

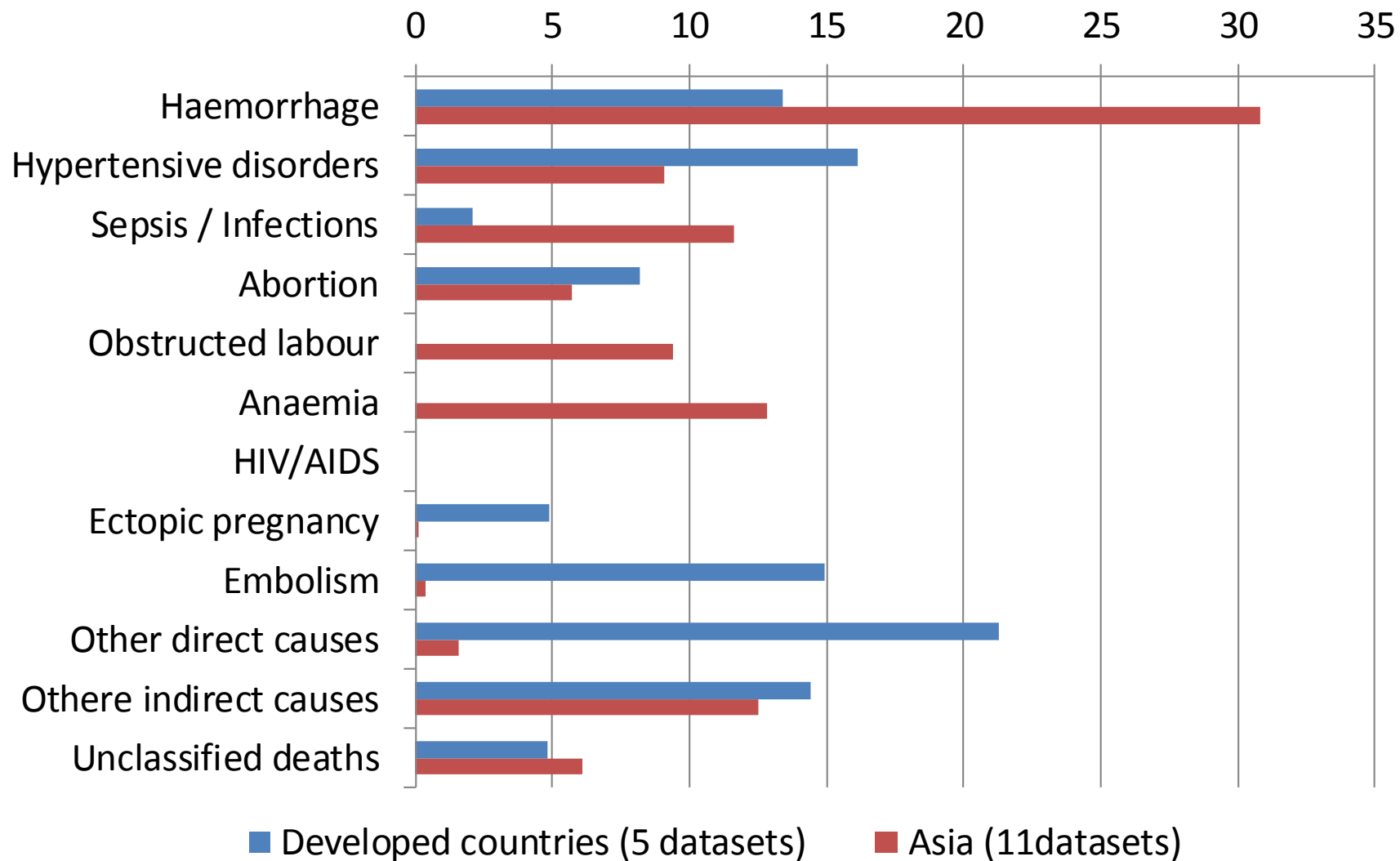
# People-centred Healthcare for secure and safety birth in Japan

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# Joint distribution of causes of maternal death(%) in Asia



# Obstetric and neonatal epidemiology: timing of onset of condition

	Days							Weeks				
	1	2	3	4	5	6	7	2	3	4	5	6
<b>%of maternal deaths</b>	<b>60%</b>	17%	13%				4%					
<b>Metritis</b>	High											
<b>Eclampsia</b>	High						High	High				
<b>Anaesthesia and thromboembolism</b>	High	High										
<b>Septic thrombophlebitis / Perineal wound infection</b>					Low/medium	Low/medium	Low/medium					
<b>Abdominal wound infection</b>			Low/medium	Low/medium	Low/medium							
<b>Secondary postpartum haemorrhage</b>							High	High				
<b>Urine retention</b>	Low/medium	Low/medium					Low/medium	Low/medium	<b>Urinary tract infection</b>			
<b>Severe anaemia</b>	Low/medium							Low/medium				
<b>Obstetric fistula</b>				Low/medium	Low/medium	Low/medium	Low/medium					
<b>Depression and anxiety</b>								Low/medium	Low/medium	Low/medium		
<b>Women with female genital mutilation</b>						Low/medium	Low/medium	Low/medium				

**Fatality rate**  
 High ■  
 Low/medium ■

(Source: WHO Technical Consultation on Postpartum and Postnatal Care, 2010)

## Obstetric and neonatal epidemiology: timing of onset of condition - infant health

	Days							Weeks				
	1	2	3	4	5	6	7	2	3	4	5	6
<b>%of neonatal deaths</b>	<b>32%</b>	8%	10%	7%	4%	5%	5%	15%	<b>14%</b>			
<b>Asphyxia / Trauma</b>												
<b>Respiratory Distress Synd</b>												
<b>Other preterm breathing problems</b>												
<b>Sepsis</b>	<div style="display: flex; justify-content: space-between; align-items: center;"> <span>← early</span> <span>late →</span> </div>											
<b>Nosocomial inf. (special care)</b>												
<b>Community-acquired severe infection</b>												
<b>Serious jaundice</b>												
<b>Malformation</b>		(visible / treatable)										
<b>Tetanus</b>												
<b>Congenital syphilis</b>												
<b>Gonococcal ophthalmia</b>												
<b>HIV-exposed infant</b>												

