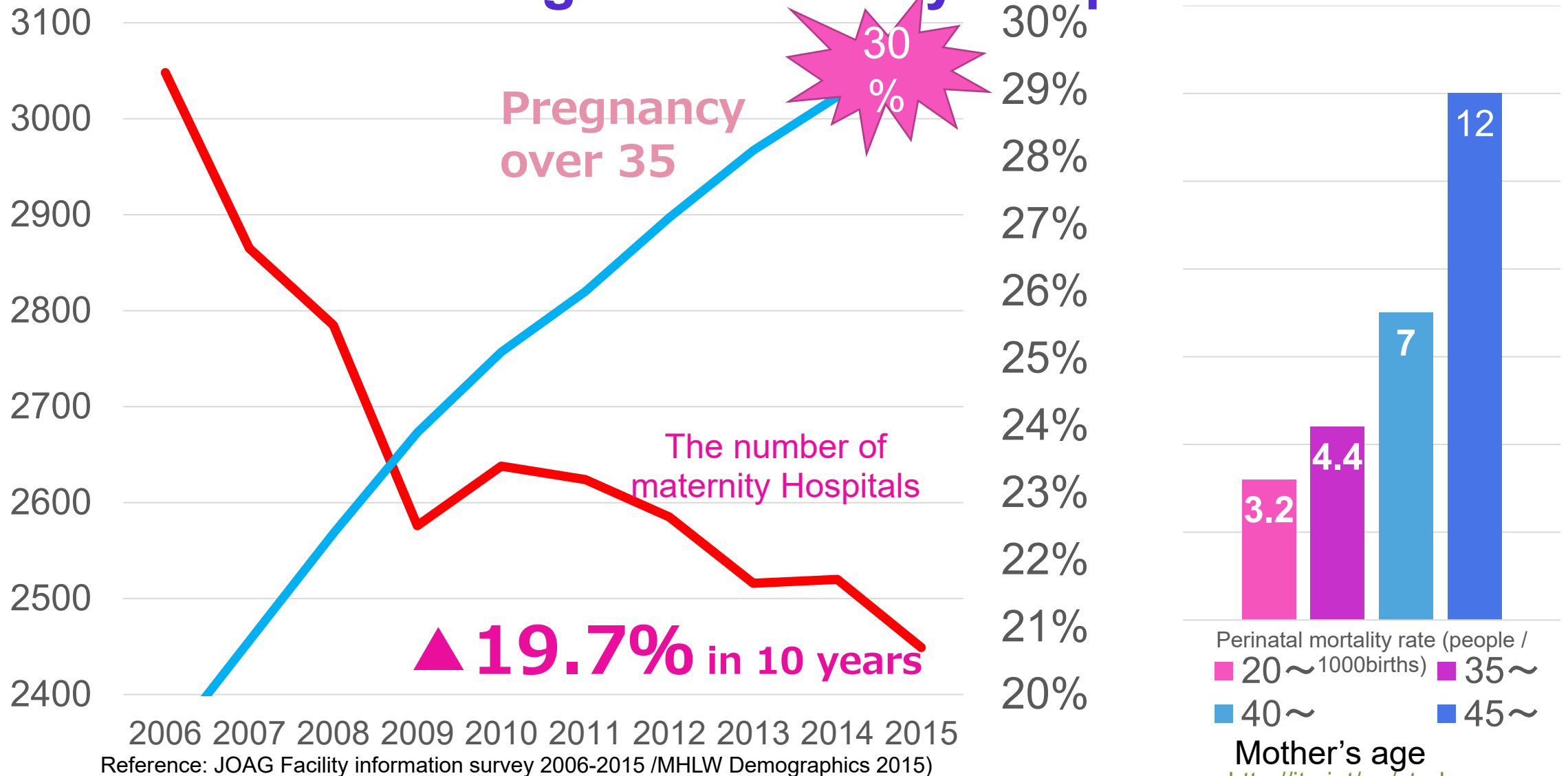


Remote device for expected mother

Safe and secure childbirth for mothers around the world

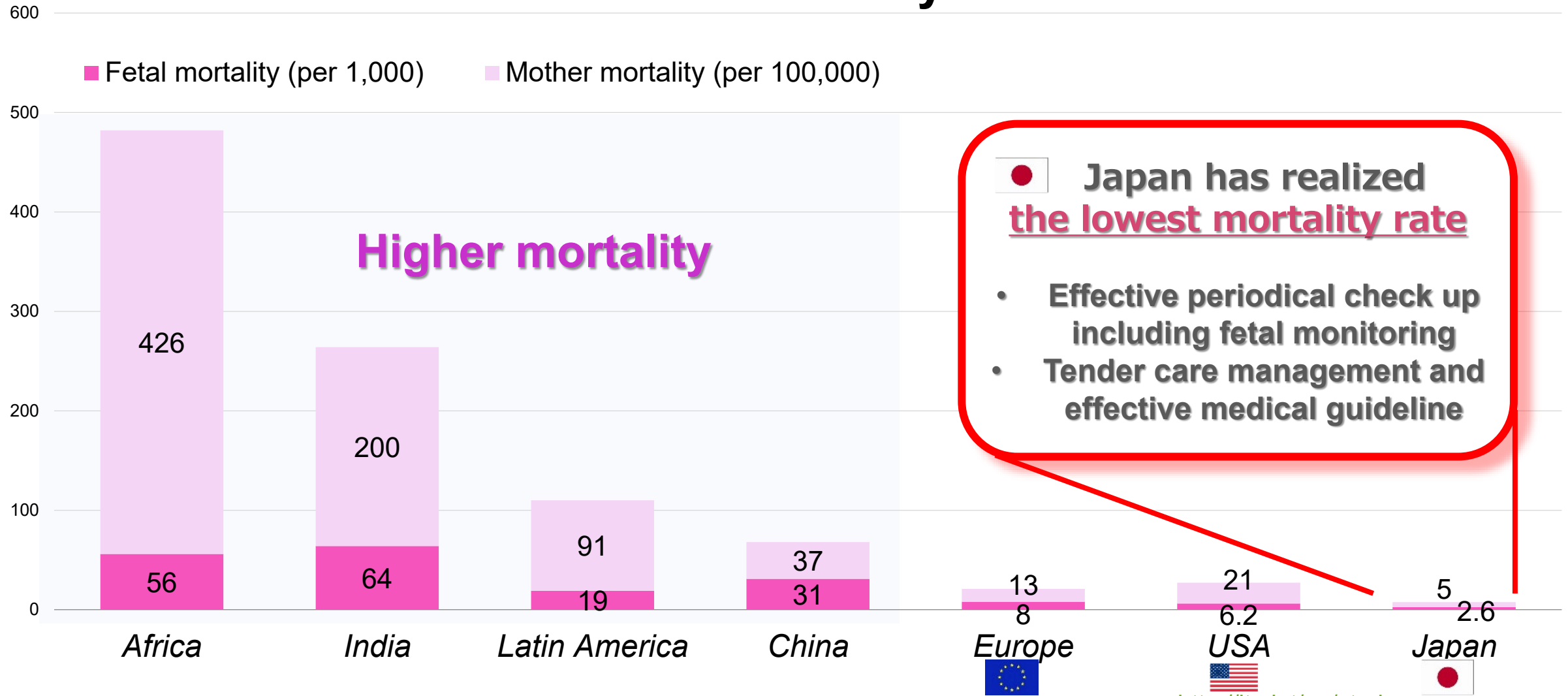
Speaker: **Yhuko OGATA** CEO of Melody International Ltd.

Increasing High-risk pregnant against Decreasing the Maternity Hospitals



Medical needs in emerging countries

<Perinatal Mortality Rate>



Medical issues and needs surrounding OBGY

The lack of (Medical) Resources

Increasing Risks

Issues

<Medical>



The number of Obstetrician



The number of Hospital / Bed



Pandemic

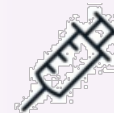
<Non-medical>



Transportation system
for remote pregnant women



- Elderly pregnant women
- High risk pregnancy



Complications based on
unhealthy lifestyle



Lawsuit

Needs

Monitoring Device with

1. High usability for both doctor and patient <Anybody>
2. Remote use function <Anywhere / Anytime>
3. High quality <Approved>

Basic information

| | | | | | | |
|---------------------------|----------------|-------------|------------|-----------------------|-----------|------------|
| Target medical facilities | Involved users | # Perinatal | # Activity | # Home | # Cloud | # On-Pre |
| Primary | Secondary | Tertiary | P to D/N/S | # Uterine contraction | # eHealth | # App |
| | | | | # Fetal | | # Pregnant |

Overview of this use case

Pregnant women use a wearable fetal heart-beat monitor at a primary medical institution without a specialist or at home, and transmit it via Bluetooth to a smartphone or other device to share it with a higher-level medical institution via a cloud server. Doctors provide a general pregnancy support service that provides remote physical examination based on transmitted data. Real-time data transmission also allows remote monitoring of perinatal patients.

