

VITAL STATISTICS



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CONTENT

- *Introduction*
- *What is the vital statistics ?*
- *Objective of vital statistics*
- *Uses of vital statistics*
- *Sources of vital statistics*
- *Methods of collecting data*
- *Methods of presenting data*
- *References*

INTRODUCTION

A symmetrically collected and compiled data relating to vital events of life such as birth, death, marriage, divorce and adoption etc.

***“Branch of Biometry that deals with
Data and law of human mortality,
morbidity and demography”***

WHAT IS VITAL STATISTICS ?

Vital Statistics are Conventionally numerical records of marriage, birth, sickness and deaths by which the health and growth of a community may be studied.



- By Benjamin

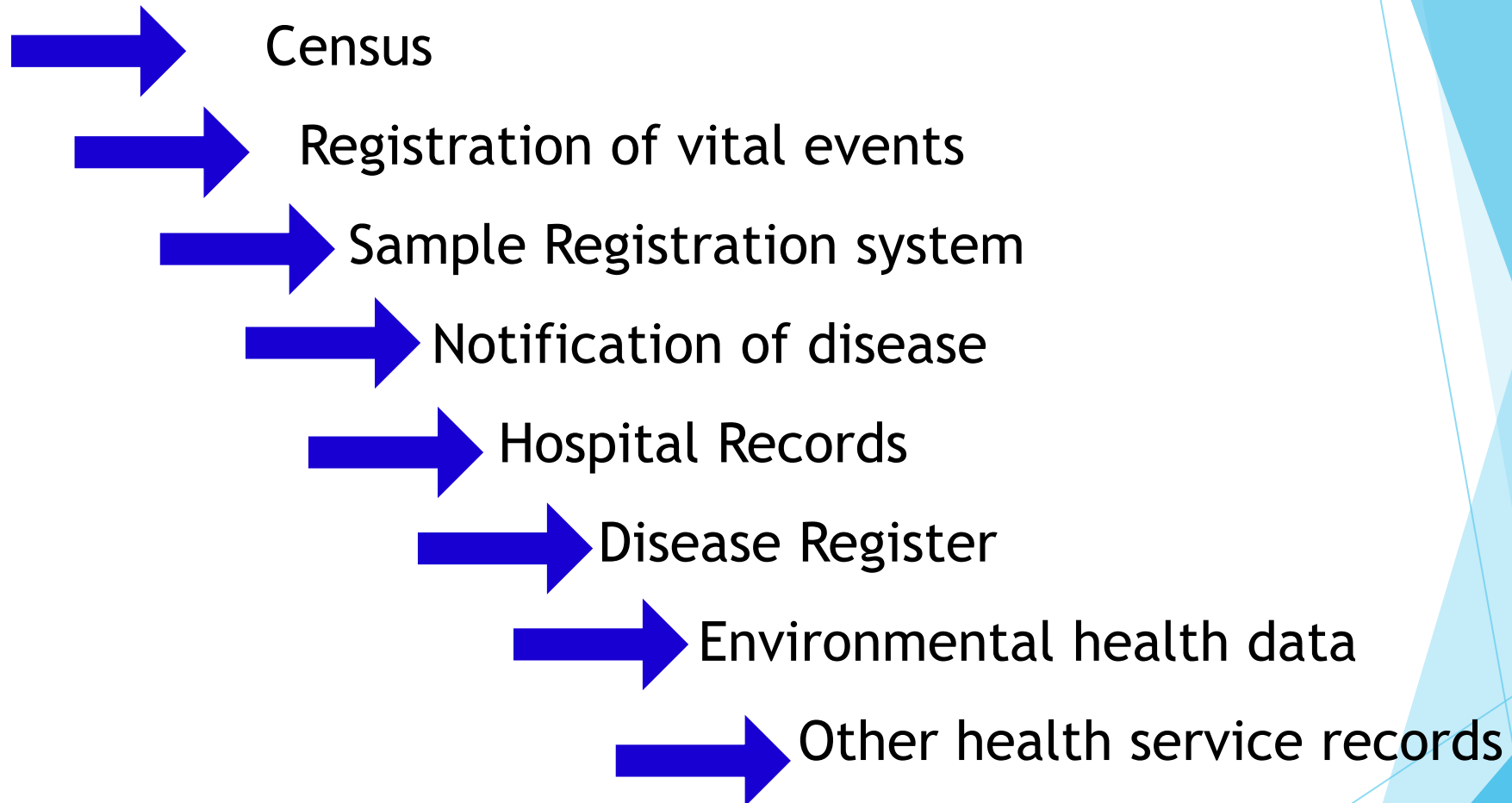
OBJECTIVE

- *To implement and evaluate health related schemes (national health programs).*
- *To determine community health related infections, epidemics and find solution.*
- *To use the data as primary tool in research activities.*

USES OF VITAL STATISTICS

- *To evaluate impact of various national health programme.*
- *To plan for better future measures of disease control.*
- *To describe level of community health.*
- *To discover solution to health problems.*
- *To promote health legislation.*
- *To demand public support for health work.*
- *To conduct research on particular health problem.*

SOURCES OF VITAL STATISTICS



CENSUS 2011 REPORT

Population	Total	1,210,854,977
	<i>Males</i>	623,724,568
	<i>Females</i>	586,469,294
Literacy	Total	74%
	Males	82.10%
	Females	65.46%
Density of population	per km ²	382
Sex ratio	per 1000 males	943 females
Child sex ratio (0–6 age group)	per 1000 males	914 females

REGISTRATION OF VITAL EVENTS



- It is the legal registration statistical recording and reporting of the Occurrence of statistics and the collection, compilation, presentation, analysis and distribution of statistics pertaining to vital events.
i.e., live births, deaths, fetal deaths, marriages, divorces, adoption, and legal separation.