**Fatality rate**

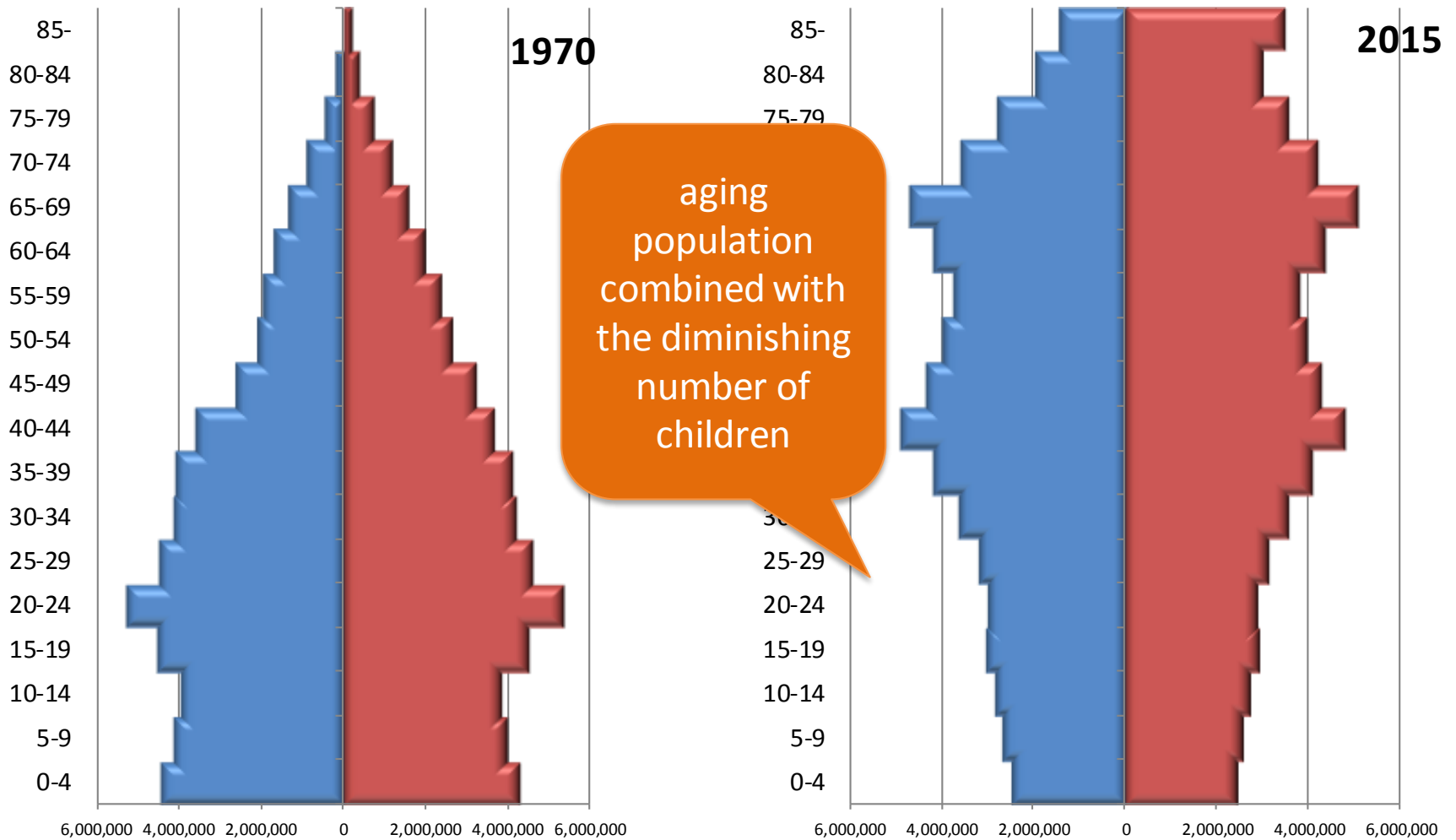
High ■

Low/medium ■

(Source: WHO Technical Consultation on Postpartum and Postnatal Care, 2010)

