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# Health development of children for future generations



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I would like to appreciate you for your kind support after The East Japan Great Earthquake Disaster occurred on March 11, 2011.

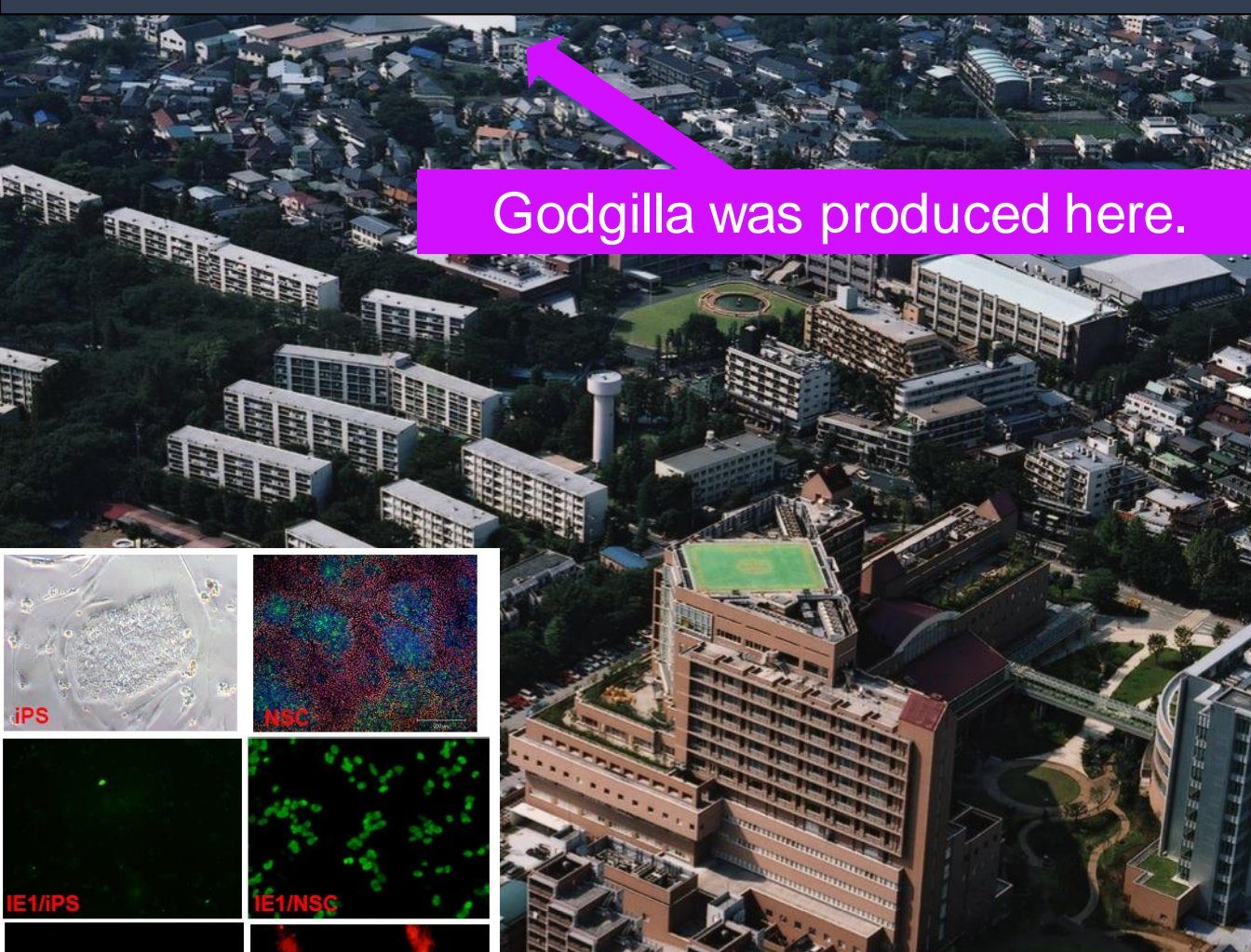


# NATIONAL CENTER FOR CHILD HEALTH AND DEVELOPMENT, Tokyo (NCCHD)

- 1) National medical center for children and mothers (A)
- 2) National Research Institute for Child Health and Development (B)



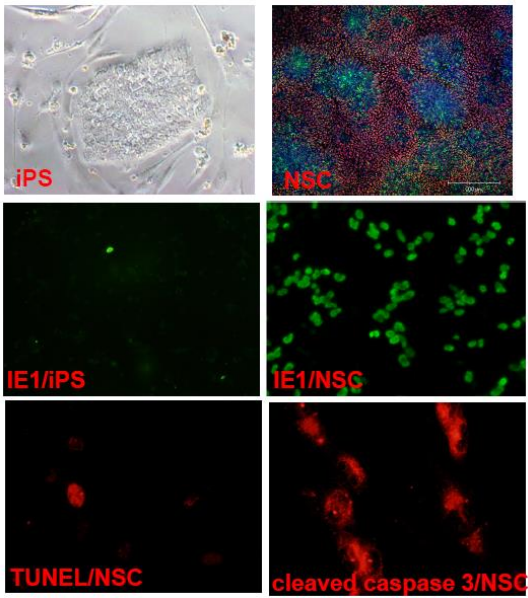
# Toho-movie studio is in the neighborhood of NCCHD



Godzilla was produced here.



Birthday: Nov 3, 1954



We are producing Human ES and iPS cells in NCCHD.

# What is health?

## How do we improve the child health?

WHO defined health as “a state of complete physical, mental and social well-being and not merely the absence of diseases.”