Merits of this use case

Hospitals and facilities

- Allow remote examination
- Team medical care in cooperation with the primary/secondary/tertiary medical institutions will be possible.
- Of course, two-way hospital cooperation is also possible.

Doctors

- Improvement in the quality of medical care that can be provided because it allows for data that includes not only visit information but also daily data.
- Visualisation of abnormal values enables early detection of sudden changes in fetal condition as well as high risks such as hypertension in pregnant women.

Users

- Reduce frequency of hospital visits and provide comprehensive perinatal support for pregnant women living in isolated islands and remote areas
- Better medical care is available because it takes into account not only medical information at the time of a hospital visit but also data measured at home. This includes looking after pregnant women during ambulance transport and in evacuation centres during disasters.

Device system location

Home, clinic, or Local hospitals, as well as mobile clinics and ambulances

Assumed target

Pregnant women

Use case utilization

Already in use in medical practice

How to use data in medical and healthcare

- Doctors can refer to data of pregnant women at home for remote examinations
- Respond to severe cases at specialized hospitals
- Provide comprehensive perinatal support by further combining blood and urine tests, depression tests

Acquired data

- 1 Fetal heart rate
- 2 Uterine contraction

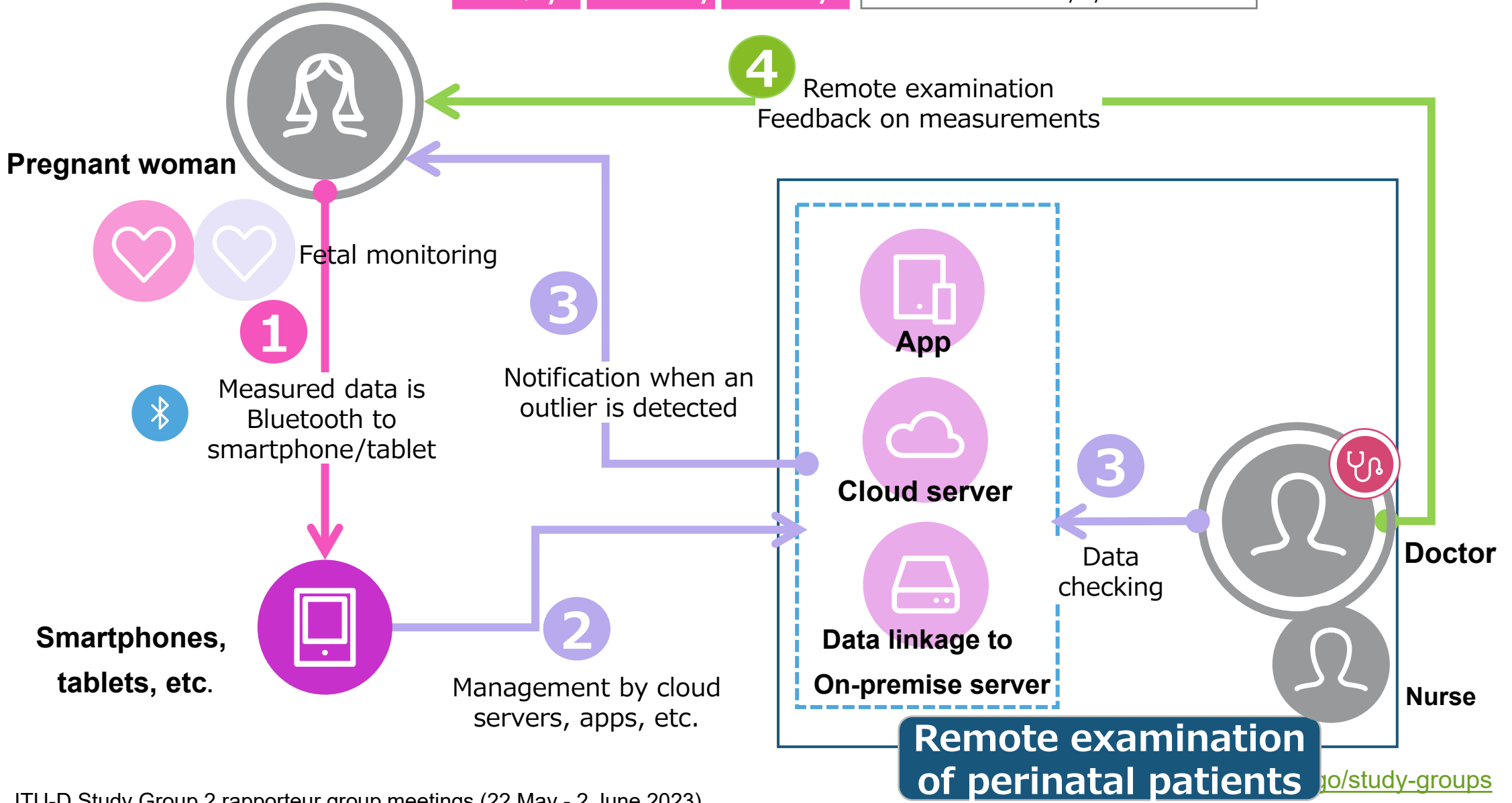
| | |
|--------------------------|--|
| Device | Monitoring the fetus |
| Acquisition method | Patient acquires by him/herself using device Nurses acquire at the primary facility |
| Frequency of acquisition | 20-120 minutes per measurement |
| Frequency of transfer | Real time transfer |
| Control frequency | Manage all acquired data |