Japan

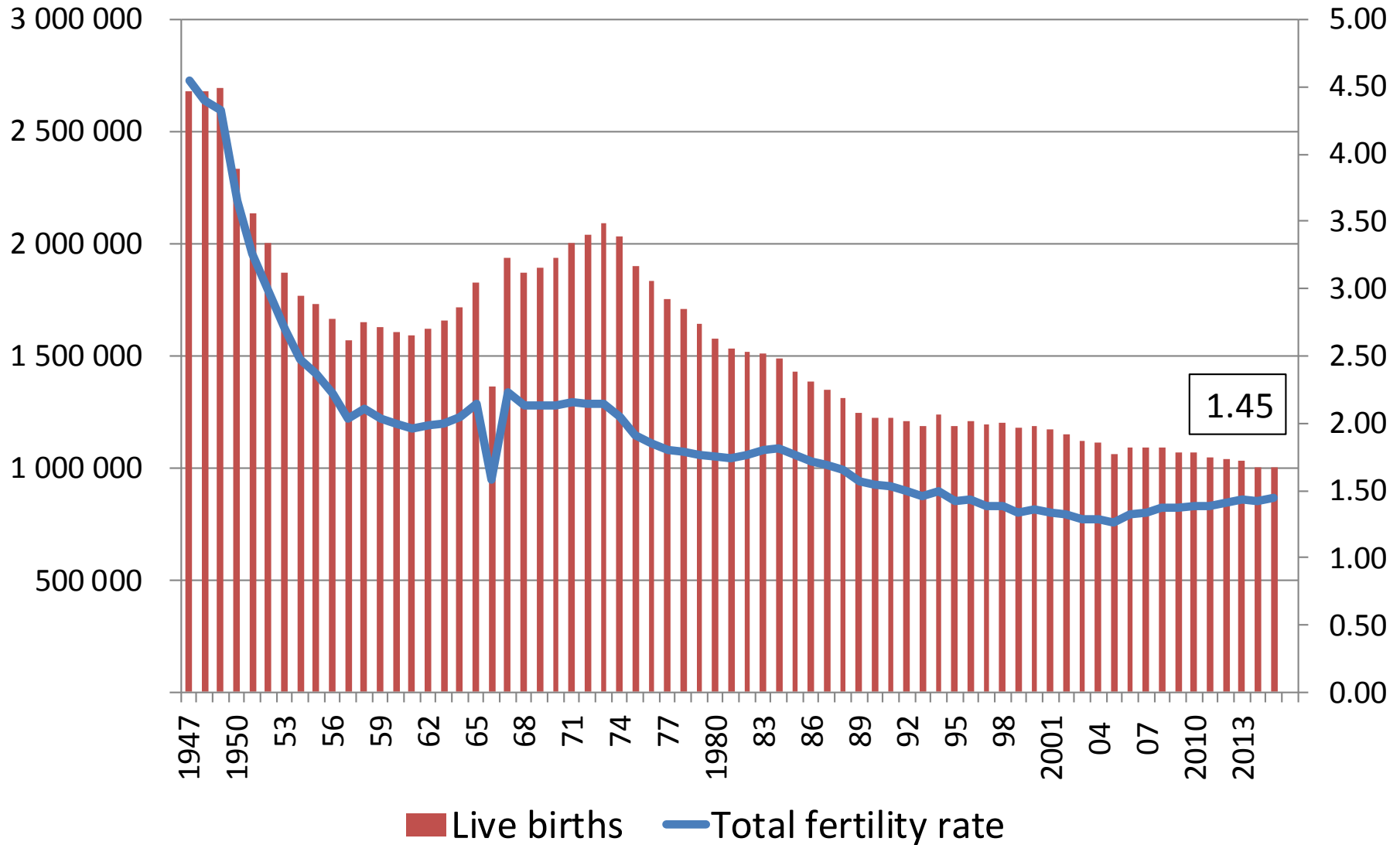
# Japanese population pyramid



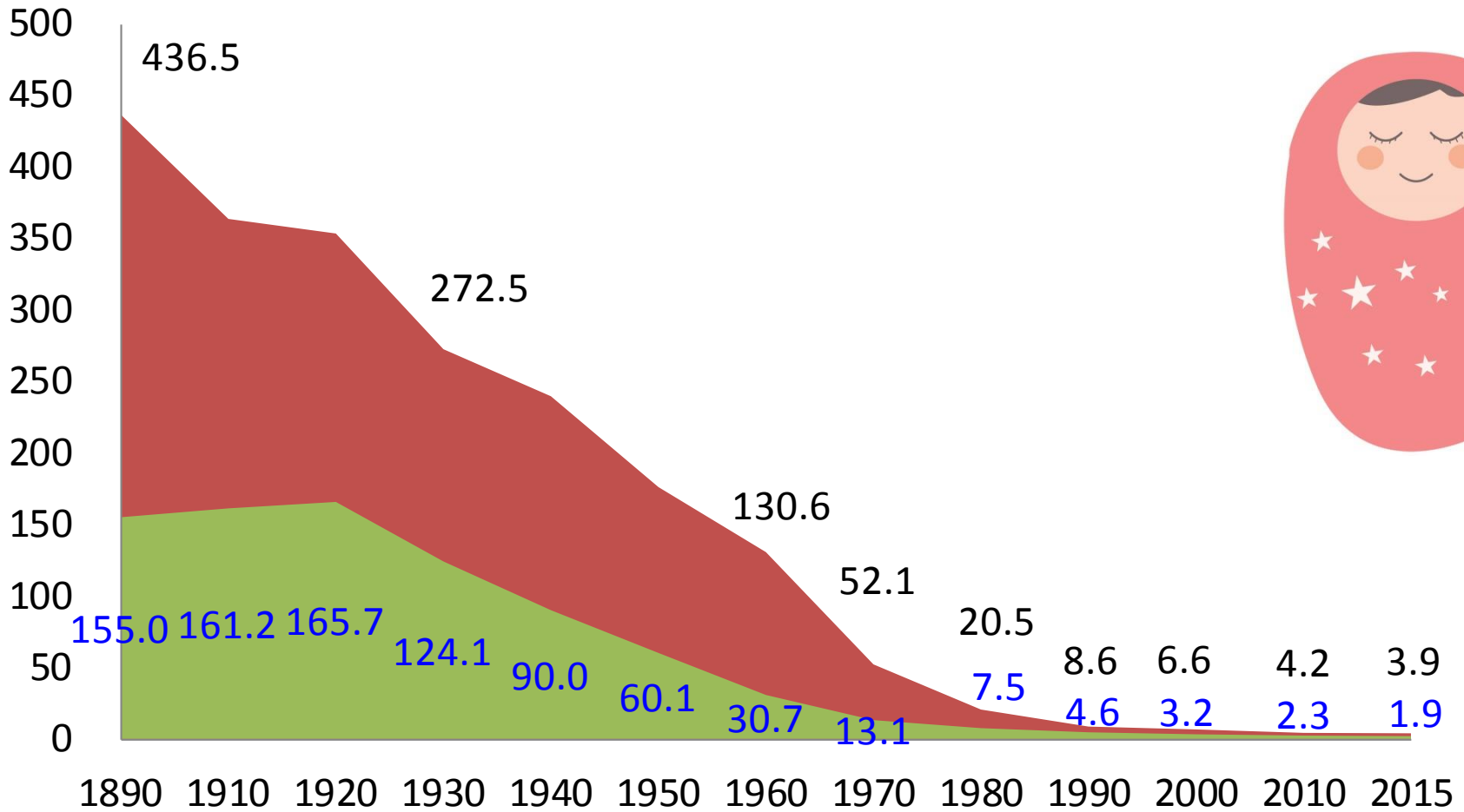
Total population = 102,941,627

Total population = 125,319,299

# Trends in Live Births and Total Fertility Rate, 1947-2015, Japan



- maternal mortality rate per 100 000 live births
- Infant Mortality Rate per 1000 live birth

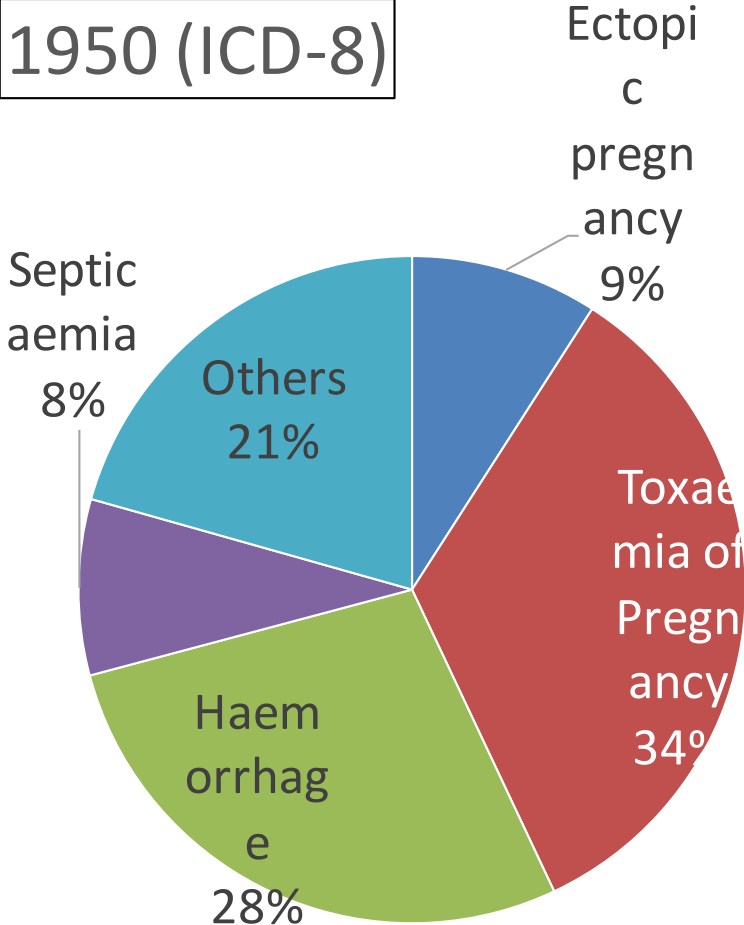


From Vital Statistics of Japan



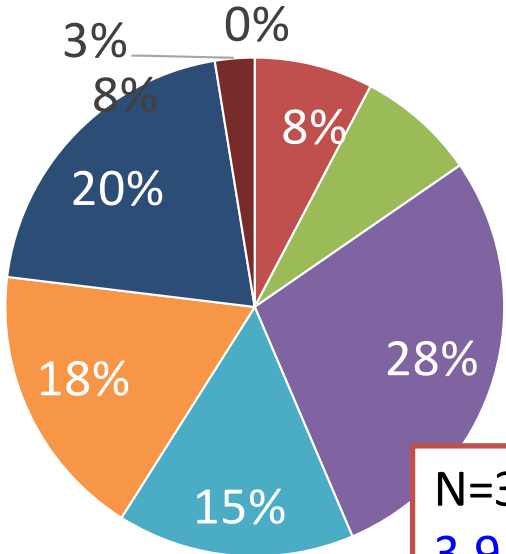
# Maternal Deaths and Main causes

1950 (ICD-8)



N=4117  
 176.1/100 000 Live Births

2015 (ICD-10)



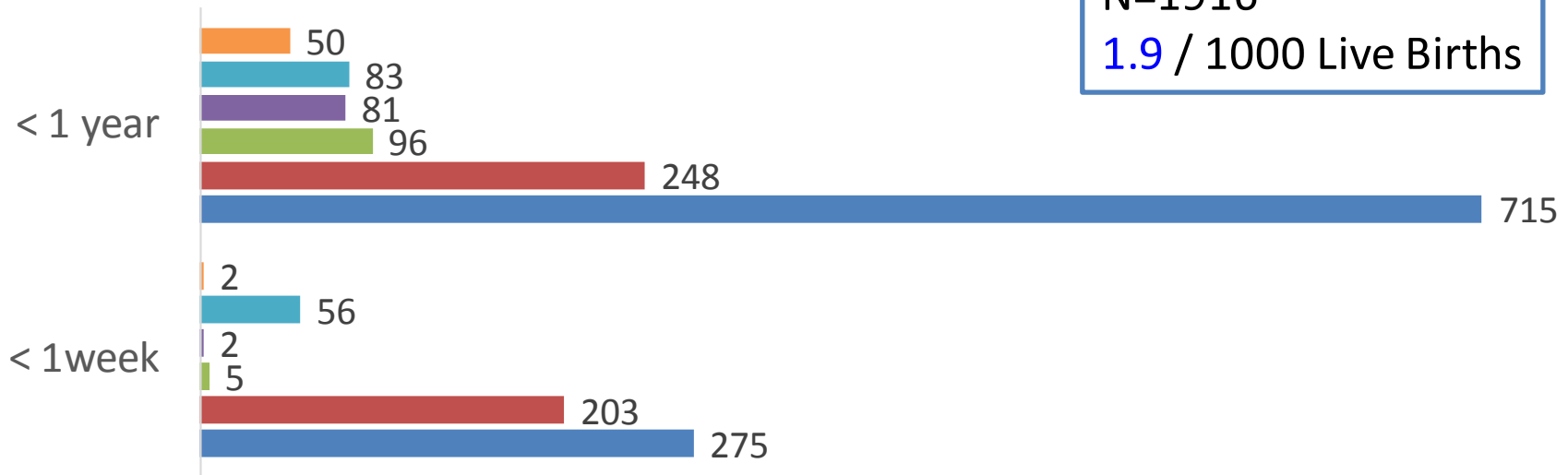
N=39  
 3.9/100 000 Live Births

- Ectopic pregnancy
- Oedema, proteinuria & hypertensive disorders
- Placenta praevia and premature searation of placenta
- Postpartum Haemorrhage
- Obstetric embolism
- others
- Indirect obstetric causes
- unspecified

# Infant Deaths by Age and Cause of Death (2015)

N=1916

1.9 / 1000 Live Births



Heart diseases(except for Hypertention)

