.98%, 80.43%) from the year 2010 to 2012. This was totally due to the comprehensive management system, comprising the following six core components.

Data show the importance of the data acquisition. To demonstrate, the ANC was recorded as above the set criteria in the year 2007 to 2009. Yet, when applying the guidelines in MCH handbook, the ANC was observed lower than the standard in the year 2010 to 2012. This was due to the following reasons: i. The staff performance was measured by indicators so they are afraid to report lower information criterion. ii. From the year 2007 to 2009, the process of information storage was very poor. However, since 2010 to 2012, by use MCH handbook to record the information pertaining to the delivery room, information storing procedure became more reliable.

Once the MCH team applied such reliable information for situation analysis, actual problems could be actually identified. For examples, the left behind ANC coverage issues, encompassing early ANC before 12 weeks, ANC for at least four visits and exclusive breast-feeding were brought to discussion. This was carried out in every meeting by using the process of PDCA periodically in order to seek a solution, leading to favorable outcomes.

Fromtable 1 show information of MCH policy/ project that connected to the activity in Kapho District since the fiscal year 2007 to 2012,the DHS, we need to consider district vertical relationships with higher management levels, its horizontal relationships with local departments of other ministries, between different health programs, and its external relationships with the communities and organizations it serve. It effectively affects the management of health workforce, financing, equipment, medicines and supplies.

- **Conclusion**

Framework of the MCH project (Figure 3) incorporated the above-mentioned six core components into the health system so as to improve the health care and enhance health equity among populations in the Kapho District since the fiscal year 2007 to 2012, the framework significantly directed the concerned practitioners to consider a variety of relationships in the community in order to put forth the effectiveness. The first to mention was the district vertical relationships within the different management levels. Next, the horizontal relationships between the district and the local departments or involved ministries, as well as with different health programs. Lastly, its relationships with the external communities and organizations it served.

The six building blocks contribute to the strengthening of Kapho DHS in different ways. Key components of the health systems include, specifically, financing and health workforce. Additionally, some cross-cutting components, such as leadership or governance and health information systems, provide the basis for the overall policy and regulation of other health system blocks. Finally, medical products, technologies and service delivery, reflect the immediate outputs of the health system which are availability and distribution of health care.

Quality improvement is a method through which the effectiveness of activities within the MCH Service and changes were identified in order to make progression in service delivery. Situation analysis from the past experience was supported by a quality improvement framework and performed to review, improve and implement the strategies.

Finally, the framework enhanced the delivery of a qualified and safe service What's more, the clinical risk management system covered the potential MCH service to boost the risk protection and management. This could be obviously seen from the declined number of anemic women, birth asphyxia and prevalence of low birth weight newborns. From the result the DHS is more than just a structure or form of organisation. It is the manifestation of a set of activities that includes community involvement, integrated and comprehensive health care delivery, intersectoral collaboration and a strong bottom-up approach to planning, policy development, and management.

Limitations of the study

The major limitation is that this study is retrospective for the period of 1999 -2006 and data were collected by document review so data may not be totally complete or correct.

This study was conducted in Kapho District in Pattani Province, Thailand which is an area that has been affected by violence since 2004. Thus, conflict situation environment may influence interventions.

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Table 1 Characteristic of the MCH Policy/ Project from the year 2007 to 2012

Year	Policy/ Project	Activity
2007	Service quality improvement according to the standard of safe motherhood hospital project	- Service development according to the standard of safe motherhood hospital project - The "Immediate antenatal care once pregnant" project
2008	Preparation for the assessment by the Saiyairak hospital program and Family Love Bonding Hospitals Program	-Staff potential development pertaining to the care taking of pregnant women and standardized management of childbirth
2009	Certification and accreditation in compliance with the standard set forth by the Saiyairak hospital program and Family Love Bonding Hospitals Program	-Structural design and improvement to achieve the standard of quality -Standard medical equipment procurement -Potential staff acknowledgement of infant life saving (Newborn Cardio-Pulmonary Resusctation) and breastfeeding
2010	- Supervision and evaluation of the service area by the team of provincial level - MCH board meeting at the provincial level - Development of quality standard according to the Sustainable Health care & Health Promotion by the Appreciation and accreditation (SHA) project	-Medical equipment purchase according to the quality criteria for Well Child Clinic, Labor Room, ANC quality - Development of manuals and guidelines for rural hospital - Workforce training on Fetal Non-Stress Test reading practice, ultrasonographic procedure assistance, and high risk maternal care - Environmental improvement in accordance with Islamic way of maternal and child care
2011	Supervision and evaluation of the service area by a team of district level.	- The MCH board meeting at the district level and CUP meeting - Situation assessment and supervision by the Contracting Unit for Primary Care board - System management by systematized single District management
2012	Certification according to the standard of Saiyairak hospital program and Family Love Bonding Hospitals Program	-Contribution involvement of community networks, local government, religious leaders, community leader to develop maternal and child health care performance -Strengthening the Saiyairak club for mother and child care in the community