How to manage and transfer data

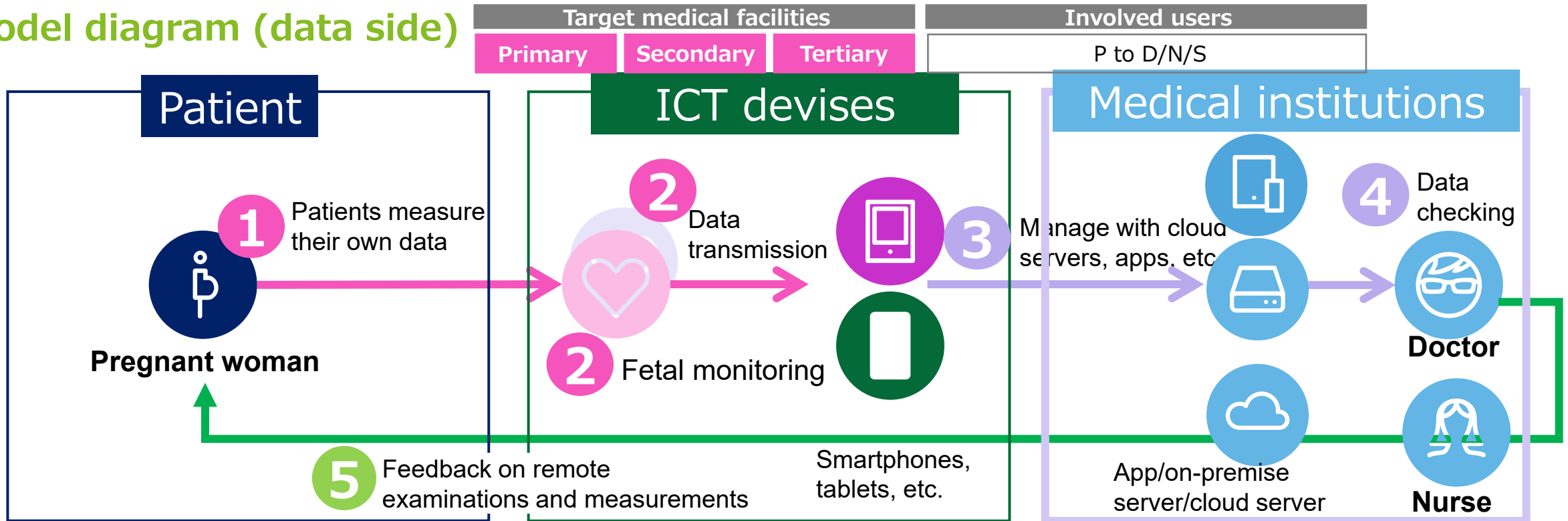
| | |
|------------------------|--|
| Type of acquired data | (1)Activity (2) blood pressure (3) fetal heart rate (4) uterine contractions |
| Method of transmission | [] NFC [✓] Bluetooth [✓] Linkage with apps [] Others Data is transferred from the device to the application via Bluetooth and linked to the medical institution system. |
| Management method | [✓] Device main unit [✓] App [✓] Cloud server [✓] On-premise server http://itu.int/go/study-groups |