Haemorrhagic and Haematological disorders of fetus and newborn

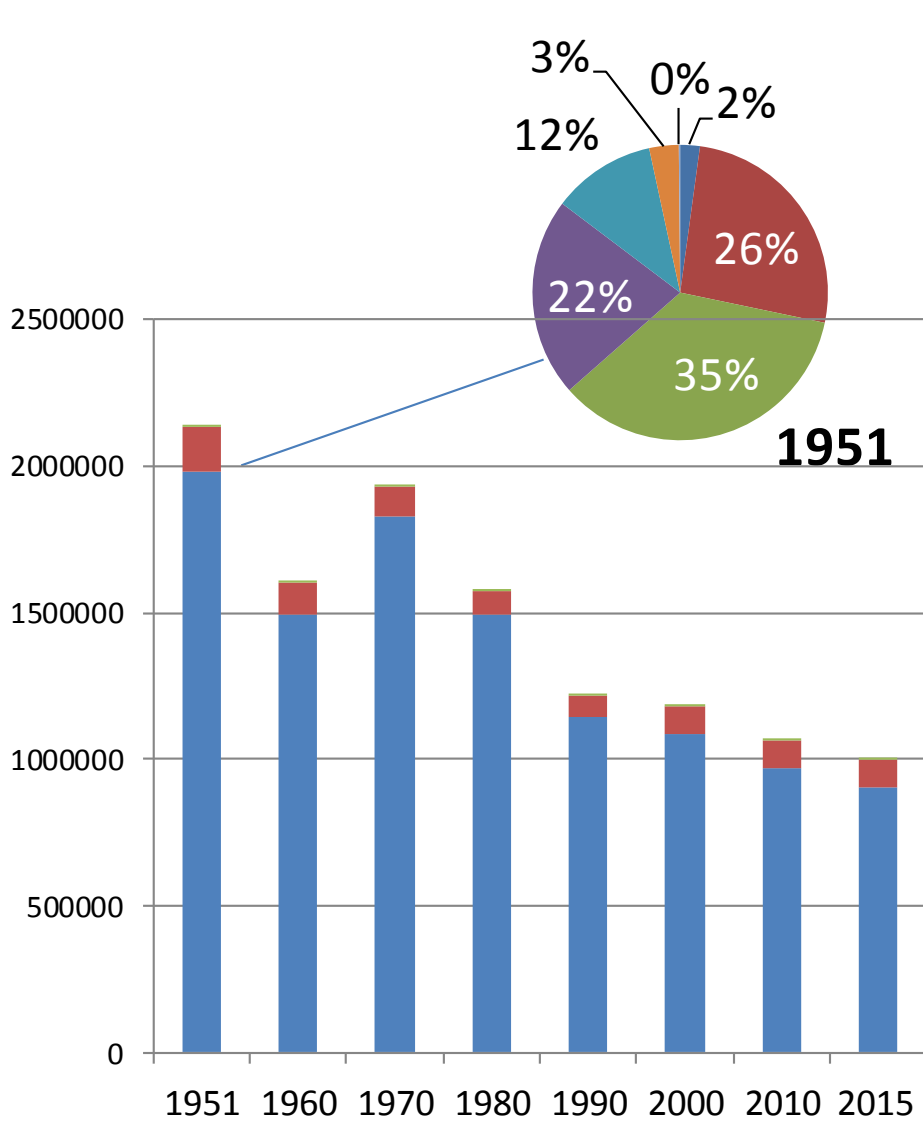
Accidents

Sudden infant death syndrome

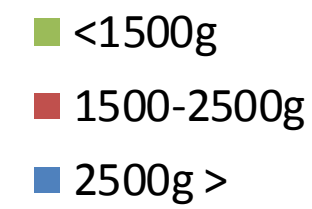
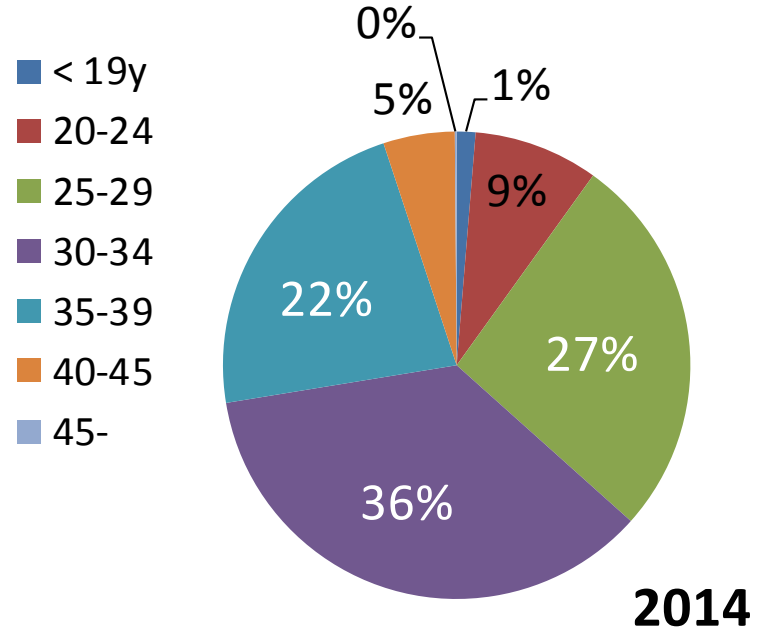
Respiratory and cardiovascular disorders specific to the perinatal period

Congenital malformations, deformations and chromosomal abnormalities

# Numbers of childbirth and Mothers' age 1951-2015



Number of Births

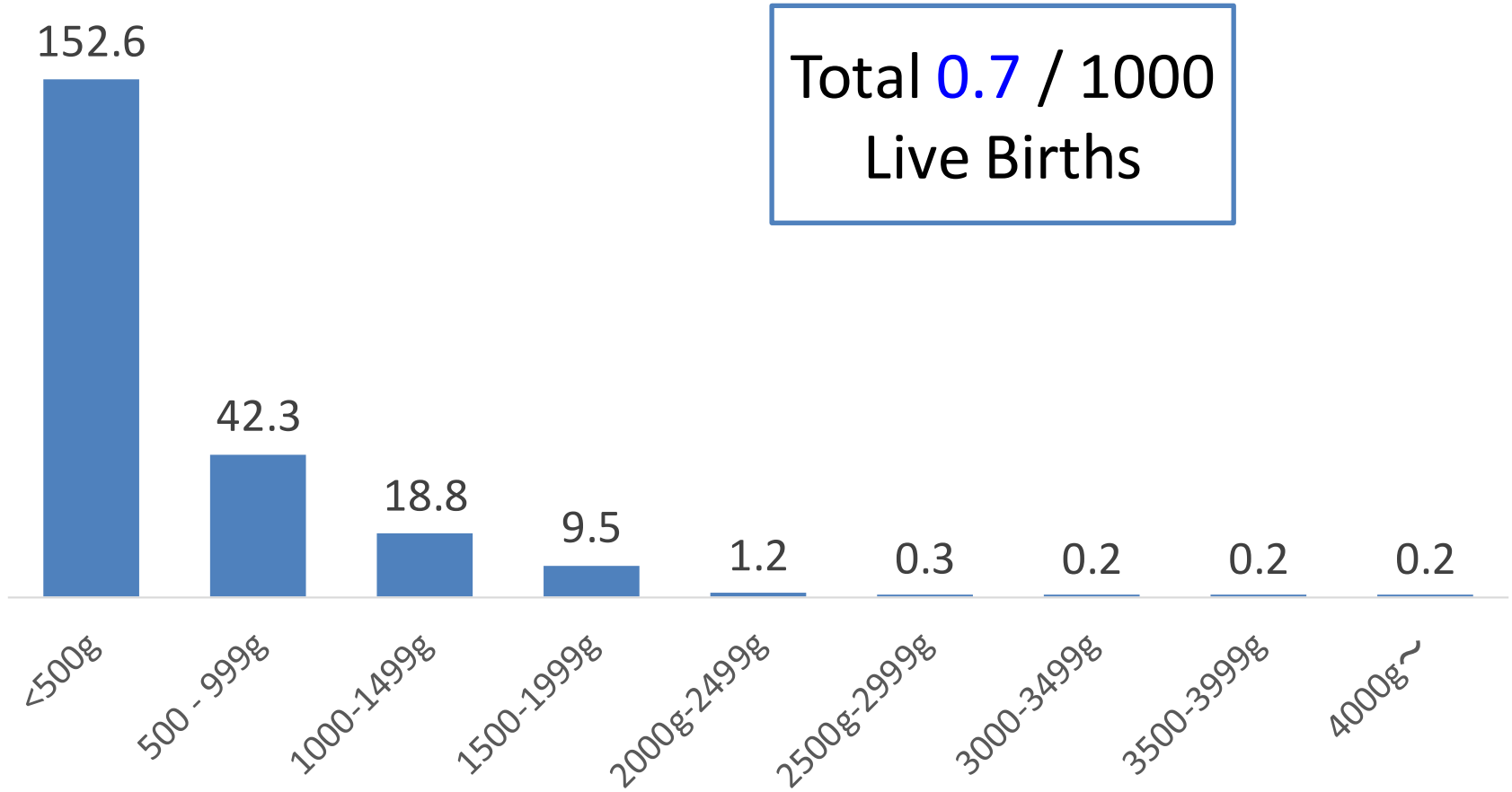


Mean birthweight **3000 g** (2015)