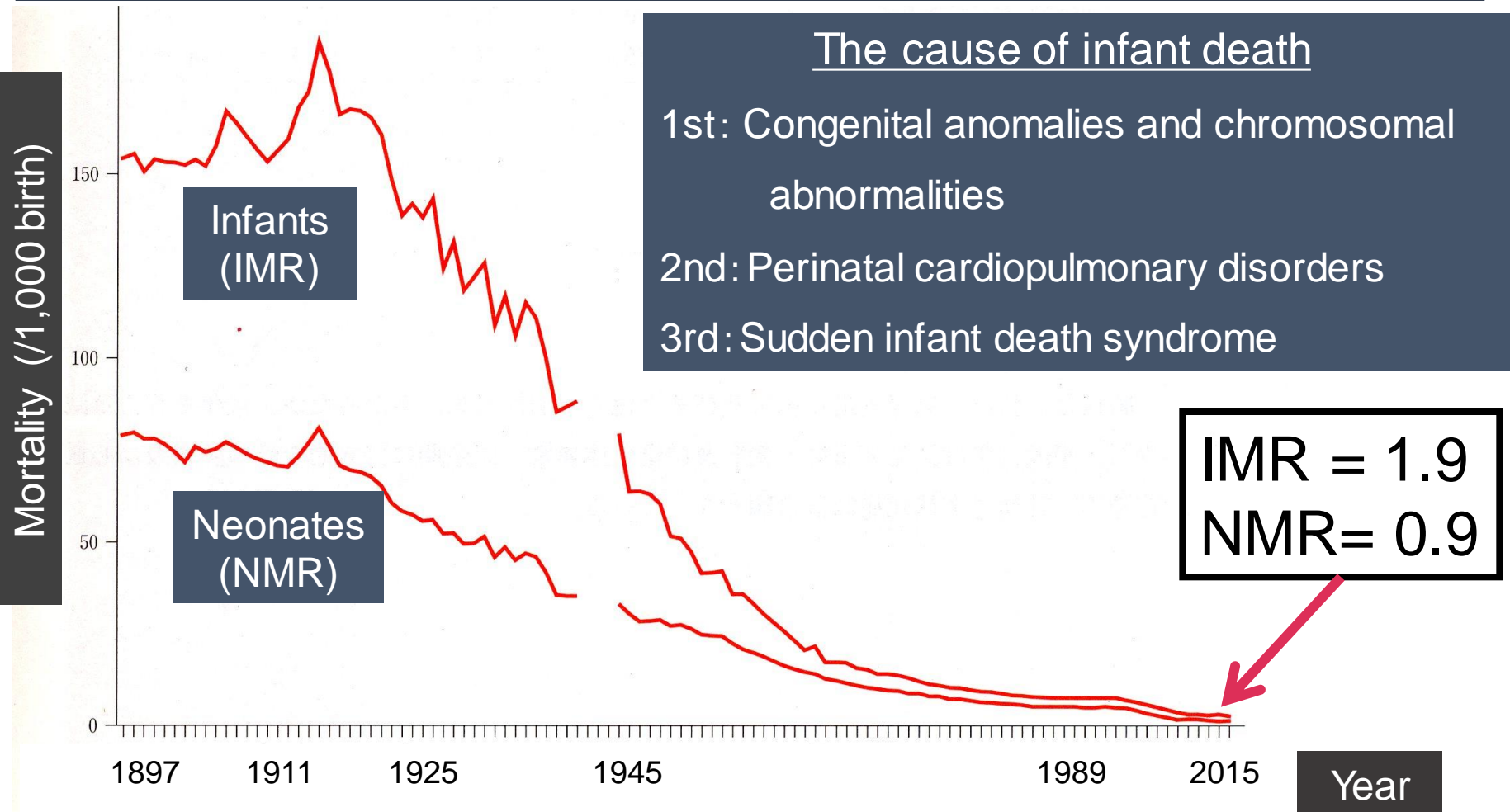
Child health is more than survival, absence of diseases, but also about achieving the full developmental potential of each child.

Preventing and curing diseases is but one of many tasks for improving child health, nevertheless an important task at individual level.

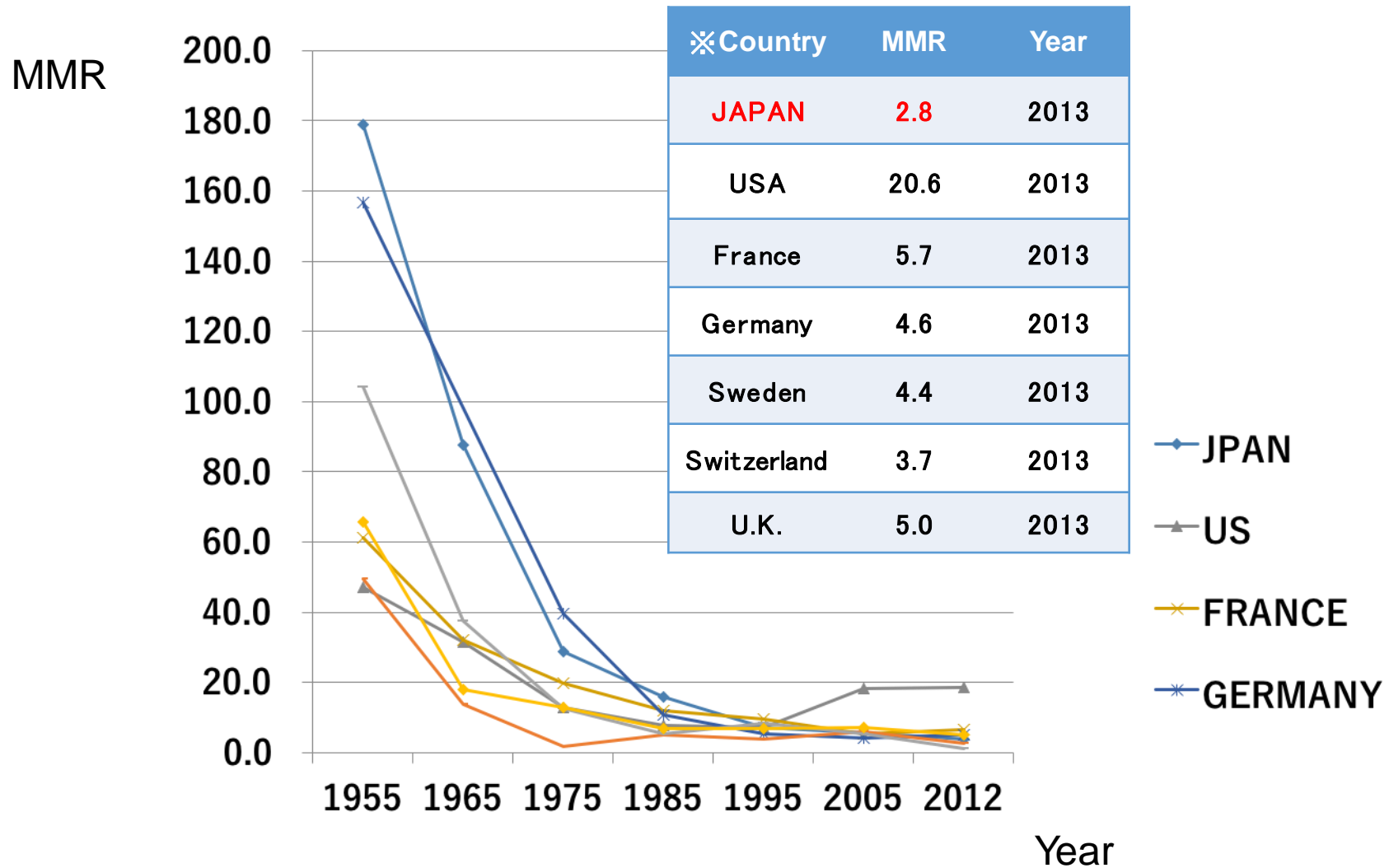
Political support and universal implementation of evidence-based cost-effective interventions to improve child health is the key to success at societal level.