Model diagram (outline)

| Target medical facilities | | | Involved users |
|---------------------------|-----------|----------|----------------|
| Primary | Secondary | Tertiary | P to D/N/S |



Model diagram (data side)



Benefits for patients (of using ICT devices)

- 1** Heart rate and uterine contractions can be measured with a fetal monitor anywhere - at home, in a vehicle or in a facility without a doctor - and the data can be shared with a healthcare provider.
- 5** By separating the measurement side from the diagnosis side, the measurement side can be carried out by the pregnant woman herself or by various medical staff.
- Access to medical care and support, leading to peace of mind.

Roles of ICT devices

- 2** Send measured data
- 3** Management of measured data in the cloud server application

Benefits for medical facilities (of using ICT devices)

- 4** Remote checking of fetal status
- Telemedicine enables shorter consultation times and more efficient work processes, which are issues for doctors.

Perinatal e-Health Platform,

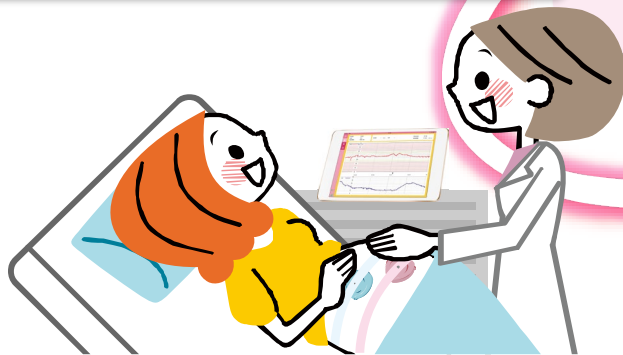
During emergency transportation



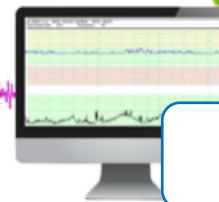
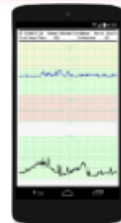
Doctors on the go