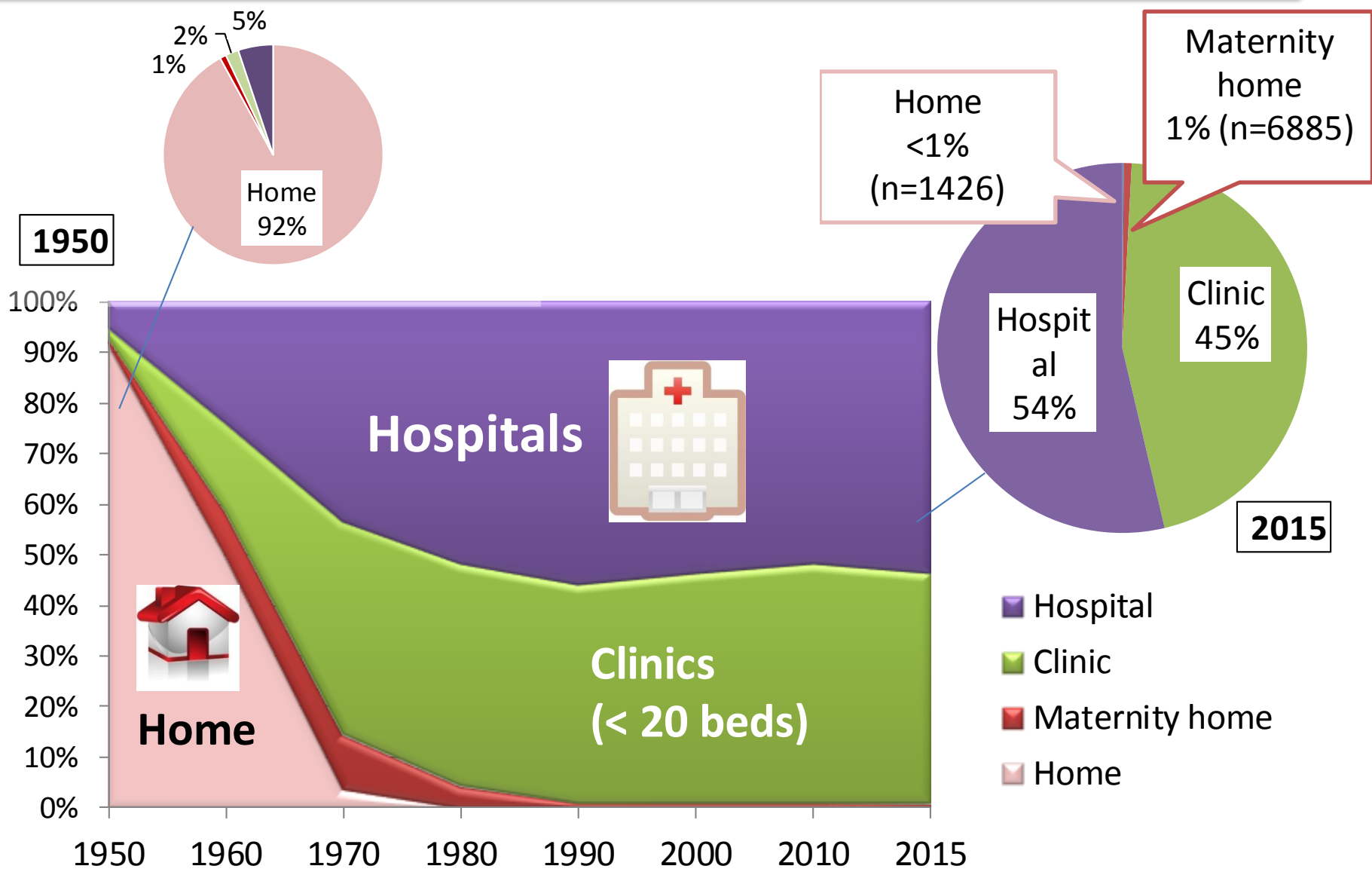
Mean Mother's age at 1<sup>st</sup> childbirth **30.7 years old** (2016)



# Early Neonatal (< 1 week) Mortality Rates by Birthweight (2015)



# Place of Birth in Japan (1950-2015)

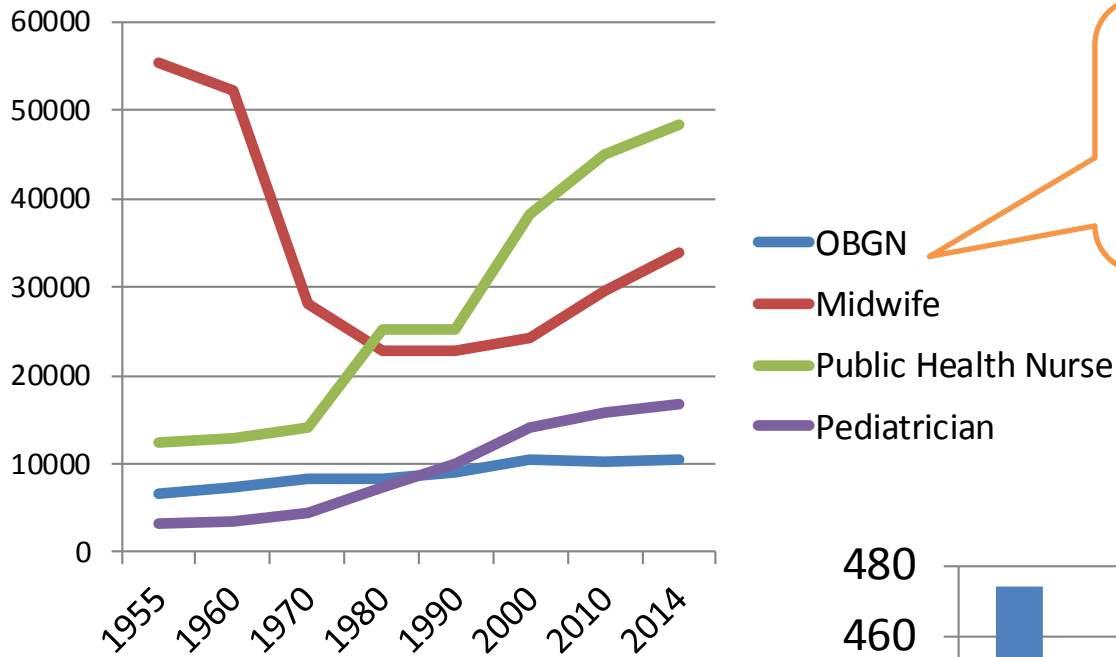


# Health Care System for expectant / nursing mothers in Japan

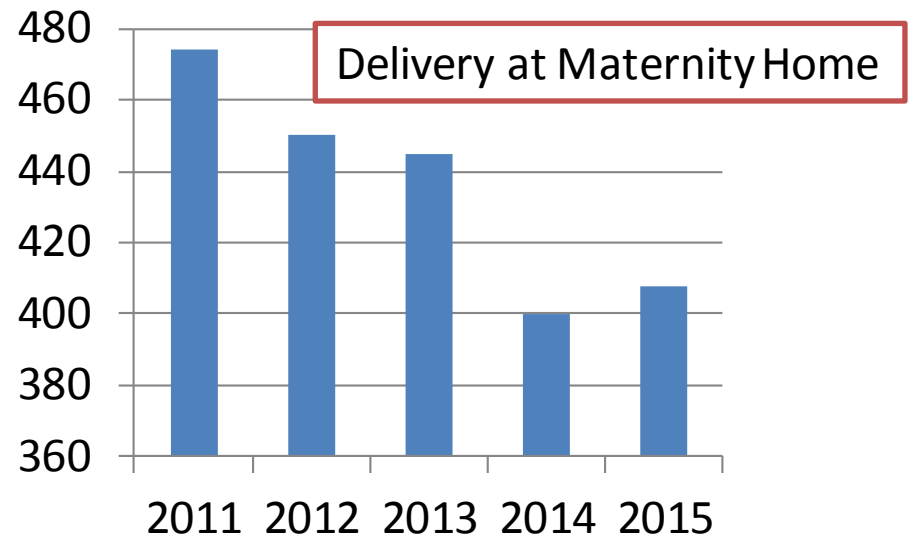
- All citizens covered by national health insurance
- Lump-sum allowance for childbirth provided by health insurance (¥420,000) (delivery expenses depends on the place; hospital, clinic, maternity home)
- Any medical costs (C- section, etc) covered by health insurance
- For the safety & quality improvement of delivery (2009- Japan Council of Quality Health Care )
  - compensating for the economic burden affecting families with children who developed severe cerebral palsy (not congenital or neonatal reasons) analyzing the cause and providing knowledge to prevent the recurrence of similar cases
  - ¥ 16000/birth ⇒ Once certified for compensation, a lump-sum payment for preparation and installment payment totaled of 30 million yen.
  - (registered hospital/clinic : 99% (2813/2816), maternity home 100% (444))