SAMPLE REGISTRATION SYSTEM

- It is used to provide reliable estimates of birth and death rates at the national and state level.
- It is the dual records system, consisting of continuous enumerations of birth and deaths by an enumerator and an independent survey every 6 months by an investigator or supervisor.

NOTIFICATION OF DISEASE

- *Notification provides valuable information about the fluctuations in disease frequency.*



- *It also provides early warning about new occurrence or outbreaks of disease.*

HOSPITAL RECORDS

*The hospital records provides
Information about
Age, sex, diagnosis,
Time interval between occurrence
And hospital admission and
Distribution of patients according
To different social and biological
Characteristics.*

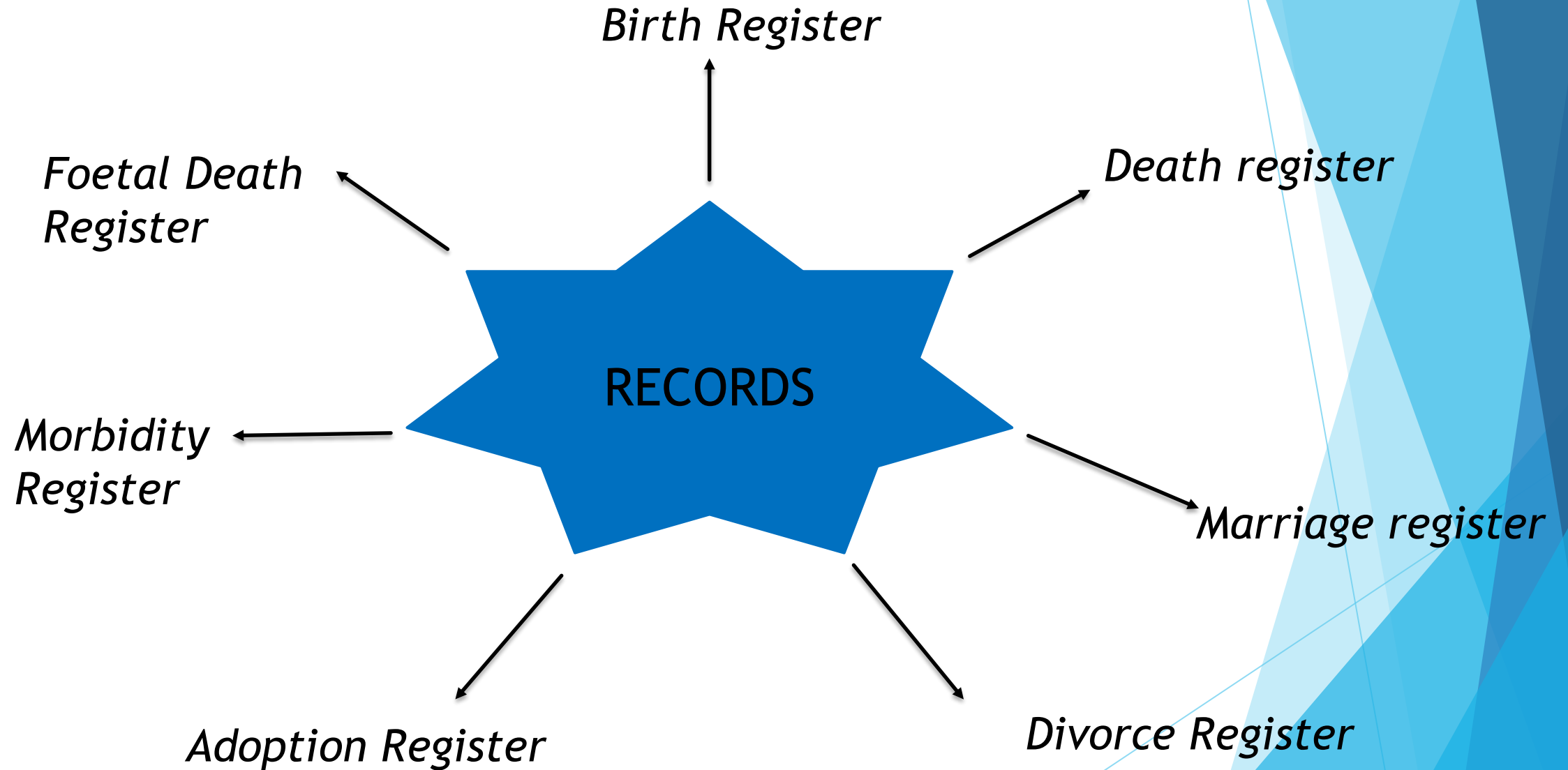


ENVIRONMENTAL HEALTH DATA

- *It is helpful in identification and qualification of causative factors of disease.*
- *Collection of environmental data plays an essential role to ascertain major problems for the future.*



VITAL HEALTH RECORDS



METHODS OF COLLECTING DATA

■ **PRIMARY DATA**

*Collection is done by
Individuals.*

e.g: Interviews, Observation, Questionnaires, Diaries

■ **SECONDARY DATA**

*Data collected indirectly i.e.,not directly from
individuals but from Other sources.*

e.g: Hospital records,Census data

INTERVIEW METHOD



- *Interviews are undertaken on Personals, one to one basis or in a group.*
- *It can be conducted at homes, work as well as any fixed location which was agreed by both parties.*

Observation



- *It provides information what is actually observed but bias will be there as two observers has observed the behavioural pattern differently.*

QUESTIONNAIRES



- *These are the most common form of data collection.*
- *It takes time to design to gather data from individuals about knowledge attitudes and beliefs and feelings.*
- *It does not require any interaction between the investigator and respondent.*