Mobile Fetal monitor

Perinatal eHealth platform saves the data of fetus and mother



At Home / Midwife / Clinic



In the remote core hospital



Improving the perinatal care level around the world



2,000,000 Death

140,000,000 Born



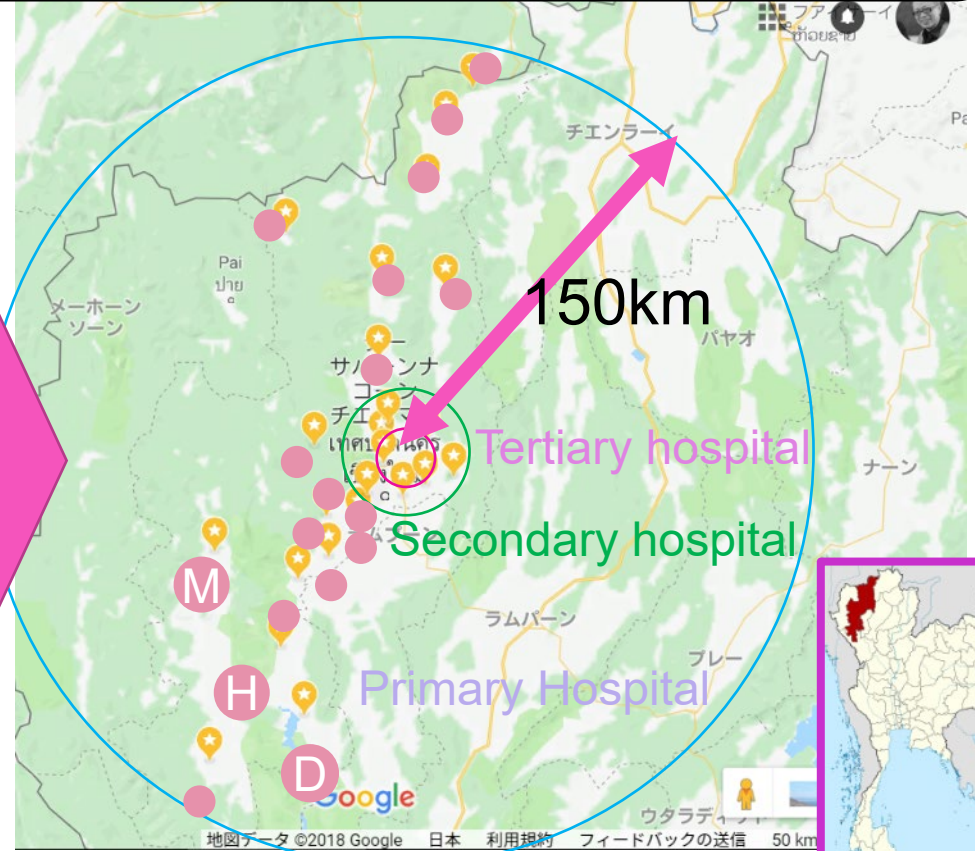
Use Case in Thailand



MOPH has introduced Device in all **31 public hospitals**
Saving the lives of many babies



Non-obstetrician Medical Institution



This has been ongoing for 6 years as a JICA technical cooperation project.

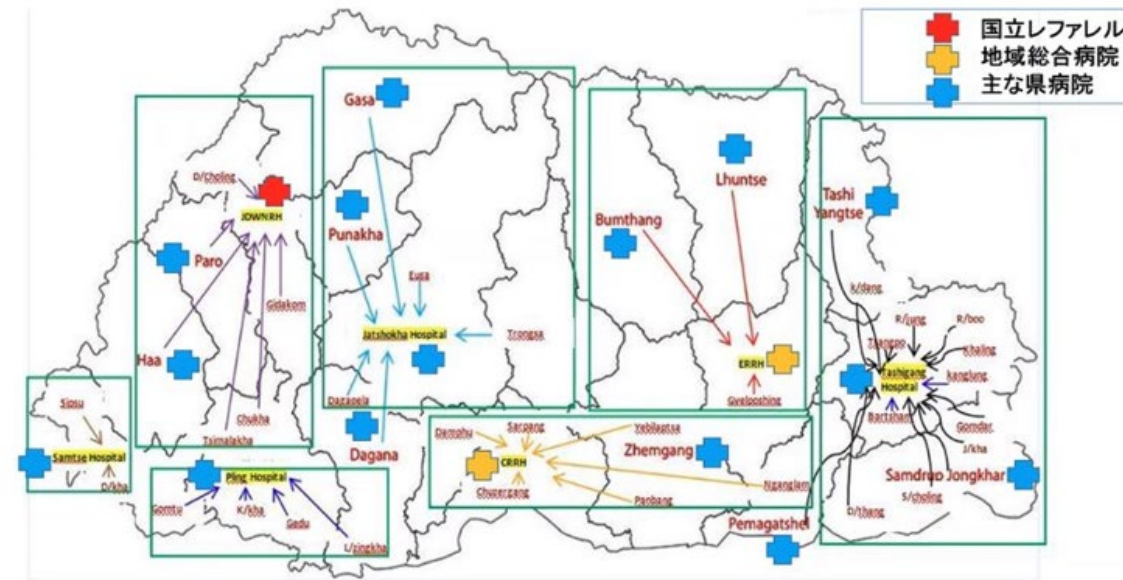
<http://itu.int/go/study-groups>

Use Case in Bhutan

Only 15 OBGYNs cover 47 hospitals across the country with Remote devices



Used for the birth of Queen Bhutan's second child



Perinatal eHealth made possible by Mobile fetal monitor

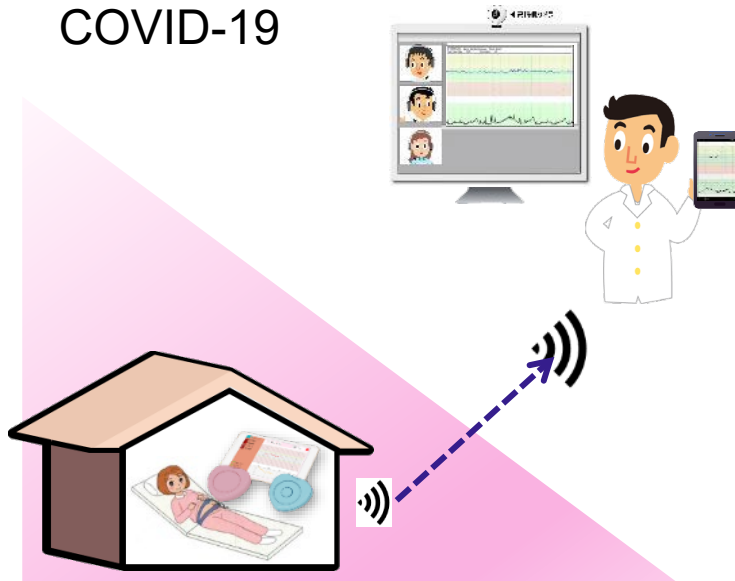
1 Pregnant women in remote areas

As soon as possible if they have any problems.