# Human resources for maternal care



OBGN=10,652 (2015)  
99 / 10000 Live Births



# Background of current Mothers (and children)

Decreasing three-generation family with children  
27% (1986)  $\Rightarrow$  14.7% (2016)\*



## Increasing fertility treatment

51,001 babies (5% of total births) with extracorporeal fertilization (2015)  
< Japan Society of OBGN >



67% working mothers  
(regular 22%)\*

Mean Mother's age at 1<sup>st</sup> childbirth **30.7** years old (2016)



A **people-centred service** must begin with the user's views on what precisely the problem is within their own unique situation ( 1998 Williams B, Grant G)



The Mother has a choice after well informed.

But the Gap is still there, between mother and  
healthcare professionals

# To achieve secure and safety birth

Health Policy  
Central/Local gov.

working  
environment  
Maternity/  
childcare Leave

Support

**Social Care / Welfare**

Subsidy for chronic diseases  
Beneficiaries for  
Handicapped Children

The Japan Obstetric  
Compensation  
System for Cerebral Palsy

Prevent

**Public Health Service**

Health Checks  
Vaccination  
Screening

Cure /  
Care

**Medical Service**

Risk Control  
High risk pregnancy/delivery  
Referral Network  
NICU/MFICU  
Subsidy for infertility  
treatment



## Maternal and Child Health Law

1965 In order to improve the maternal mortality rate that still remained high, efforts were made to strengthen mother and child health measures, including providing health checkups and health guidance focusing on motherhood.

1977 and later

- Reorganizing health checkups and health guidance for pregnant women, infants, and toddlers and other services as familiar municipal services
- Establishment of a public expenditure system for the medical care of chronic diseases of children
- Institutionalization of physical examinations for 18-month-old children (mass examination)
- Commencement of mass screenings for inborn errors of metabolism
- Improvement of perinatal medical facilities

2000: “Healthy Parents and children 21 ” 2015 - :Phase II

# Maternal and Child Health Law

## Major Provisions

### 1. Health guidance (Article 10)

Municipalities shall provide necessary health instructions on pregnancy, delivery and child rearing and encourage to receive the health instructions.

### 2. Health examination (Article 12 and 13)

- Municipalities shall provide physical examination to 18-month old and 3-year old.
- In addition to the above, municipalities shall provide physical examination to Pregnant and parturient women, infants and children as necessary and encourage them to receive one.

### 3. Pregnancy notification (Article 15)

Women who were found to be pregnant shall immediately notify the pregnancy to municipalities

### 4. Maternal and Child Healthcare Handbook (Article 16)

Municipalities shall provide Maternal and Child Healthcare Handbook to pregnant women

### 5. Notification of low birth weight infants (Article 18)

Parent of infants less than 2,500g weight shall immediately notify it to the municipalities they belong.

### 6. Medical and infant care services (Article 20)

Prefectures shall provide either medical benefit or medical expenses for premature infants.

# Example of a Standard “Maternal Health Check”

Period	Early pregnancy period - 23rd week ( 4 series)	24th - 35th week of pregnancy (5 series)	36th week up to delivery (4 series)
Interval between examinations	every 4 weeks	every 2 weeks	every week
Basic items checked during every visit	<ul style="list-style-type: none"> <li>● <b>general health condition</b></li> <li>● <b>Examination and measurement</b> : Example of basic examination: Fundal height, waist circumference, blood pressure, edema, and urinalysis (glucose, protein), weight (body height also measured during first examination)</li> <li>● <b>Health guidance</b></li> </ul>		
Medical examinations conducted as necessary	<ul style="list-style-type: none"> <li>● <b>Blood test</b> Once during the early stage Blood type (ABO blood type / Rh blood type / irregular antibodies), blood counursing mothers.nt, blood sugar, hepatitis B antigens, hepatitis C antibodies, HIV antibodies, serological test for syphilis, rubella virus antibodies</li> <li>● <b>Screening for cervical cancer</b> (cytodiagnosis) Once during the early stage</li> <li>● <b>Echographic examination</b> Twice within the period</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Blood test</b> Once within the period Blood count, blood sugar</li> <li>● <b>Group B hemolytic streptococcus</b> Once within the period</li> <li>● <b>Echographic examination</b> Once within the period</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Blood test</b> Once within the period Blood count</li> <li>● <b>Echographic examination</b> Once within the period</li> </ul>
	<ul style="list-style-type: none"> <li>● <b>Blood test</b> Once by 30th week of pregnancy HTLV-1 antibody test</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Genital chlamydia</b> Once by 30th week of pregnancy</li> </ul>	



# Mother and Child Health Handbook



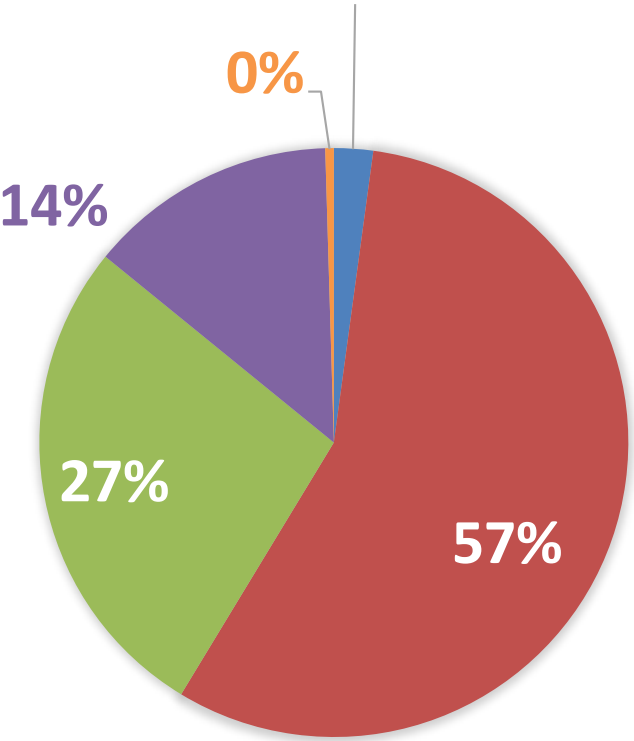
- A consistent health record on pregnancy, delivery, and child rearing
- Information provision
- Recorded by guardians themselves
- Integrated health examinations and health guidance

For mothers with baby with low birth-weight  
– Little baby handbook ,  
by NPO & local gov. 2017