1. Neonatal and infant mortality rate:  
Are their low level good enough for child  
health ?

# Historical changes of neonatal and infant mortality rate (NMR, IMR / 1,000 births) in Japan



# Recent history of maternal mortality rate: international comparison (per 100,000 live birth)





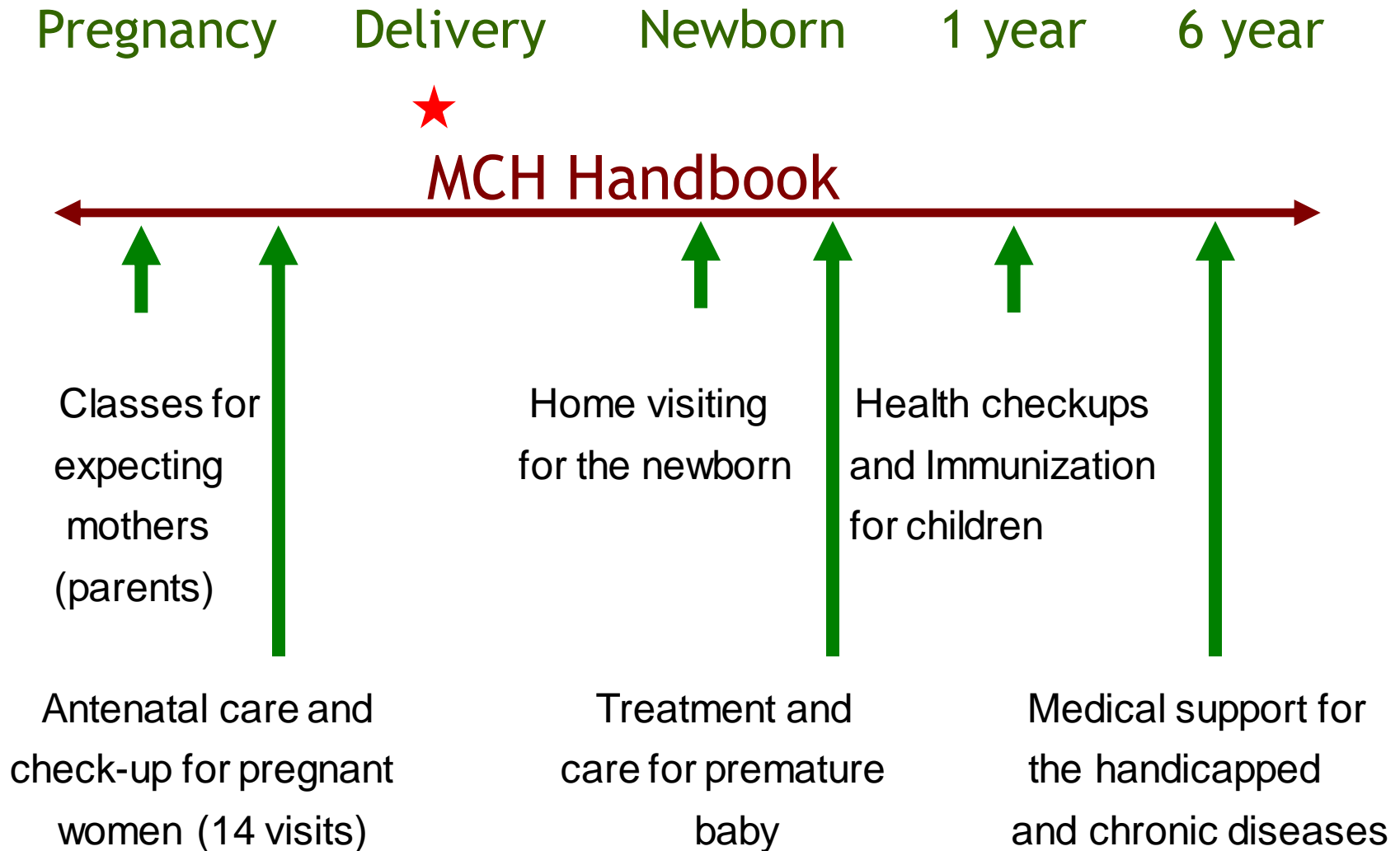
# Why could Japan get the very low infant mortality rate (IMR) in the world ?

## <potential explanations>

1. We have **national health insurance system** which covers all peoples.
2. It is easy for the peoples to **access** to the clinics and hospitals in almost all areas in Japan.
3. We use **Maternal and Child Health (MCH) Handbook**.
4. We provide population-based **screening system** and **health check-up system for all children**.
5. We have a high literacy rate.

*Source: Health and welfare for families in the 21st century, by Kiely M, Wallace HM, Nakamura Y et.al., Jones and Bartlett Pub., 1999 (partly changed)*

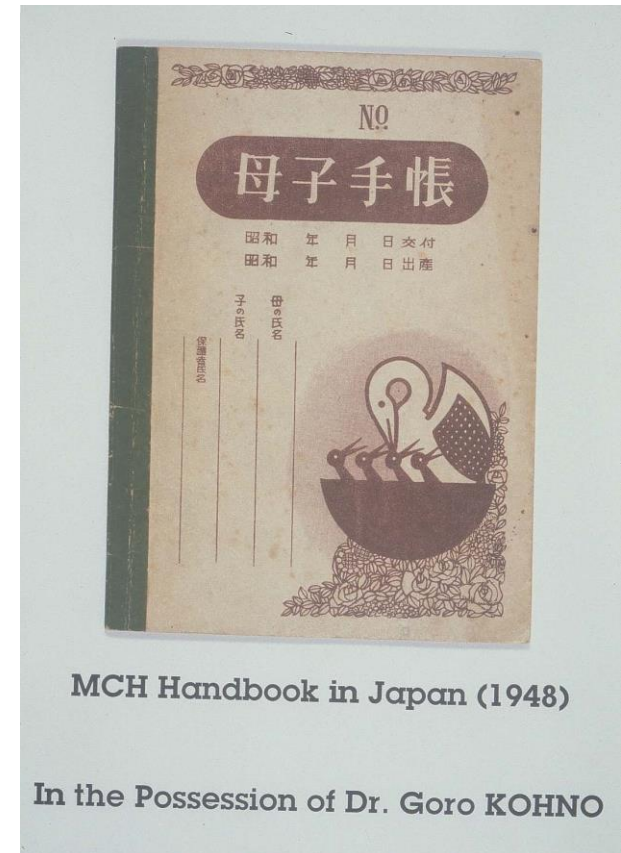
# Maternal and Child Health (MCH) program in Japan



# History of Maternal and Child Health (MCH) handbook in Japan

- 1942 Handbook for pregnant women was introduced from Freiburg Univ. in Germany.
- 1947 Law of Child Welfare was enacted.
- 1948 **Mother and Child Handbook\*** (20 pages)
- 1966 Law of Maternal and Child Health was enacted.
- 1970 Mother and Child Handbook was changed into **Maternal and Child Health (MCH) Handbook**.
- 1996 MCH Handbook was upgraded (72 pages).
- 2012 MCH Handbook was renewed.

MCH handbook is provided to pregnant women for free when they reports their pregnancy to the local government.



\* The original Mother and Child Handbook (in 1948)

# The content of MCH handbook: To promote maternal and child health

- I. Information about social services in the local area
- II. Systemic recording forms

## a) For a mother

- 1) Certificate of birth registration
- 2) Pregnancy health reference
- 3) Courses of pregnancy
- 4) Record of delivery
- 5) Mother's postpartum condition

## b) For a new child

- 1) Record of child's development
- 2) Record of health check-up for the baby (1, 3 or 4, 6, 9, 12, 18, 24, 36, 48, 60, and 72 months)
- 3) Immunization record for the child
- 4) Record of childhood illness



# The concept of MCH handbook is distributed from Japan to worldwide

**Japan:** commonly used it since 1948.

Bhutan, East Timor, India, Indonesia, Cote d'Ivoire, Niger, Lao PDR, Mongolia, Myanmar, Palestine, Philippines, Senegal, South Korea, Tajikistan, Thailand, Tunisia, and Vietnam :  
commonly use it now.

Afghanistan, Bangladesh, Bhutan, Brazil, Cambodia, Dominican Republic, Madagascar, Peru, and USA (Utah, etc.)  
: partly developed it in the projects (Governments/JICA/UN/NGOs).

Brunei, Nigeria, and Turkey : plan to use it as a pilot trial.