DIARIES

- *Diaries are to record the data obtained from the individuals.*
- *The data from the people which was expressed in depth can be recorded and utilized for research purpose.*



METHODS OF PRESENTING DATA

❖ **IMPORTANT VITAL STATISTICS**

- Birth rate
- Death rate
- infant mortality rate
- Neonatal mortality rate
- *Post neonatal mortality rate*
- *Still birth rate*
- *Perinatal mortality rate*
- *Under five mortality rate*
- Maternal mortality rate

BIRTH RATE

$$\text{Birth rate} = \frac{\text{Number of live birth during the year}}{\text{Mid year population}} \times 1000$$

Current BR=16.949

DEATH RATE

$$\text{Death rate} = \frac{\text{Number of death during the year}}{\text{Mid year population}} \times 1000$$

Current DR=9.1

INFANT MORTALITY RATE

- *The ratio of infant deaths registered in a given year to the total number of live births registered in the same year. usually expressed as a rate per 1000 live births.*
- *It is given by the formula.*

$$IMR = \frac{\text{Number of deaths of children less Than one year of age in a year}}{\text{Number of live births in the same year}} \times 1000$$

Current IMR=32

NEONATAL MORTALITY RATE

*Number of deaths of children under
28 days of age in a year*

$$\text{NMR} = \frac{\text{Total live births in the same year}}{\text{Total live births in the same year}} \times 1000$$

Current NMR=19

POST NEONATAL MORTALITY RATE

*Number of deaths of children between
28 days and one year of age in a given year*

$$\text{PNMR} = \frac{\text{Total live births in the same year}}{\text{Total live births in the same year}} \times 1000$$

Current PNMR=10.1

STILLBIRTH RATE

Foetal deaths weighing over 1000 g at birth during the year

$$SB = \frac{\quad}{\quad} \times 1000$$

Total live +stillbirths weighing over 1000 g at birth during the year

Current SR=12.9

PERINATAL MORTALITY RATE

Late foetal (i.e. Still birth) and neonatal Deaths weighing over 1000 g at birth

$$PMR = \frac{\quad}{\quad} \times 1000$$

Total live births weighing over 1000 g at birth

Current PMR=

UNDER FIVE MORTALITY RATE

$$= \frac{\text{No. Of deaths of children aged 1-4 years during a year}}{\text{Total no. of children aged 1-4 years at the middle of the year}} \times 1000$$

Current UFMR=31

Maternal mortality rate

$$= \frac{\text{Total no. of female deaths due to complications of pregnancy, childbirth or within 42 days of delivery from "puerperal causes" in an area during a given year}}{\text{Total no. of live births in the same area and year}} \times 1000$$