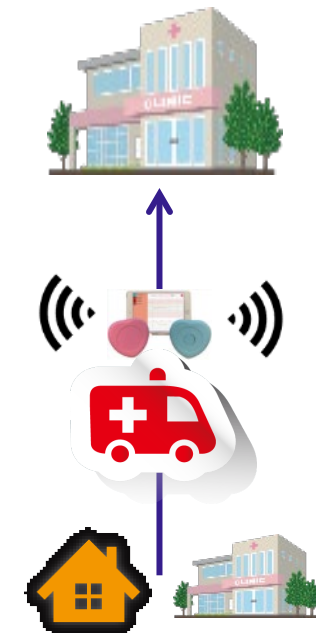
2 Remote high risk pregnancies and infection risks

High risk CTG monitoring and
Without hospital visit against
COVID-19



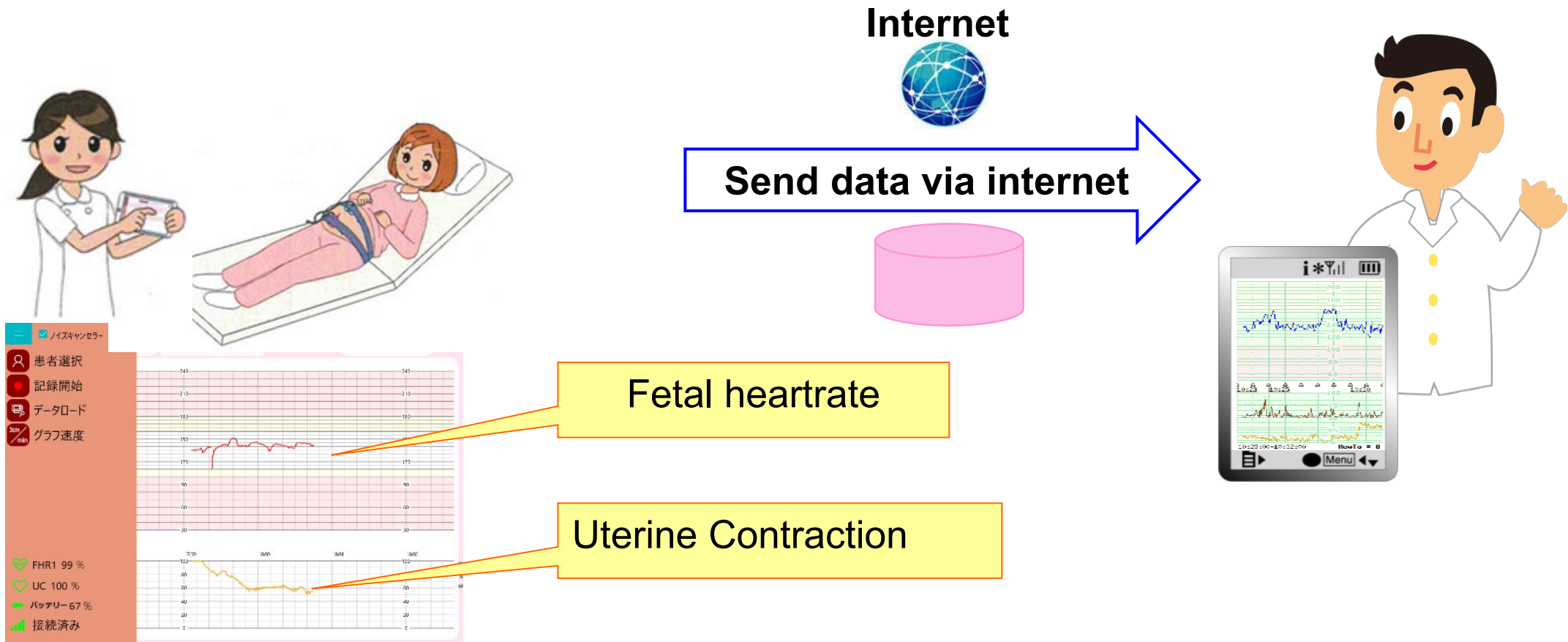
3 Fetal monitoring in emergencies and disasters