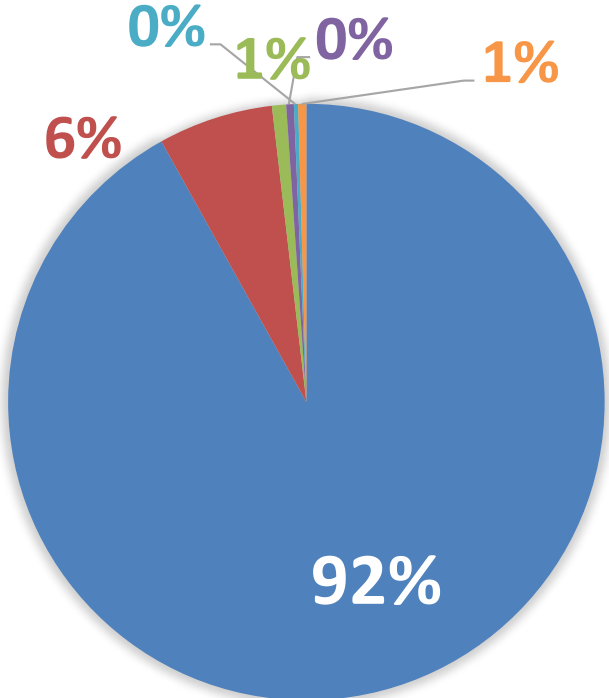


# Number of Reported Cases of Pregnancy By Weeks of Gestation

- <11W
- 12-19W
- 20-27W
- >28
- after delivery
- not stated

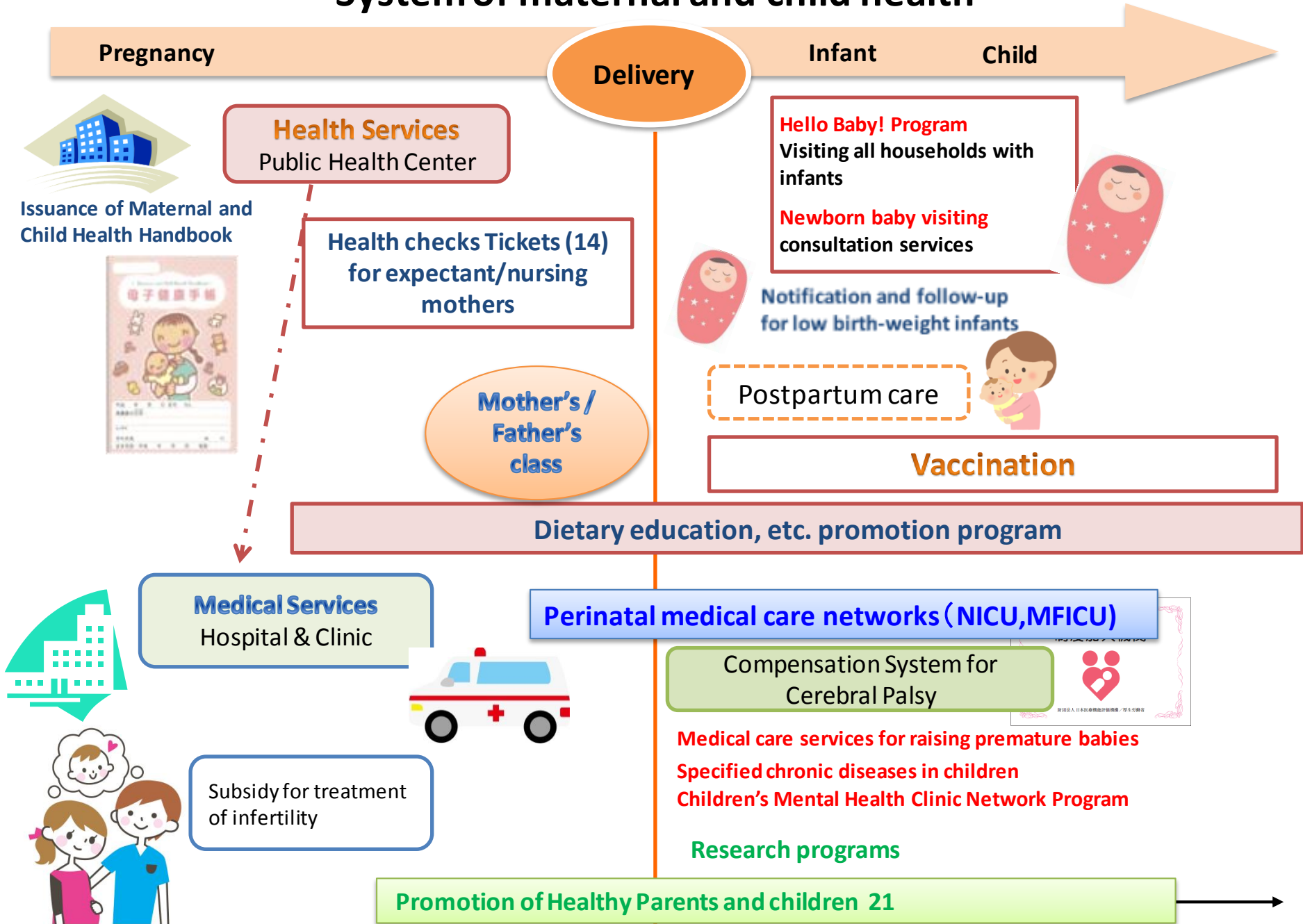


1965



2015

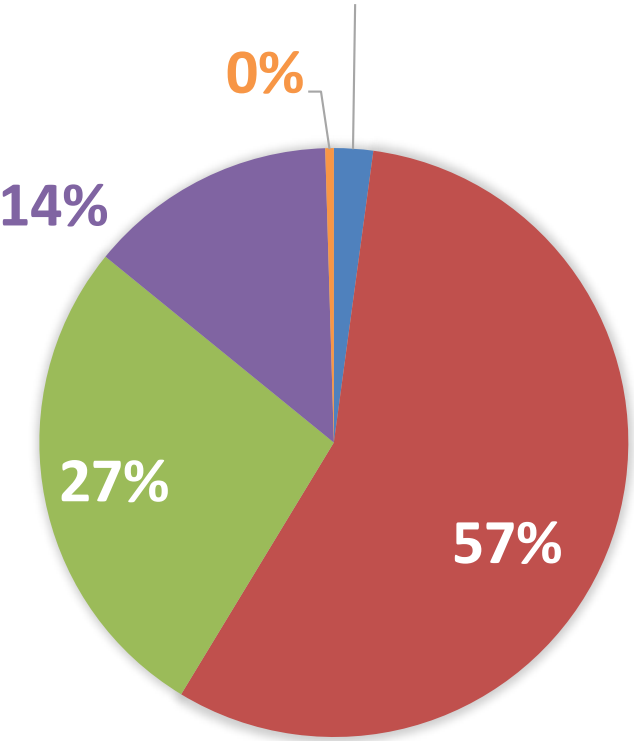
# System of maternal and child health



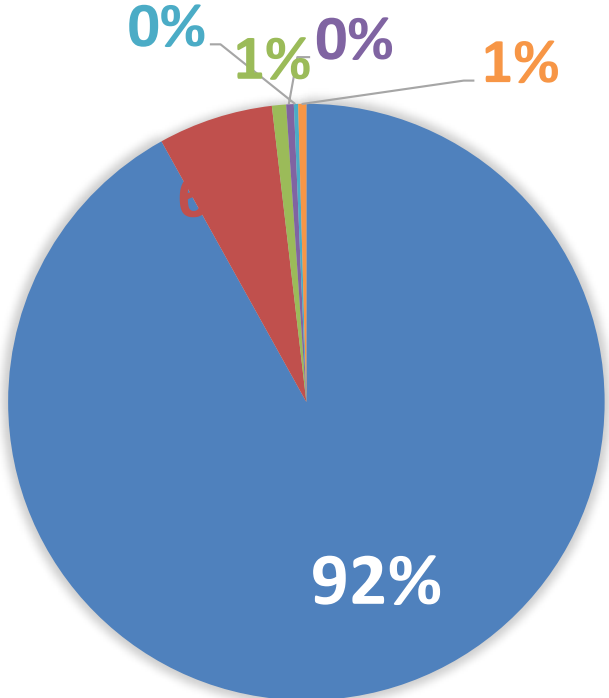


# Number of Reported Cases of Pregnancy By Weeks of Gestation

- <11W
- 12-19W
- 20-27W
- >28
- after delivery
- not stated



1965



2015

# Public Health Services after childbirth

## Nationwide Survey

- Lack of formal Postpartum care
  - depressive state within 3 months: 5- 6% in Japan (Kitamura et al)
- **Hello Baby Program**
  - **Visiting all households with infants**
- **Newborn baby visiting consultation services**