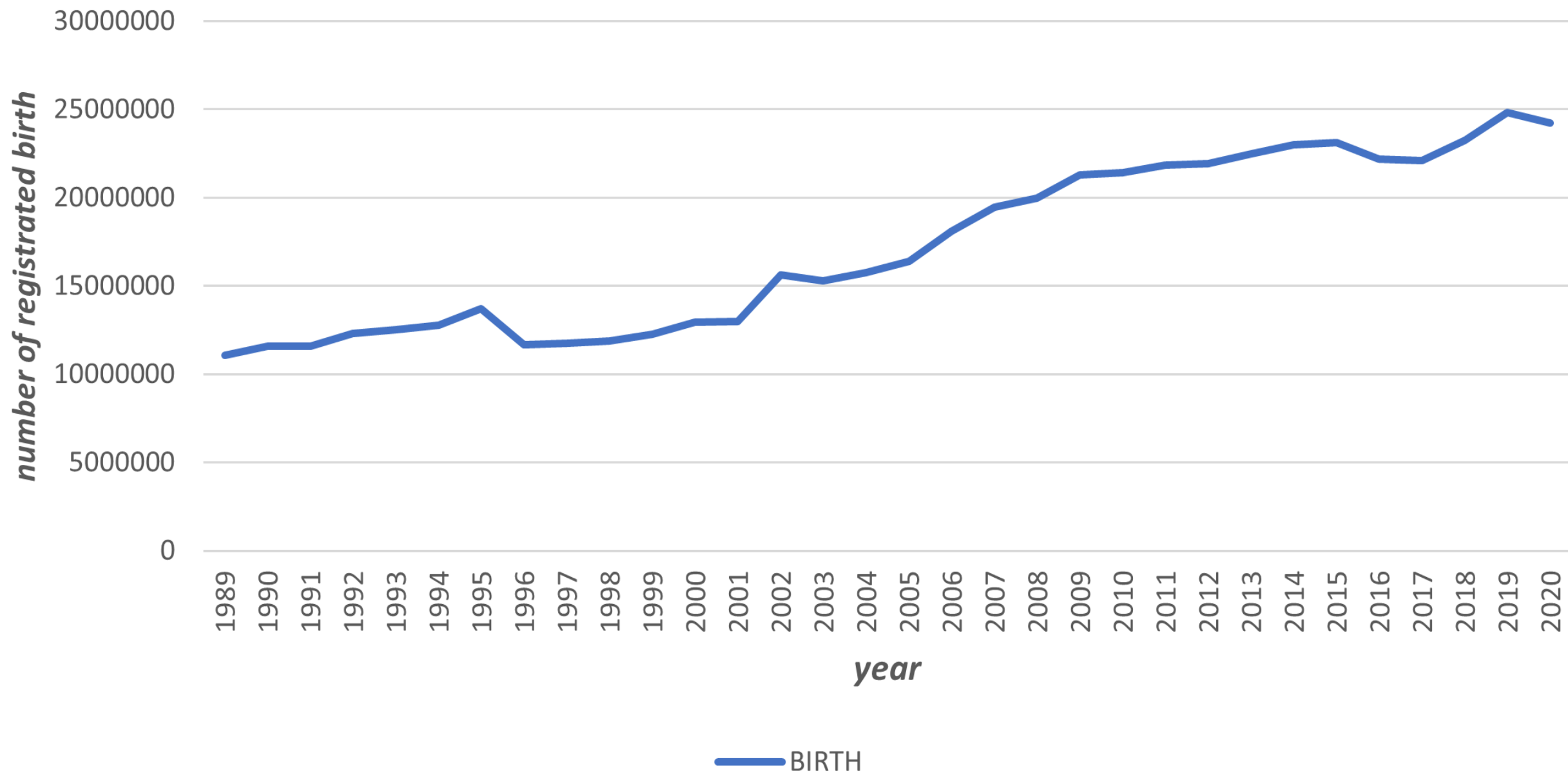
Current MMR=145 per 100k

NUMBER OF REGISTRATED BIRTH AND DEATH IN INDIA, 1989-2020

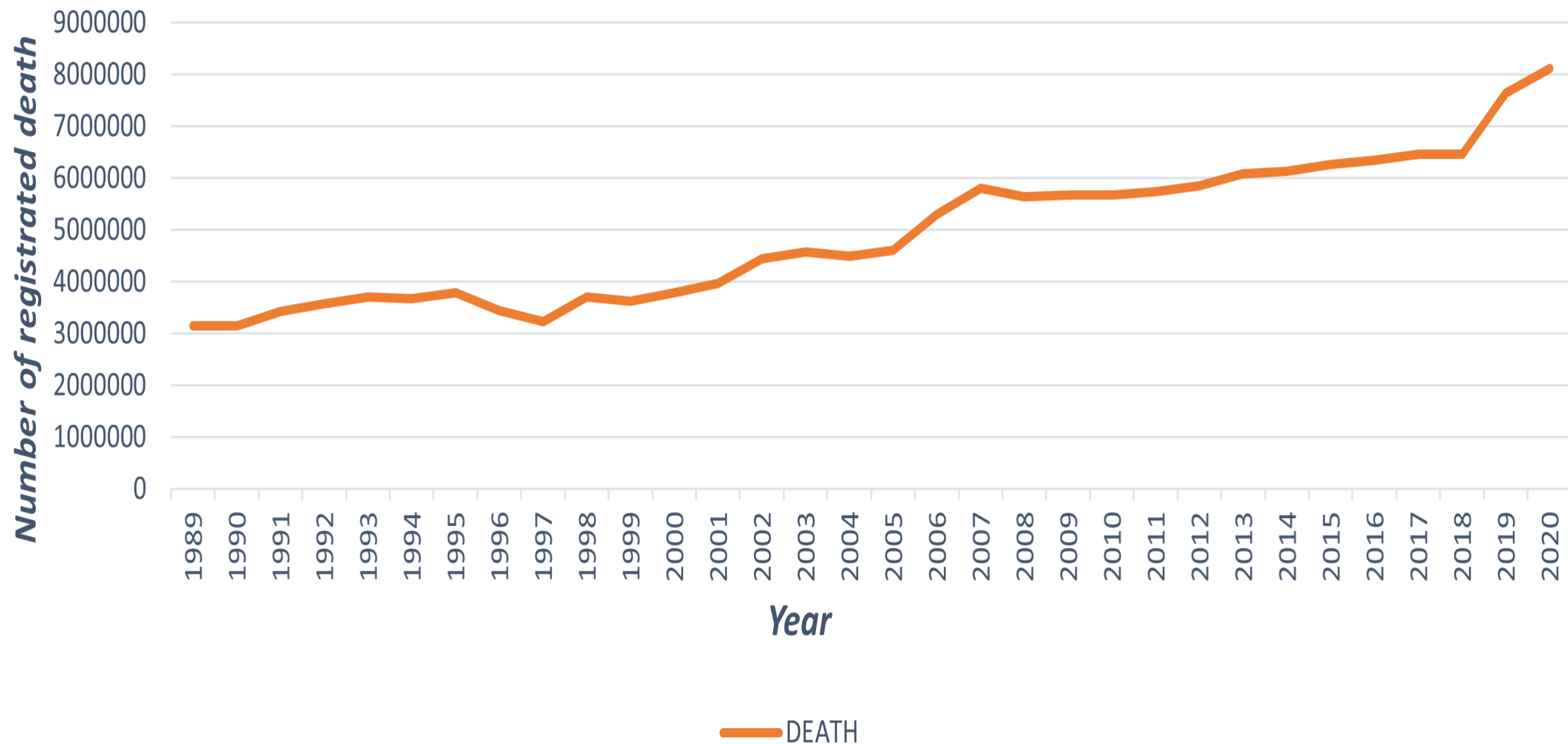
<i>YEAR</i>	<i>BIRTH</i>	<i>DEATH</i>	<i>YEAR</i>	<i>BIRTH</i>	<i>DEATH</i>
1989	11074930	3149312	2005	16394625	4602727
1990	11601446	3149312	2006	18121295	5298279
1991	11601446	3420669	2007	19469756	5804922
1992	12324796	3576449	2008	19993799	5638131
1993	12519182	3704881	2009	21292574	5677705
1994	12788061	3676353	2010	21430434	5677705
1995	13725993	3784469	2011	21836920	5735082
1996	11671143	3445395	2012	21951519	5850176
1997	11745719	3231333	2013	22482951	6086616
1998	11893946	3711612	2014	23001523	6138182
1999	12287748	3623079	2015	23136145	6267685
2000	12946823	3789466	2016	22200991	6349259
2001	12993577	3961767	2017	22104418	6463779
2002	15645632	4436100	2018	23269383	6463779
2003	15290261	4569026	2019	24820886	7641076
2004	15777612	4487886	2020	24222444	8115882