# A conflict of the concept regarding to MCH Handbook

The concept of MCH Handbook form are not fully accepted by western countries: They believe medical and health records for the child and mother should be independent.

# New system for pre and postpartum care support center like Finnish “Neuvola” started in Japan in 2017

”**Neuvola**” is a counselling bureau for maternal and child health in Finland functioning for over 50 years .

Japanese Government starts child care support center called as “**Japanese Neuvola**” in 720 places in Japan this year.

This center supports pregnant females who needs pre and postpartum care.

2. Psychosocial evaluation and assistance in the youth; it is not enough in Japan



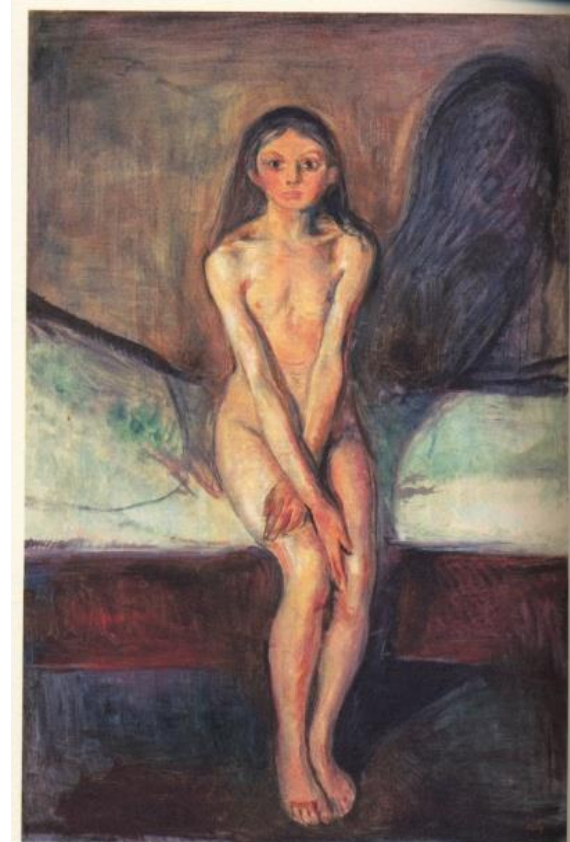
A comprehensive assessment of the lives and well-being of children and adolescents in the economically advanced nations.

## **UNICEF Innocenti Research Centre, 2007**

Specific negative statements  
about personal well-being in 15-year-old adolescents  
in 24 OECD nations

Nearly 30% of young peoples in Japan agreed that “I feel lonely”. It is less than 10% in most OECD nations.

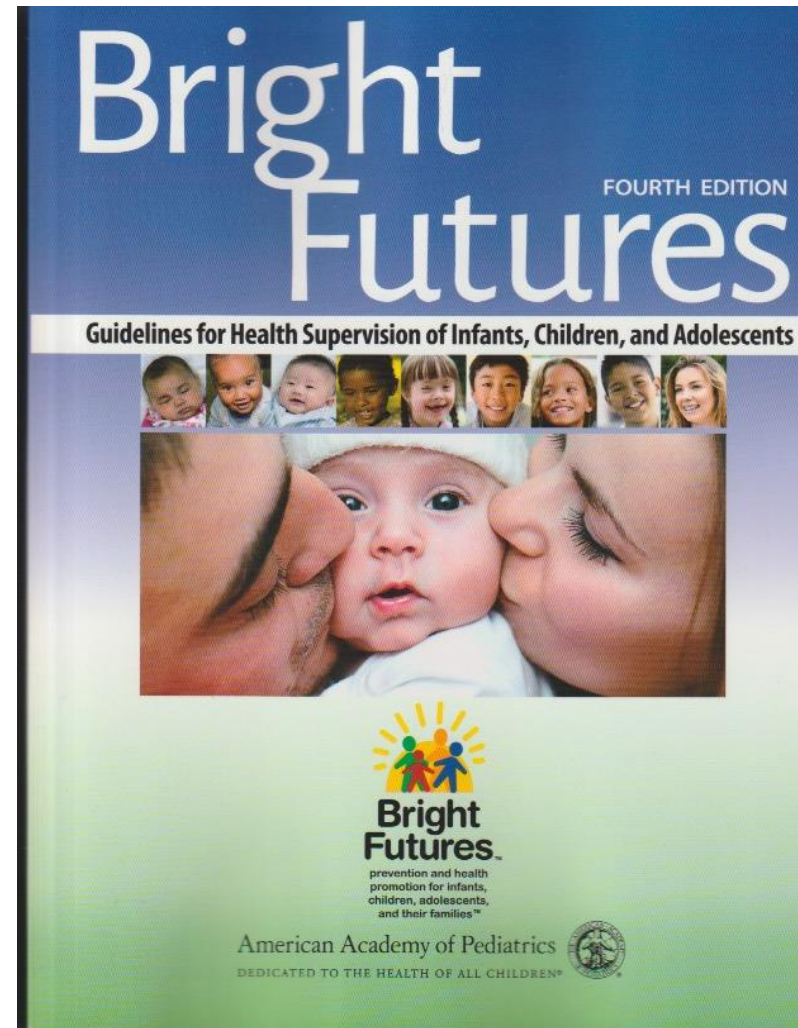
Human connectedness is losing in many Japanese families. We do not have the effective system to check the psychosocial issues in children and adolescents in Japan.



Children and youth  
as a  
biopsychosocial  
existence

# Effective health supervision system for infants, children, and adolescents In USA (American Academy of Pediatrics)

- **Health supervision visits** are provided 7 times during infancy, 5 times between 12 and 30 month old, and once a year between 3 and 21 years old.
- individual examination
- basically obligatory
- 30 minutes for each visit
- Health insurance covers the cost (\$ 150 per each visit)



We have no  
“Health supervision visit” in Japan.  
We have health examination at school.

1. Schoolchildren (6 – 18 years old) receive physical examination every spring **at school** (**mass checkup**).
2. A school doctor takes only one or two minutes to see one child.
3. Children can not discuss their psychosocial issues with a school doctor. Each school has a counselor. However, children do not want to visit her for advice, because they do not know her very well.
4. School counsellor stays at school shortly a day.

# HEEADSSS 3.0 is used in USA

The HEEADSSS **psychosocial interview** is a practical strategy. Pediatricians can use this to evaluate how their teenaged patients are coping with the pressures of daily living, especially now in the context of electronic and social media.

**H**-home situation

**E**-education/employment

**E**-eating behavior and body image

**A**-activities (sports, music, art, drama, leadership and  
volunteer activities)

**D**-drugs, alcohol, tobacco, and other recreation drugs

**S**-sexual activity

**S**-suicide/depression

**S**-safety from injury and violence

# PRIORITIES FOR THE VISIT

## Anticipatory guidance (15-17 y) (1)

The first priority is to address the concerns of the adolescent and parents. Next, the following additional topics are also priorities for discussion.

<examples>

Learn to manage conflict nonviolently; walk away if necessary. Avoid risky situations. Call for help if things get dangerous.

When dating or in sexual situations, no means NO. No is OK.

# PRIORITIES FOR THE VISIT

## Anticipatory guidance (15-17 y) (2)

<examples>

Don't use tobacco/e-cigarettes; talk with me if you are worried about family member drug/alcohol use.

Making and keeping friends is an important life skill.

Take responsibility for schoolwork; follow family rules; ask for help when needed.

etc.

