The Medical ICT Utilization for Perinatal Telemedicine in Remote Areas

April 11, 2013
MITLA Co.
The Medical ICT Utilization for Perinatal Telemedicine in Remote Areas

About Us

MITLA Co.

- **Company name**: MITLA Co.
- **CEO**: Yhuko Ogata
- **Address**: 2217-15, Hayashi town, Takamatsu, Kagawa 406 Kagawa Industrial Intelligence Center
- **Tel.**: 81-87-869-8288
- **Establishment**: October 10, 2011
- **Capital**: $1,200 million
- **Number of staff**: 35
- **Products**:
  - Electronic patient records for perinatal
  - 「Hello Baby Program」
  - Health assessment system
  - 「Metabolic Chart」
- **Bank**: 114 bank, Ltd., Kagawa Bank, Ltd., Iyo Bank, Ltd.
- **Main customer**: Kagawa University, Bell System 24, Kameda Medical Center Hospital, Kagawa Prefecture, Konika Minolta MG, Toshiba Medical Systems Corporation, MEDIS-DC, Toitsu Inc., Ricoh Co., and other medical institutions

http://www.mitla.co.jp/

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### Health IT business

Planning, development and sale of software and electronic medical record receipts.
Sales of hardware such as, web content creation and the
Proposing health care IT.

### Consultant business

Proposed innovation and operational efficiency in healthcare management, IT realization of Coordination
Other medical equipment sales, maintenance services and providing all IT and network solutions business

### Temporary staffing for Hospitals

Doctor, pharmacist and nurse placement, also
SE medical and CRC dispatchment

**We will break through distance and time barriers, using ICT.**
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5. Summary
1. Background and issues
1.1 History

The Perinatal Electronic Medical Records

1998  Project of the Perinatal Electronic Medical Records Network  【Kagawa pref. project】

2001  Proving test about collaboration with Electronic Medical Records and the Perinatal Electronic Medical Records in Shikoku; Kagawa, Tokushima, Ehime and Kochi Pref.  【Ministry of Economy, Trade and Industry】

Projects of a Regional Medical Information Link System

2004  Collaboration between the Perinatal Electronic Medical Records and a fetal heart rate remote delivery system(CTG)  【Ministry of Economy, Trade and Industry】

2007  Establishment of network system of the Perinatal Electronic Medical Records in Iwate pref.  【Ministry of Health, Labour and Welfare】

Telemedicine network system called K-MIX

2006  Sharing image data among hospitals from terminal PCs  【Kagawa pref. project】

2008  Project establishment of telemedicine network systems by using teleconference system integrated with electronic medical records.  【Ministry of Internal Affairs and Communications】

2009  Diabetic critical path system
1.2 Number of Obstetricians and Gynecologists

The reduction of obstetricians and gynecologists, it is important to regional cooperation. Central hospital and clinic cooperation information. Prenatal diagnosis of distant medical doctor examine the information entered by the midwife in maternity hospital. And regional medical cooperation is carried out. In the case of Iwate Prefecture has set up a system, to share information on medical institutions in the prefecture.
1.3 Perinatal Networks among Pregnant Women, Midwives, and Doctors

Prenatal checkup support conducted by midwives and doctors for pregnant women in remote areas.
2. Telemedicine Configuration System
2.1 Perinatal Telemedicine Systems

- The Perinatal Electronic Medical Records is used for the pregnant mother and her baby.
- It enables sharing of medical information among multiple facilities through the internet.

- It enables you to send the fetal heart rate data and the pains of childbirth by mobile phone at home.
- Doctors can check the fetal growth graph by using their mobile phone.

The Perinatal Electronic Medical Records

Medical exam picture

Hospitalization delivery screen
2.2 Perinatal Electronic Medical Record

Four characteristics
- Electronic medical records can be linked with others
- Managing health examination data listed in chronological order
- Labor Statistics data and aggregate
- You can input data such as patient’s private information and medical examination data

☆ Checkup for the mother
Input checkup results such as BishopScore, cervical of the uterus etc.

☆ Checkup for fetal
Input results for fetal growth, blood flow measurements and fetal heart monitoring system in details

☆ Statistics function
It enables you to take statistics each month and how to delivery by using the table and chart

☆ Hospitalization
You can check the partogram, result of delivery and the placenta.
3. How to operate the Telemedicine System
3.1 Connecting Homes, Clinics, and Hospitals

- The fetal heart rate from homes can be remotely monitored by FOMA.
- Data can be sent to clinics and hospitals.
- Medical records can be shared and monitored by doctors.
- The time scale on the display table can be changed and supports noise canceling for background noises.
- You can print-out the data by clicking a button.
### 3.2 Trial Numbers of Perinatal Telemedicine

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of trials</th>
<th>No. of users</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>35</td>
<td>18</td>
</tr>
<tr>
<td>2007</td>
<td>99</td>
<td>35</td>
</tr>
<tr>
<td>2008</td>
<td>217*</td>
<td>78</td>
</tr>
</tbody>
</table>

*contents: prenatal remote checkup: 170 times, observing the state of labor: 47 times*
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Introduction of the Telemedice System in Tono city

Collaboration among perinatal hospitals

Maternity center Hospitals

The perinatal medical info. center

Remote delivery system (CTG)

The fetal heart rate

Small, compact and easy to carry, the CTG uses the NTT and FOMA network system and can transmit from your home, showing the fetal heart beat rate and childbirth pains

Doctors can diagnose pregnant women’s measured data easily by their own PC or mobile phones through the internet.

8 on April, 2007 New York Times

* In Japan’s Rural Areas, Remote Obstetrics Fills the Gap

Introduction of the Telemedice System in Tono city
4. Application and Development

Ihatov
4.1 Perinatal Medical Information System “Ihatov”

The Ministry of Health created a centre server type medical information database where municipals and medical institutions can utilize the passbook number as an Ihatov ID.
4.2 The “Ihatov” Network
4.3 Very Useful in Case of a Disaster

Large Earthquake occurred !!

Southern Costal area of Iwate Prefecture

The server of perinatal medical information network system at Iwate Medical University was built to withstand earthquakes and continued to support medical care in the area.
4. Application and Development

Phitsanulok, Thailand
4.4 Applying Our Model to Thailand

- Phitsanulok: A historic city in lower northern Thailand
- Buddhachinaraj Hospital: The province's and the city's primary public hospital
- Naresuan University Hospital: The regional super tertiary care hospital

- 2 clinics in Phitsanulok (Charttrakarn and Ban-Klang)
  - No sufficient equipment
  - No obstetricians for high risk patients

Data integration and Tele-consulting between the hospitals and clinics are needed.
4.5 The Case of Phitsanulok

- A Health Information System ("HIS") for the 3 hospitals
- Two Mobile CTG Monitors for Charttrakarn and Ban-Klang Clinic
- The mobile CTG data will be saved in HIS per client and also will be sent to doctor’s email in real time
- Doctors and nurses at the clinics can consult Dr. Chachai by looking at the data saved in HIS
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4.6 Visits to Thailand

- **February 2012**
  Demonstration of the Mobile CTG and Hello Baby Program

- **May 2012**
  Implementation and Training

Perinatal medical care requires a chronological medical treatment depending on the situation of the mother and the baby, such as the gestation period.
5. Summary
• Health management of pregnant residents

• Need for a network linking hospitals, clinics, maternity center, and homes

• Need for data integration technology to develop perinatal care

• IT technology and smart phones are expected to evolve more in the future
Thank you for your kind attention.