https://crsorgi.gov.in/web/uploads/download/CRS_report_2020.pdf

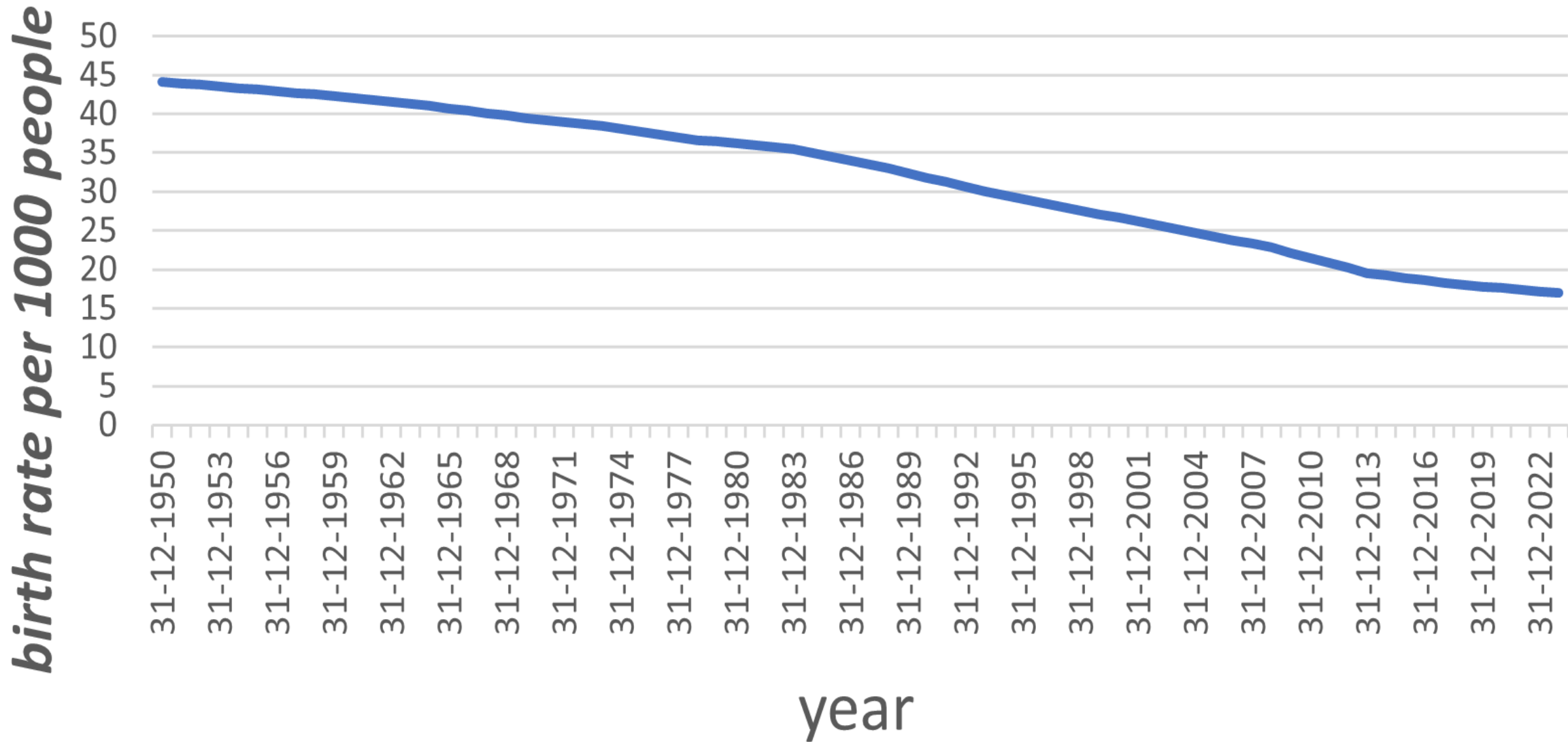
Number of registrated birth,1989-2020