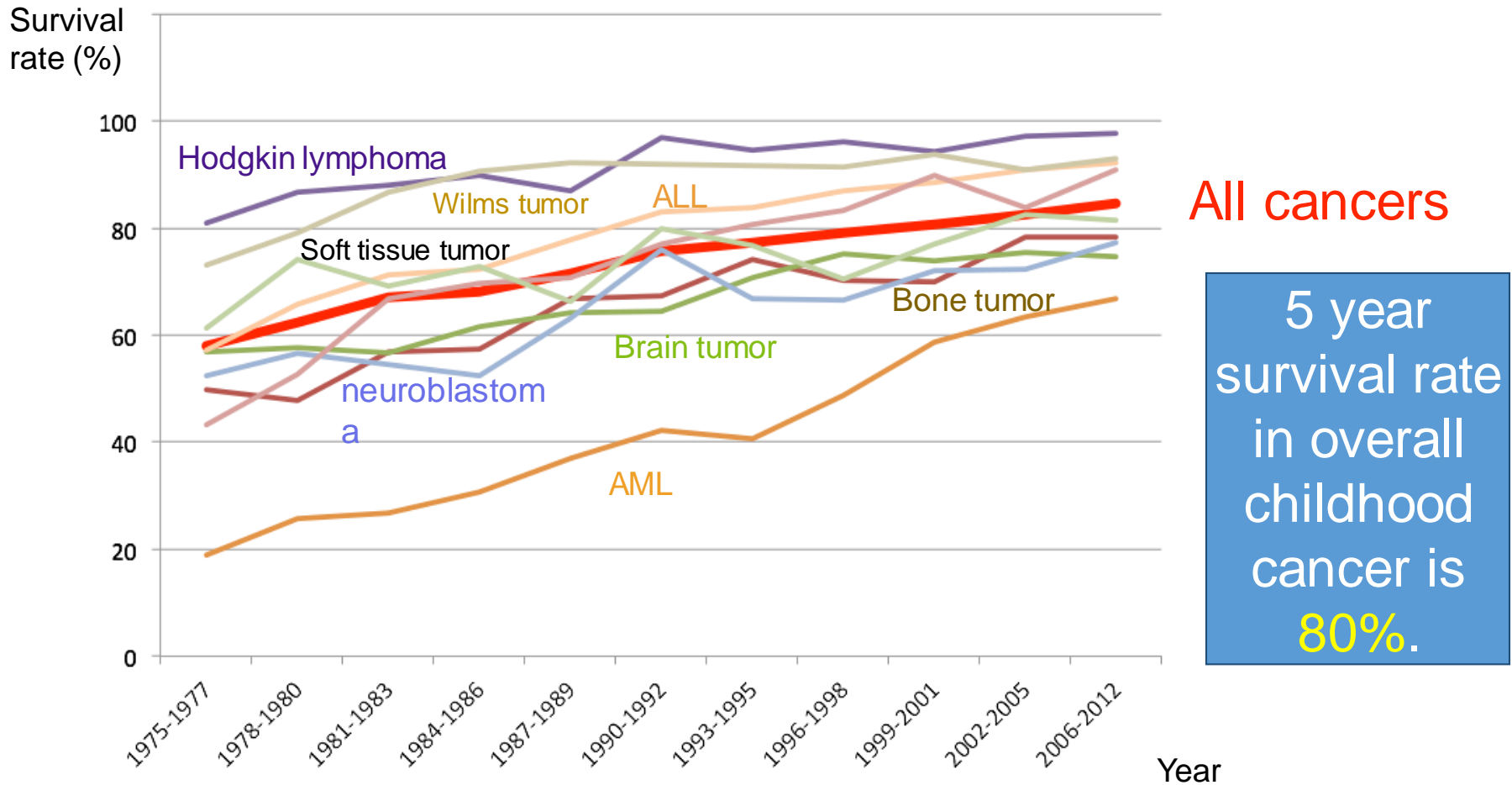
<We have a goal in the future>

We would like to set the system to  
examine and support  
the children and youth  
**biopsychosocially** in Japan.



# 3. Transition issues

# 5 year survival rate in childhood cancer diseases



SEER Cancer Statistics Review 1975-2013 table28.8

# The adolescent patients with difficult diseases are increasing and they still need care in Japan

The recent medical progress can save the children with difficult diseases such as congenital heart diseases, malignancies, and premature babies.

Five year survival rate of hypoplastic left heart syndrome is more than 60%, and overall childhood cancer is 80%. However, many of the survivors suffer from various complications.

# For the adolescent and adult survivors with difficult diseases

The numbers of adult patients with congenital heart diseases are now over 500,000, and the numbers of adults who suffered from childhood malignancies are over 110,000 now in Japan.

The joint team (Japan Pediatric Society and Ministry of Health, Labors and Welfare) prepared the guidelines to support and take care of them.

## 4. Care for the children and youth with special health care needs

# Children and youth with special health care needs

Van Dyck PC, et al : The national survey of children with special health care needs.

*Ambul Pediatr* 2: 29-37, 2002

Perrin JM : Children with special health care needs and changing policy.

*Academ Pediatr* 11: 103-104, 2011

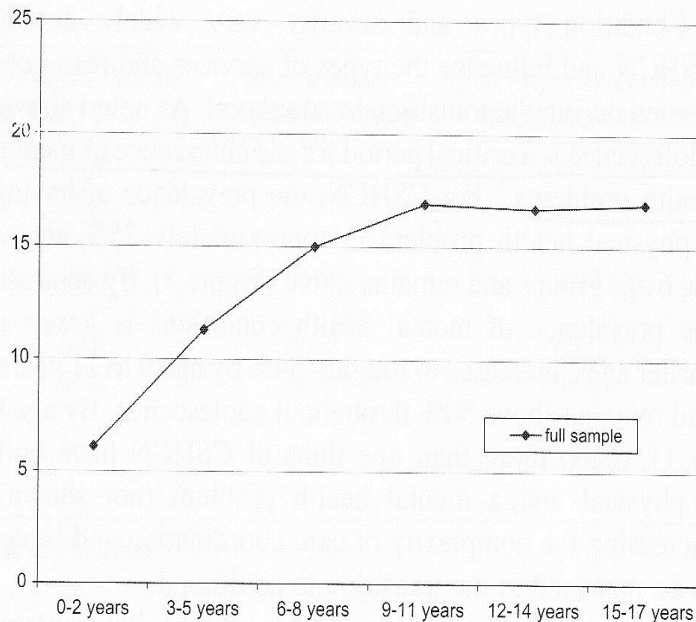


Figure 1. Children with special health care needs, prevalence by age group.

Children and youth with chronic diseases including of asthma, obesity, diabetes, mental disorders, congenital heart anomalies, malignancies, chronic renal diseases are called as **children and youth with special health care needs**.

It accounts 17% of adolescents in USA and 13% in Japan.

# Changes of the incidence of low birth weight infants and baby's mean birth weight in Japan

Year	1975	1990	2000	2014
Total(100%)	100%	100%	100%	100%
BW<2,500g	5.1%	6.3%	8.6%	9.5%
BW<1,500g	0.3%	0.5%	0.7%	0.8%
BW<1,000g	0.1%	0.2%	0.2%	0.3%
Mean birth weight				
boy	3,240g			3,040g
girl	3,150g			2,950g
Total	3,200g			3,000g

This is probably caused by the increase of late childbearing in Japan.  
Low birth weight is due to intrauterine growth restriction.