Shelters and emergency vehicles
sharing CTG data with doctors

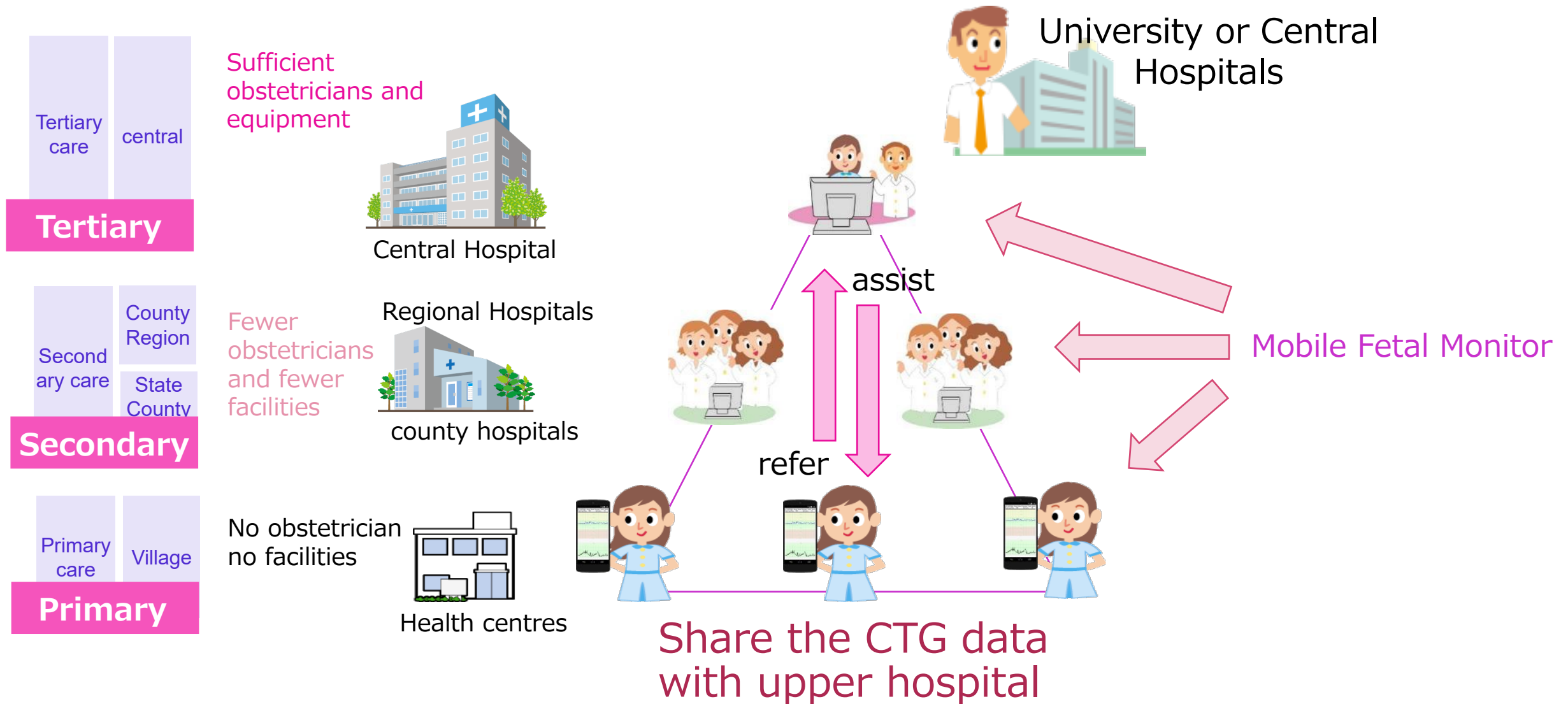


Utilization of the delivery

- The data from CTG can be shared within the hospital.
- The timing and progress of deliveries can be monitored even at a distance.
- It helps to reduce the number of COVID 19 infections in the hospital.
- CTG can be installed and used immediately without any special hospital equipment.



“Business Plan” we would like to propose





Melody
International

**Thank
You**

END