Number of registrated death,1989-2020

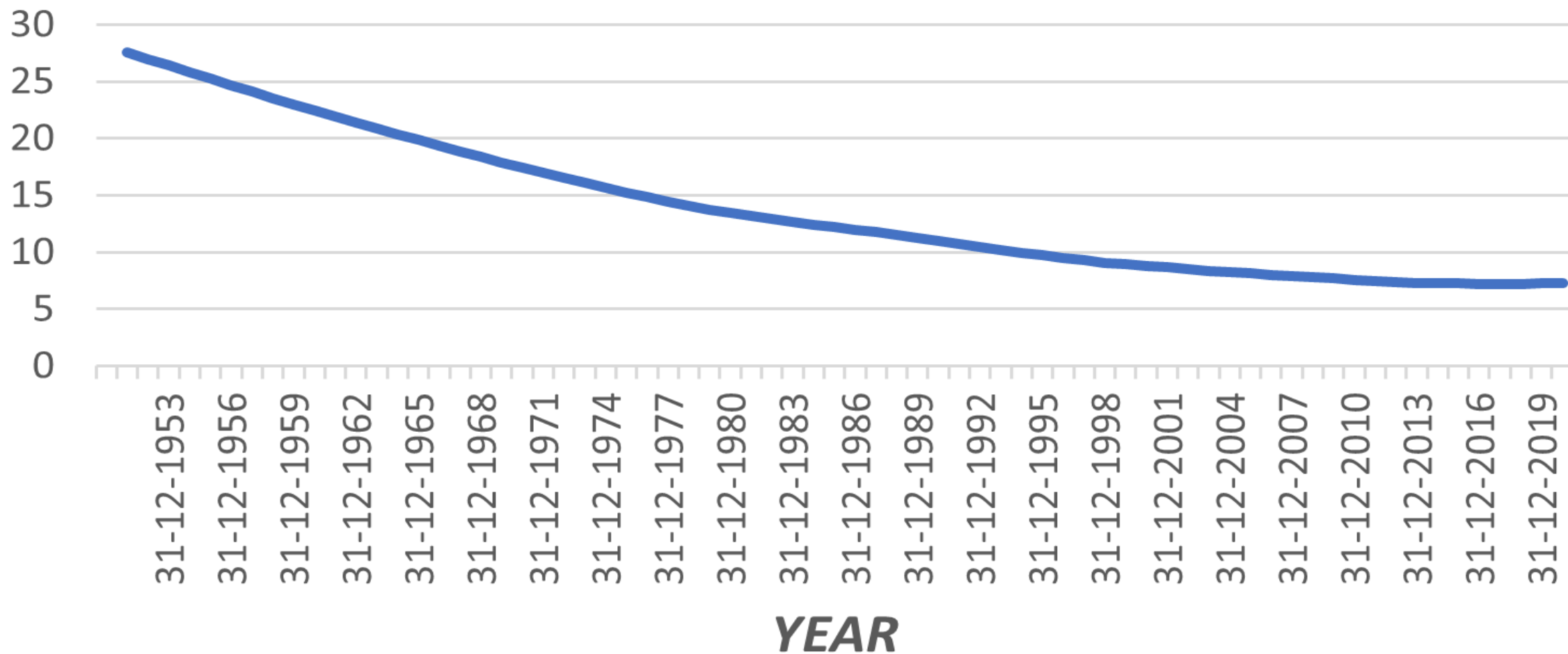


Births Rate per 1000 People