# Intrauterine growth restriction will produce various disorders in adult

Joss-Moore LA, et al: *Current Opinion Pediatr* 21:230-234, 2009

## Metabolic

## Nonmetabolic

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Poor postnatal growth  
Dyslipidemia  
Hypertension  
Insulin resistance  
Renal insufficiency

Chronic lung disease  
Immunodeficiency  
Neurodevelopmental delay  
Attention deficit disorder  
Schizophrenia



Care and support for adolescents and youth with difficult diseases are one of the most important issues for pediatricians and related doctors in Japan.

## 5. To the social determinants of child health

# Capital in the twenty-First century

(Thomas Piketty, 2013)

In the capitalist societies for recent 400 years,

return on capital

4 – 5 % a year

economic growth  
rate

1 – 2 % a year

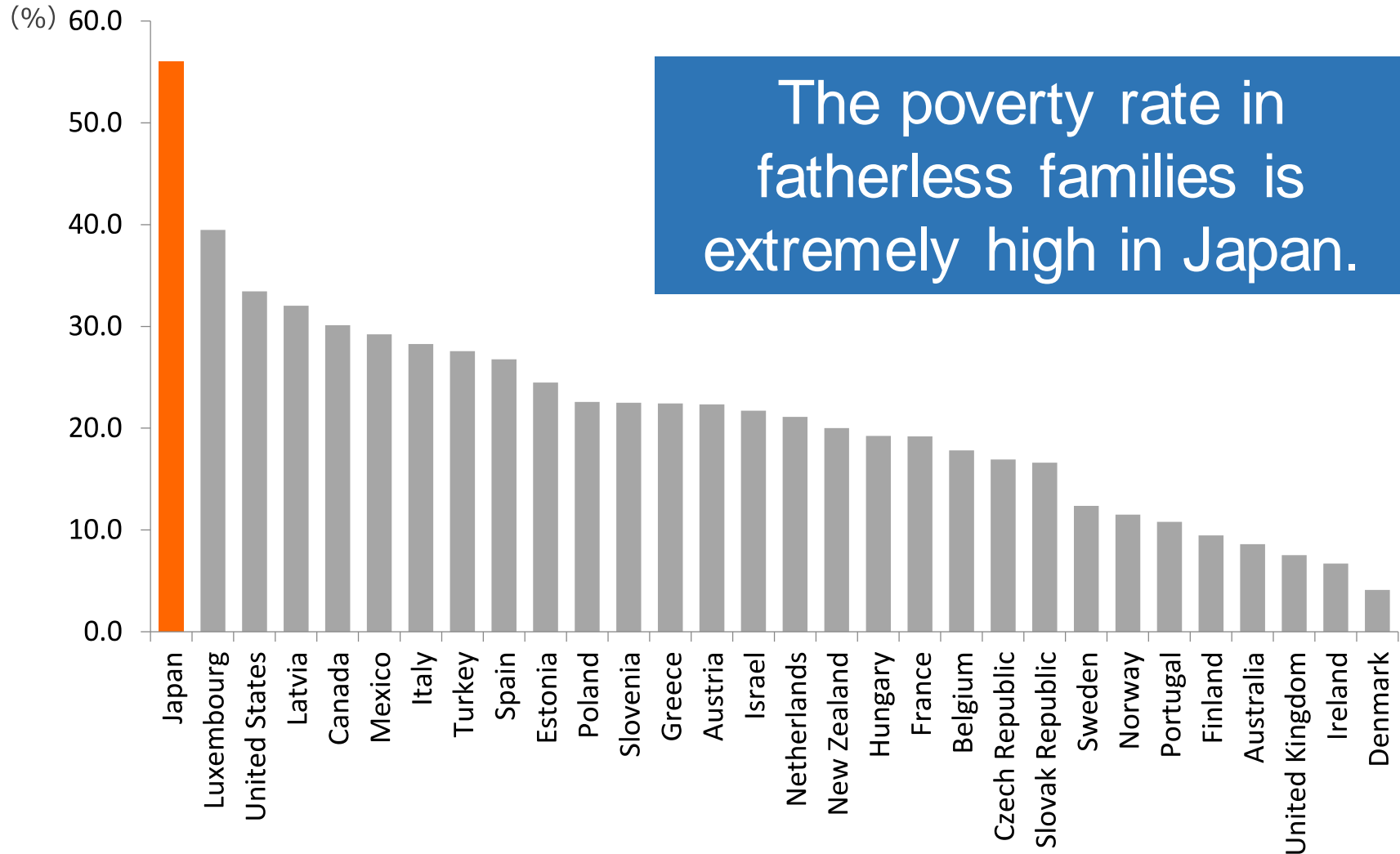
$$r > g$$

- 1) The capital tends to accumulate faster than the rate of economic growth in capitalist societies.
- 2) The unequal distribution of wealth in the developed world has become a significant issue in recent years.

# Child poverty is on the rise in Japan: this can produce social exclusion

- 1) **13.9%** of Japanese children under 17 years old now live in poverty. Childhood poverty rate is 11% in UK and 22% in U.S.A..
- 2) Poverty denies children their rights. It blights their lives with ill health, malnutrition, and impaired physical and mental development. It saps their energy and undermines their confidence in the future (**social exclusion**).
- 3) Poverty produces **child abuse**.

# The poverty rate in fatherless families in the world



# Promotion of Poverty Program for Children Act was enacted in 2015 in **Japan** to reduce the poverty rate of children into less than 10% by 2021.

## < 4 major actions >

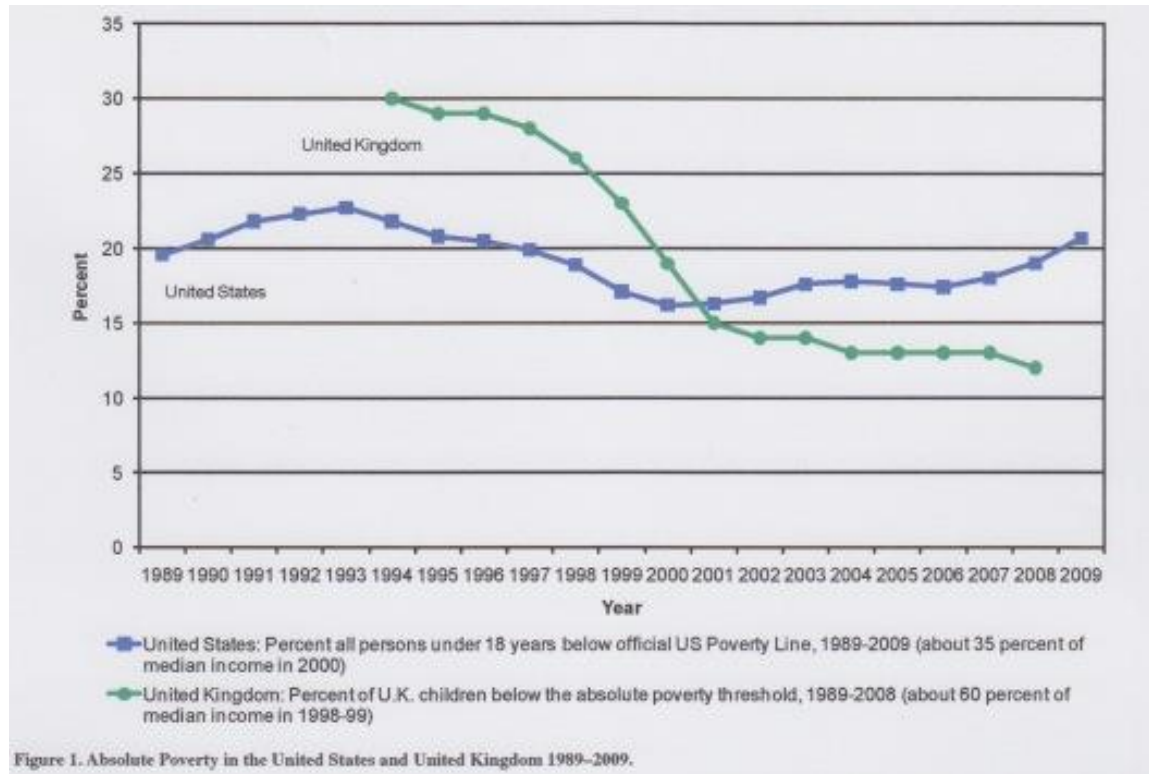
1. Education support
2. Livelihood support
3. Support for job seekers (parents)
4. Financial support