Table 2 District monitoring indicators to improve the quality of MCH inKapho districtsince the fiscal year 2007 to 2012

Item	KPI	Target	2007	2008	2009	2010	2011	2012
1	Early antenatal care coverage(within 12 weeks of gestation)	60%	73.7	74.1	79.0	56.5	69.1	69.9
2	Antenatal care coverage (at least 4 times)	90%	98.1	98.1	95.7	69.9	79.0	80.4
3	Prevalence of anemia in women	< 10 %				43.5	16.7	7.7
4	Prevalence of low birth weight <2,500 gram	< 7 %	7.1	9.9	7.4	10.0	6.6	4.8
5	Exclusive breasting (6 months)	>25 %	15.6	31.7	40.5	29.0	29.9	38.5
6	Perinatal Mortality rate	9 per 1000 total births	11.9	19.5	7.3	12.6	27.2	3.1
7	Birth attended by skilled health personnel	92%	98.6	98.1	97.0	100	100	100
8	Birth asphyxia	30 per1000 live births	7.9	12.0	11.2	11.0	3.1	3.1
9	Maternal mortality Ratio (MMR)	36 per 100,000 live births	0	0	0	0	0	0
	Pregnant women(total)		**345**	**348**	**294**	**274**	**334**	**323**

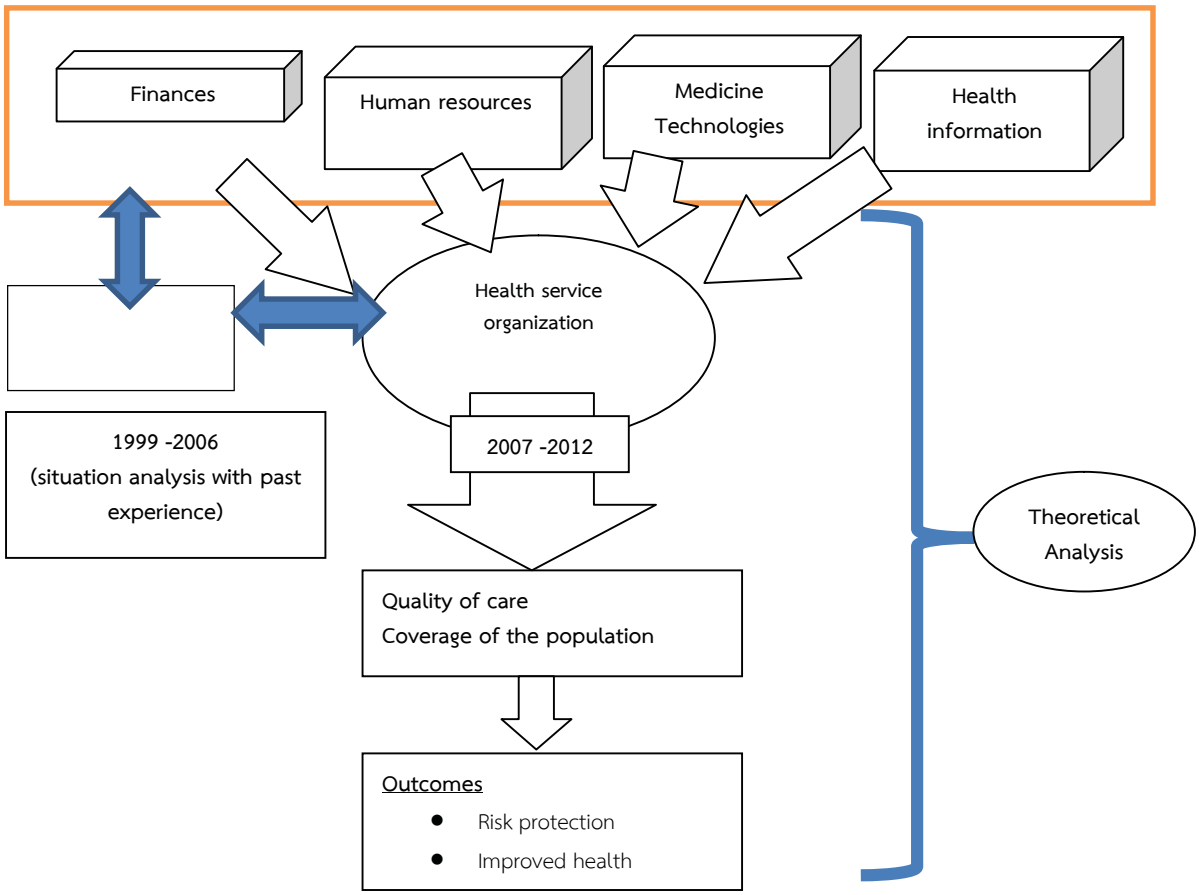

Figure 1 Conceptual framework

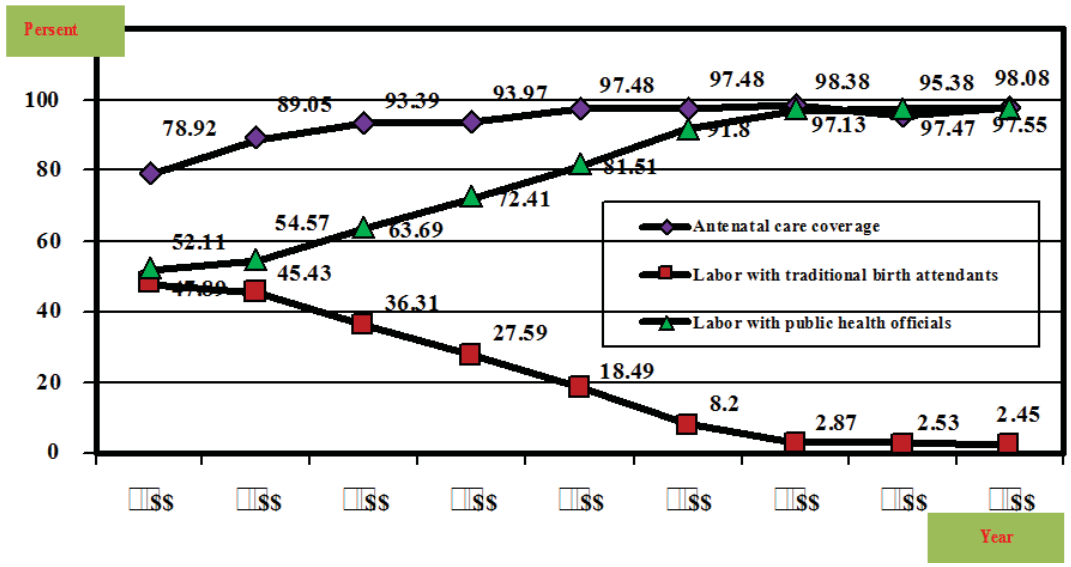

Figure 2 showed the results of antenatal care coverage among pregnant women and the results of delivery with public health officers since the fiscal year 1999 to 2007 (data from MCH board meeting report)

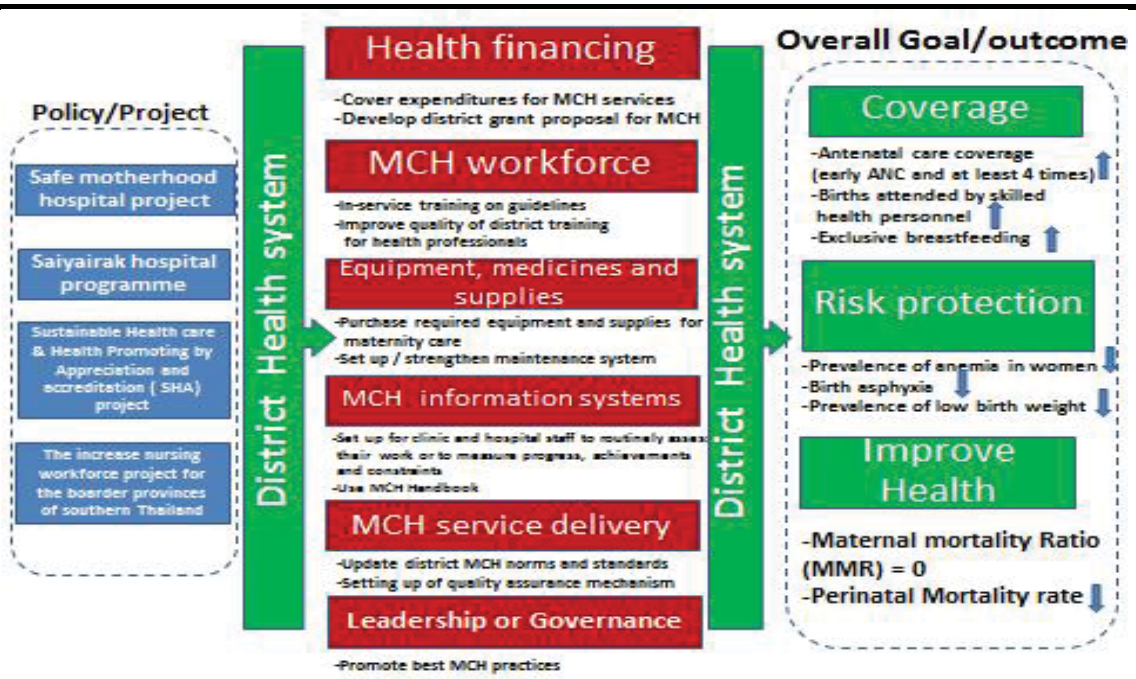

Figure 3 Overall Activities and outcome (adapted from WHO, 2010) and data from MCH handbook to record the information from the delivery room and MCH board meeting report)