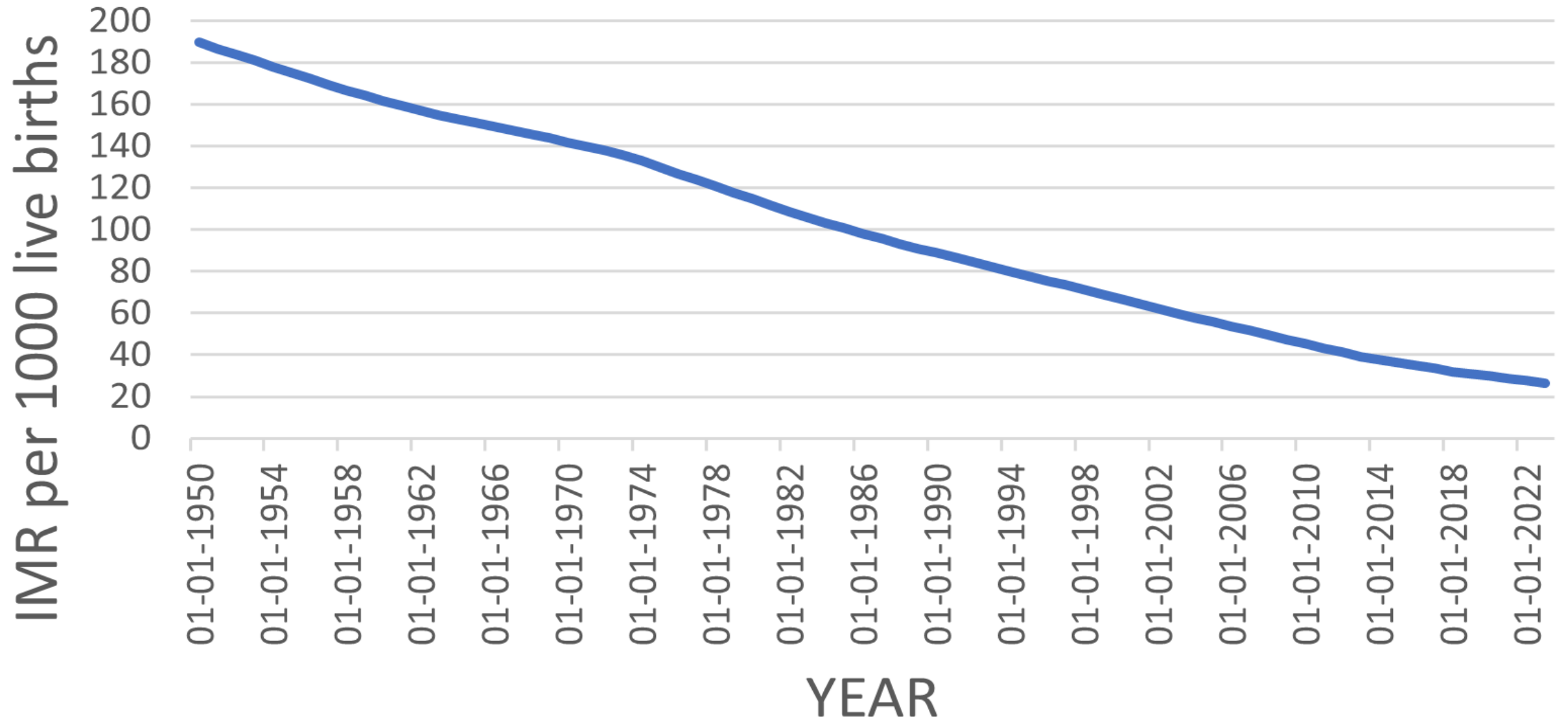


Death rate per 1000 people

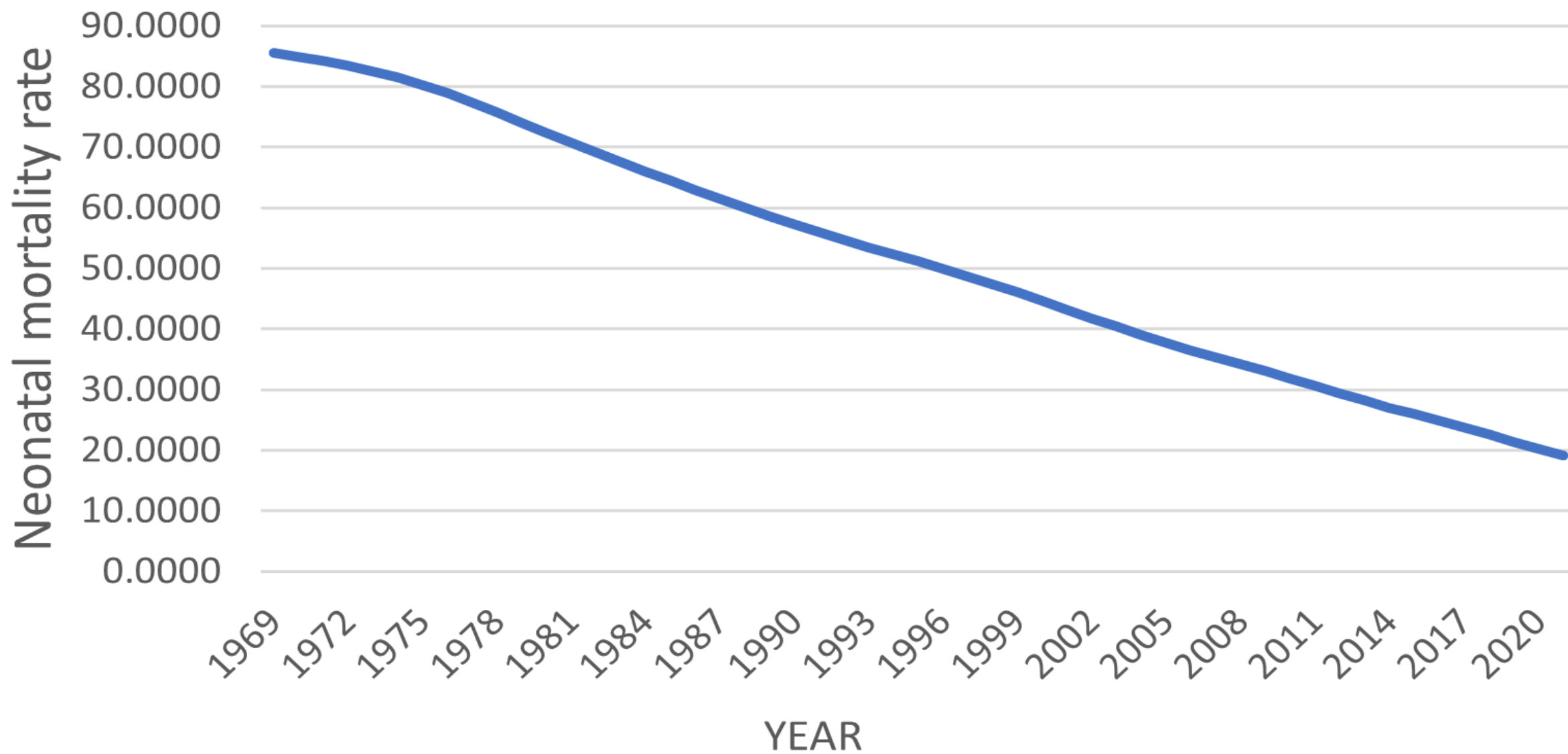
Death rate per 1000 People, 1953- *2020*