Support project for children's future is set in Nippon Foundation as a donation center.



However, Japanese government can not afford enough funding.

# Result of 13-year war on childhood poverty in United Kingdom



← USA  
← UK

- 1) The UK's 13-year war on childhood poverty has cut their childhood poverty rate from 30% in 1994 to 11% in 2010.
- 2) USA has made policy decisions to support the elderly; Their poverty prevalence dropped from 35% in 1959 to 9% in 2010.

# Tackling health inequalities: a program for action. 2003 -2010

Department of Health: **UK**

	action
Support for the family & mother and children	Maternal and child health Child development Education for adolescents
Community and individual support	Housing End of fuel poverty Support for the vulnerable groups Cleaner, safer, greener environment
Prevention of diseases and providing effective care	Decrease, early finding and action to the risk (smoking, undernutrition, obesity, injury, infections, etc)
Addressing the underlying determinants of health	Providing jobs to reduce the child poverty Social housing Better public transport Education to abolish adult illiteracy



Social determinants of child health  
are targets to be addressed by  
the pediatricians in **USA**  
(Pediatric Academic Society, San Francisco, 2017)

- 1) Child poverty affects nearly 15 million US children. Pediatricians address social determinants of child health as part of routine care in USA.
- 2) Pediatricians can identify social needs in the poor families and connect the families to community resources in the context of well-child care.

6. A national campaign plan  
for maternal and child health  
since 2001 in Japan

## The national campaign plan

# “Healthy Parents and Children 21”

between 2001 and 2014 (the first phase)

This plan aimed to make a society where every child could grow up healthy.

1. This plan was promoted by all the societies, companies, NPO, and research institutes concerned.
2. It defined the future directions, goals, and indicators for the actions in maternal and child health in the 21<sup>st</sup> century.
3. The achievement of the first phase plan was evaluated in 2015. This plan is now in the second phase (2015 - 2024).

# The goals in this campaign plan

(The first phase : 2001-2014)

## <Three General goals>

1. Seamless health support for pregnant women, newborns and toddlers
2. Health support for school-aged children including of adolescence and youth
3. Promotion of the local community that promote the growth of children and youth

## <Two Target goals>

1. Support of the families that have difficulties in raising their children
2. Intervention starting at pregnancy to prevent child abuse

# Result of “Healthy Parents and Children 21”

(The first phase: 2001 - 2014)

The goals finally achieved or improved in 81%.

Result		No. of items (percentage)	
Improved	A) Goals achieved	20 items (27.0%)	} 81%
	B) Goals Improved, but not achieved achieved	40 items (54.1%)	
	C) Goals without changes	8 items (10.8%)	
	D) Goals not improved	2 items (2.7%)	
	E) Goals impossible to evaluate	4 items (5.4%)	

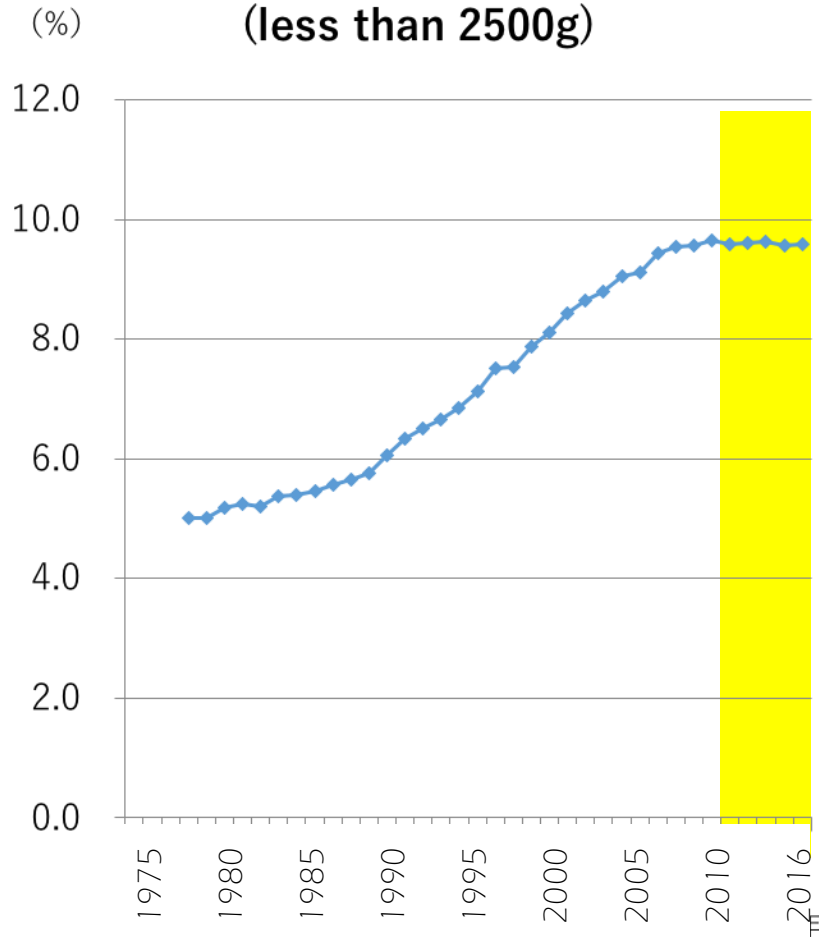
# Goals achieved or improved in the first phase

Decreased prevalence of  
abortion in the teenagers  
sexually transmitted infections in the teenagers  
emaciation in 15 year old females  
obese children  
tobacco consumption in the teenagers  
alcohol drinking in the teenagers