Mostly paid attention to the infant and baby

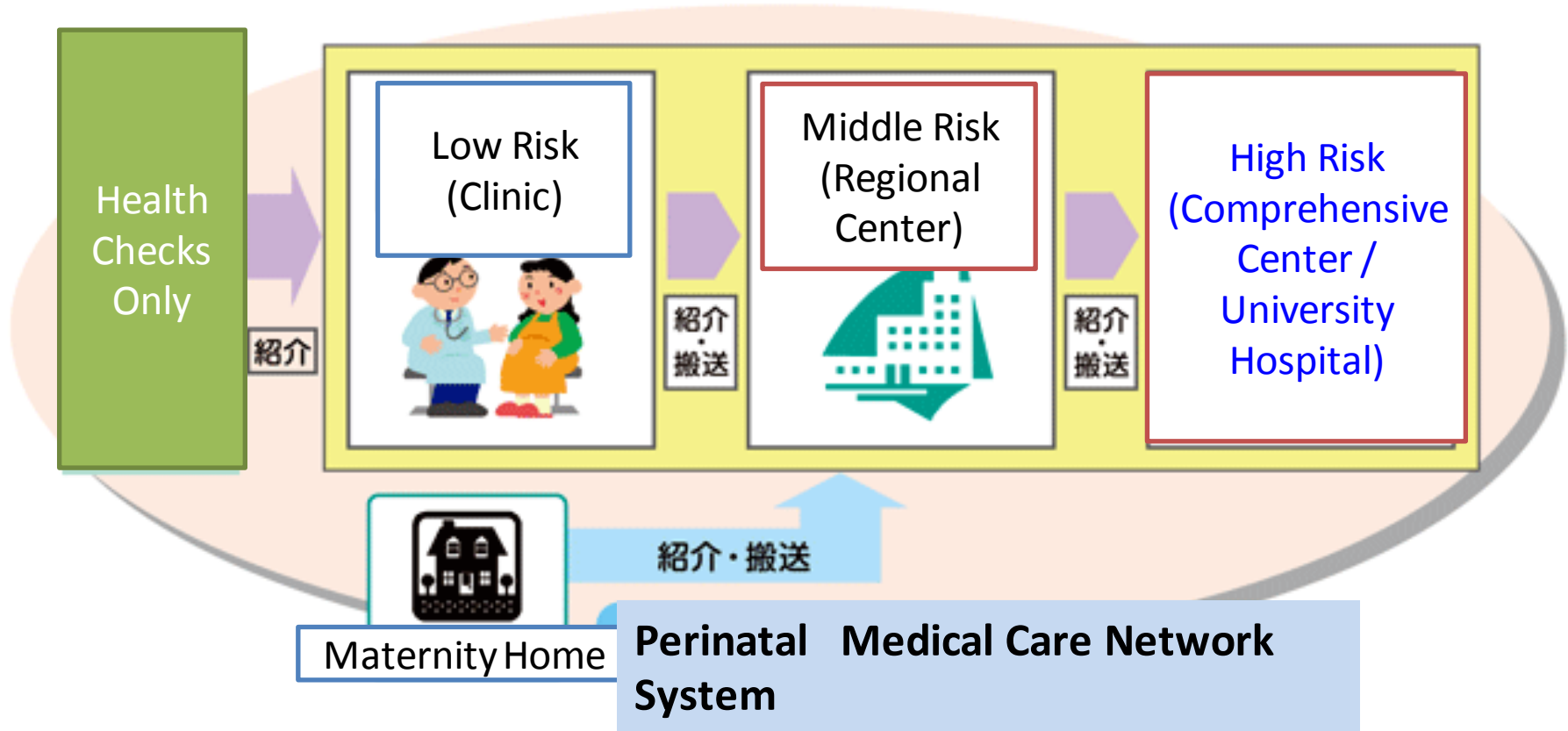
## Case Discovery : Inborn Errors of Metabolism 1977 – 2015 (n=48,664,213)

Galactosemia	1257	Isovaleric Acidemia	4
Phenylketonuria	658	MEthylcrotonylglycinuria	16
Maple Syrup Urine Disease	91	Multiple Carboxylase Deficiency	3
Homocystinuria	209	Glutaric Acidemia (I)	10
Citrullinemia (I)	12	MCAD deficiency	22
Argininosuccinic aciduria	3	VLCAD deficiency	30
Methylmalonic Acidemia	29	TFP deficiency	4
Propionic Acidemia	63	CPT-1 deficiency	4

Mass Screening Program for Cretinism, 1979-2015: n=15,532 (rate: 1/2,900)

Source: Maternal and Child Health Division, Equal Employment  
Children and Families Bureau, Ministry of Health, Labour and Welfare

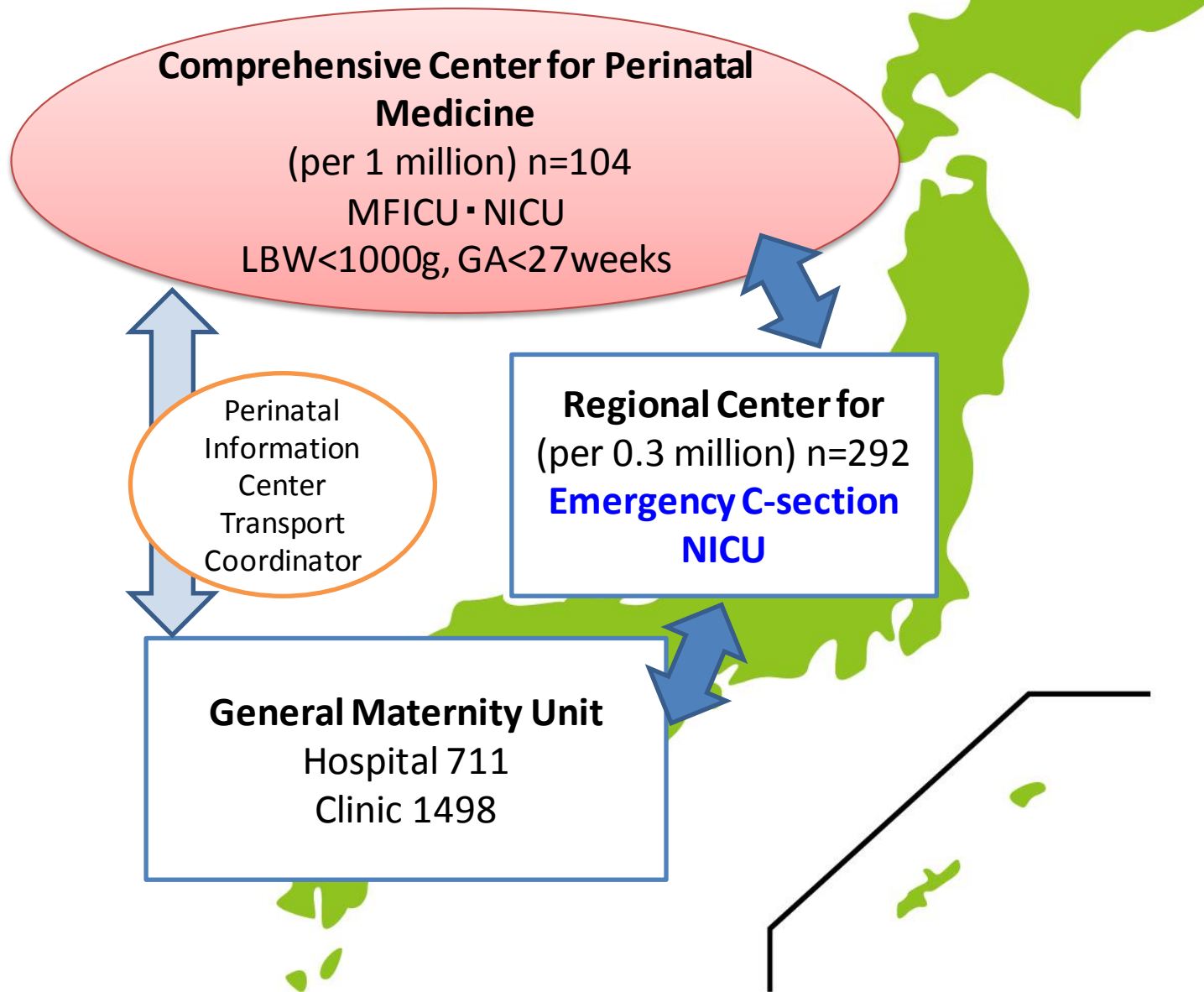
# Model of Community Perinatal Care System



Ref: <http://www.fukushihoken.metro.tokyo.jp/soumu/2015sya/02/55.html>

# Perinatal Medical Care Network System

since 1996, covered all prefectures in 2011



# Conclusion

- Health Care System in Japan achieved low Maternal Mortality Rate and Infant mortality rate, but still needs to improve “mother and child centred” continuum and seamless care in the community.