Infant mortality rate per 1000 Live Births



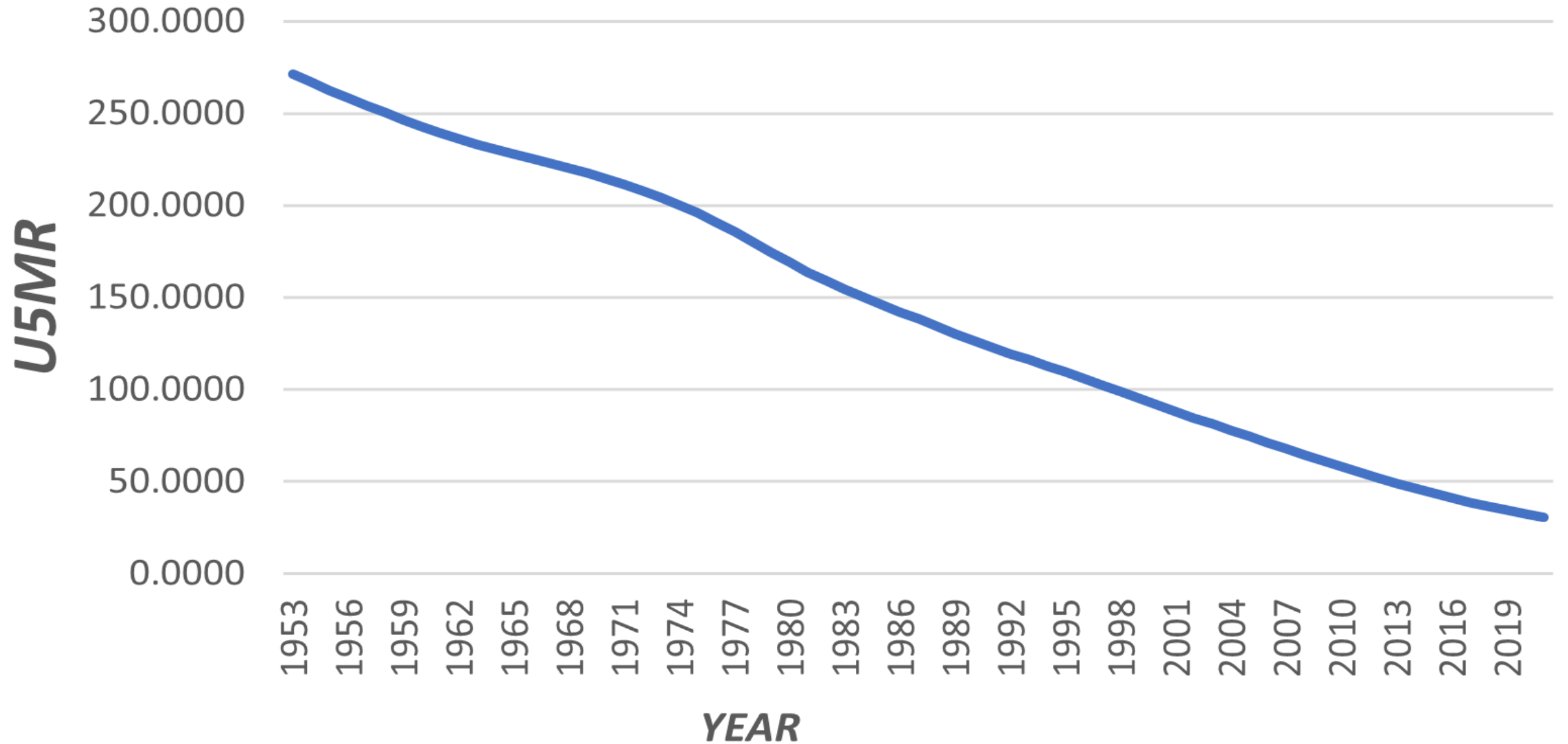
Neonatal mortality rate, 1968-2021



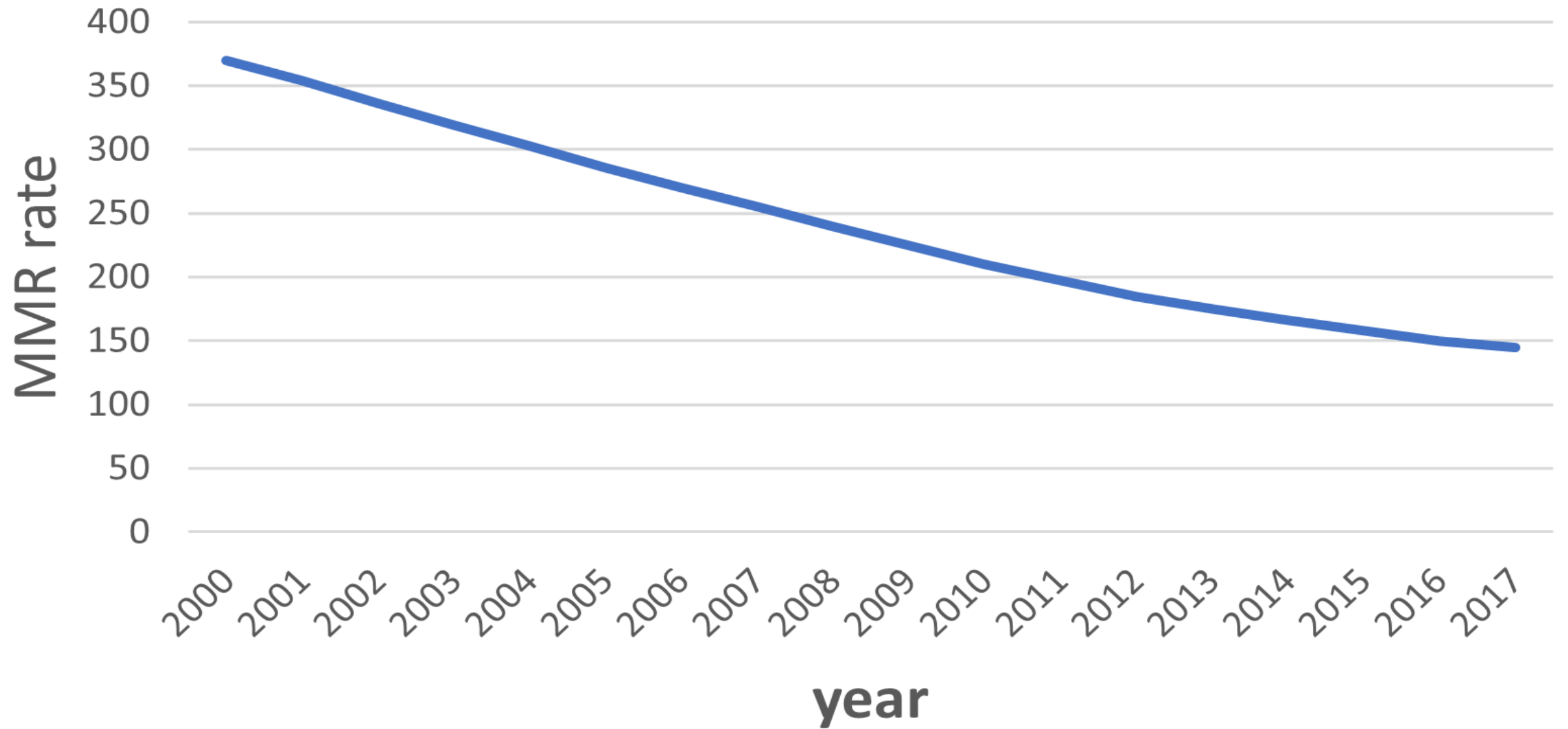
Still Birth rate per 1000 live birth, 2000-2021



Under 5 Mortality Rate, 1953-2021



MMR Rate Per 100K Live Births, 2000-2017



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- ❖ <https://data.unicef.org/topic/child-survival>
- ❖ [Neonatal, Postneonatal and Childhood Mortality in India | Geographic Insights \(harvard.edu\)](#)



