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Knowledge and Experiences Sharing

Background

In Thailand, the northern provinces have been organized in the Regional Health Sector 1 (Figure 1), include Chiangmai, Lamphun, Lampang, Mae Hong Son, Chiang Rai, Phrae, Nan and Phayao. Of which, Chiangmai, Lamphun, Lampang and Chiang Rai provinces have registered as members of Thai Maternal and Child Health Network Project under the Patronage of HRH Princess Srirasmi since 2010. The incidence of preterm birth before commencing the project was shown in Table 1.

Table 1 The incidence of preterm birth of hospitals in Regional Health Sector 1, 2010.

Data	Nakornping Hospital	Chiangraiprachanukroh Hospital	Lampang Hospital	Lamphun Hospital
Preterm birth (Percentage)	6.19	12.75	8.80	11.25



Figure 1 Regional Health Sector 1.

The Quality Improvement (QI) Project in Regional Health Sector 1, 2010-2013.

The referral system for pregnant women and preterm infants was established along with the development of "Bed Reservation Center". At the beginning, the project was focusing on teenage pregnancy, one of the causes of preterm birth in the region. The teenager's care, was started from antenatal clinic to the delivery room and home care after discharge from the hospital, together with personnel competency improvement regarding to care of high-risk pregnancy and preterm infants in the Mortality and Morbidity (M&M) and Perinatal conferences. The regional policy, clinical practice guidelines and work instructions were established with the agreement from hospital members in each province. Problems and obstacles were summarized as follows:

- Customer perspectives
 - Delay of first antenatal visit and frequent change of address.
 - Social and culture differences obstruct the preterm labor preventive project.
- Network management perspectives
 - Delay between coordination due to their different chain of command.
 - No appropriate follow up system after discharge infants and mothers from the hospital.
 - Incomplete data collection.
- Hospital capability perspectives
 - Lack of room or space for health education in the antenatal clinic.
 - Lack of beds in the neonatal intensive care unit.
- Organization development perspectives
 - Lack of personnel with adequate knowledge and skill.
- Financial perspectives
 - Inadequate of budget support.

Between 2011-2012, the quality improvement projects have been implemented for both maternal and newborn aspects as follows:

- Obstetric
 - Provide facility for health education in the antenatal clinic.
 - Coordinate between community service units and health volunteers to improve the system to follow up patients after discharge.
 - Provide a holistic care approach for pregnant women with preterm labor.
 - Improve personnel competency in the hospital network regarding to management and referring women with preterm labor.
 - Improve data collection method.
- Pediatric
 - Improve the "Fast Track Call Center for the Newborn" referral system.
 - Improve the coordinating system between government agencies for home visit programs.

During this period, the strategic map of Thai Maternal and Child Health Network Project has been implemented in some provinces of Regional Health Sector 1. The result was shown in Table 2.

Table 2 The Incidence of preterm birth of hospitals in Regional Health Sector 1, 2012.

Data	Nakornping Hospital	Chiangrai-prachanukroh Hospital	Lampang Hospital	Lamphun Hospital
Preterm birth (Percentage)	10.19	NA	8.31	9.68

Quality Improvement (QI) in Regional Health Sector 1, 2013-2014.

Besides preterm labor, maternal and newborn problems that were found in the northern provinces include low birth weight, birth asphyxia and perinatal death. The preventive management should start with adequate antenatal care, risk and prognostic factor identification and proper management of preterm labor with tocolytic drugs including appropriate neonatal care for preventing mortality and morbidities. Insufficient beds in the neonatal intensive care unit, difficulty in patient transfer due to geographic distribution of community hospitals remain the major problems in the northern provinces. In addition, the differences in culture and language have made it more difficult for knowledge and skill transfer during the antenatal care. Establishing the hospital network with proactive intervention is crucial to solve this problem. The principle interventions include:

1. Developing community network (health promoting hospital and health volunteers) for preterm labor prevention.
2. Screening risk factors for preterm labor at community hospitals and transferring those with high-risk to provincial or regional hospitals for proper antenatal care.
3. Nominating provincial and regional hospitals as referral centers of the hospital networks.
4. Developing network, financial and personnel management system under the provincial and regional service plans.

Method of Implementation

1. Assigning health promoting hospitals and health volunteers searching for targets women and campaigning for early antenatal care as well as follow up pregnant women with preterm labor.
2. Establishing clinical practice guideline for managing and referring women with high risk of preterm labor in accordance with hospitals of the regional network context.
3. Determining treatment process for community hospitals in the referral level together with implementing data collection process, and analyzing for improving network management.
4. Establishing network improvement plans to specify sub-network in each province and planning for personnel, equipment and budget under the service plan project from the Ministry of Public Health.
5. Organizing annually the regional meeting for knowledge and experience sharing.

Problems and Obstacles

1. Delay and irregular visit of antenatal care even cooperating between health promoting hospitals and health volunteers to search for pregnant women.
2. Ineffective strategy to provide knowledge to pregnant women, also the differences in culture and believe of certain population, including languages and communication.
3. Insufficient sub-network, overlarge network, remote network, insufficient beds in the neonatal intensive care unit, also economic and social difficulties to families cause by traveling distance.
4. Disproportional distribution of obstetrician and pediatrician, lack of obstetrician and pediatrician in community hospitals.
5. Frequent rotation of health personnel, difficult for the continued development of patients monitoring network as well as the development of health personnel.
6. Insufficient health personnel and resources of community hospitals, difficult to increase number of beds in the neonatal intensive care unit.
7. Limitation of principle knowledge such as the prediction of preterm birth and preventive control of preterm birth conditions, for instance, the measurement of cervical length using ultrasonography to predict preterm birth or the treatment of with progesterone to inhibit preterm birth.

Key Success Factors

To improve the services of Maternal and Child Health Committee, Regional Health Sector 1, the following suggestions were proposed:

1. Holistic care approach for pregnant women and families. in the aspects of medical, psychological, economic and social.
2. Empower pregnant women and their families for proper self-care.
3. Acquire more knowledge and information in preterm birth, to search for the causes, prevention, prediction, treatment for solving the problems.
4. Effective and suitable resource management.
5. Well-defined regional policy and well-organized hospital network with continuous quality improvement.