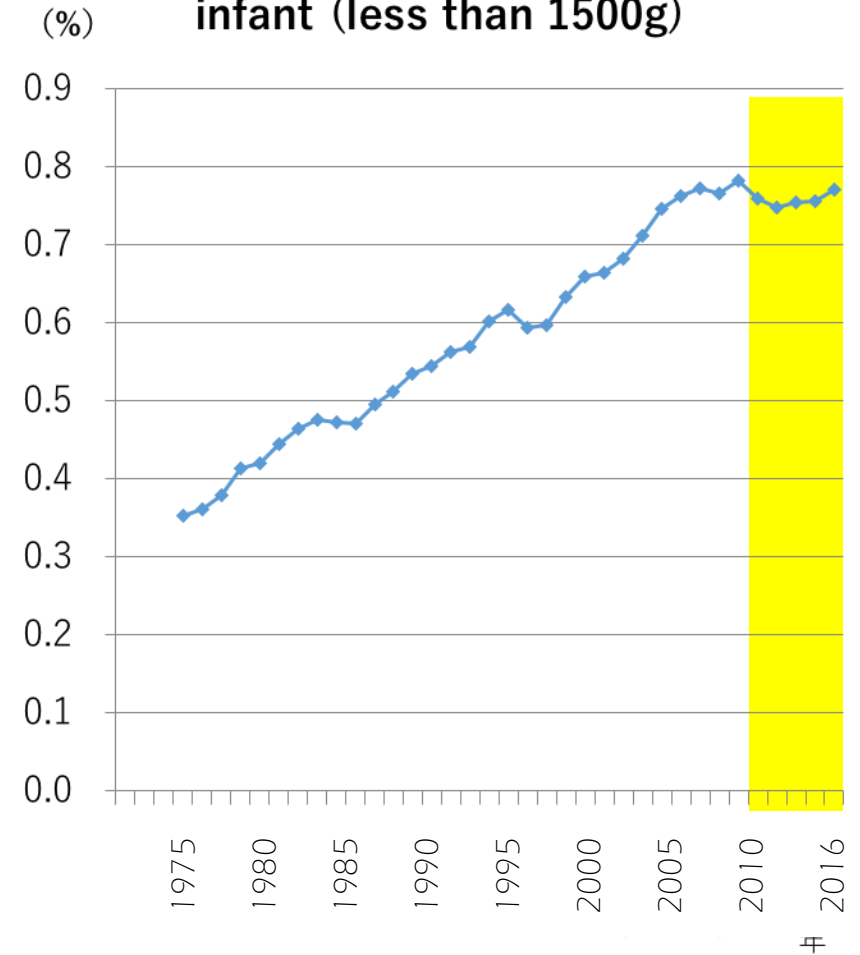
Increased prevalence of  
keeping knowledge of anticonception in the teenagers  
setting a counsellor at junior high schools

# Two goals not improved in the first phase: 1) Prevalence of premature babies

**Rate of low birth weight infant  
(less than 2500g)**

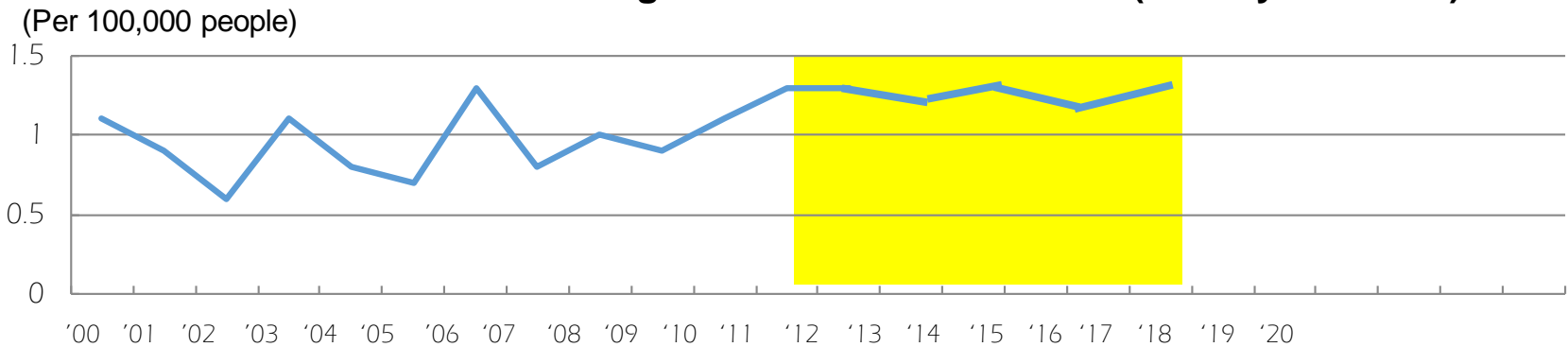


**Rate of very low birth weight  
infant (less than 1500g)**

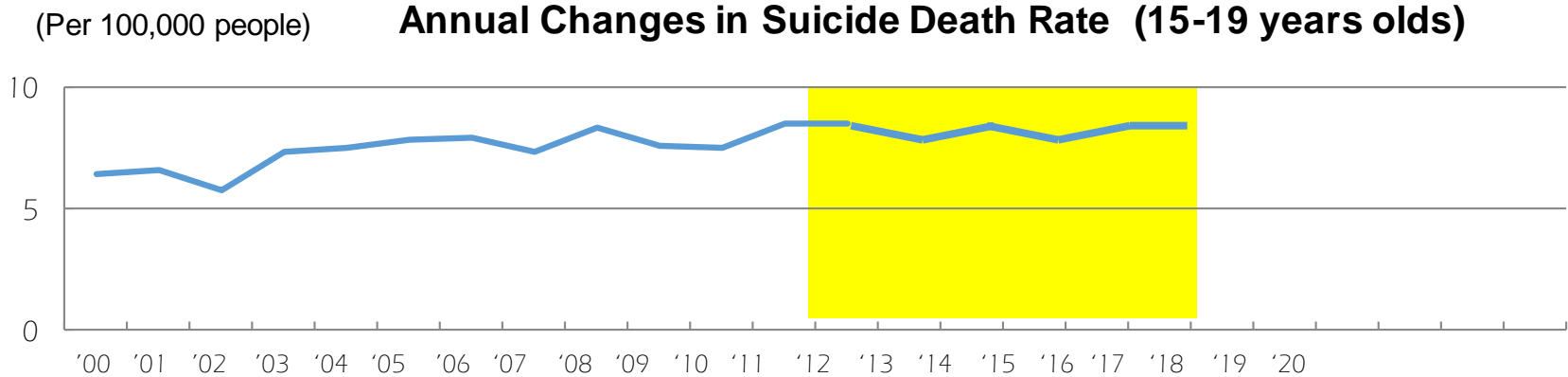


# Two goals not improved in the first phase: 2) Suicide prevalence in the youth

### Annual Changes in Suicide Death Rate (10-14 years olds)



### Annual Changes in Suicide Death Rate (15-19 years olds)





# Two new major goals in **the second phase** of the plan (2015 - 2024)

1. Every people born in Japan can equally receive the standard of maternal and child health services and life protections.
2. Maternal and child health services make extend to all the peoples regardless of differences and diversity in individuals and family environment, including of diseases, disabilities and financial situations.

# 7. Governmental financial support for the children and youth with chronic specific diseases

# Governmental financial support for pediatric chronic specific diseases

1. Japanese government started this financial support for the patients with 9 congenital metabolic diseases in 1968.
2. 722 pediatric chronic diseases are specified in 2017.  
130,000 children and youth are now supported.
3. Japan Pediatric Society and the research project funded by The Ministry of Health, Labors and Welfare worked together to specify the diseases.
4. Medical bills for the patients under 20 years old are supported according to the severity of the specified diseases.
5. Data of the patients and disease conditions are collected and statistically analyzed every year.
6. This support is very helpful to the patients and families.

For the bright futures of  
the mother and children  
in the world

