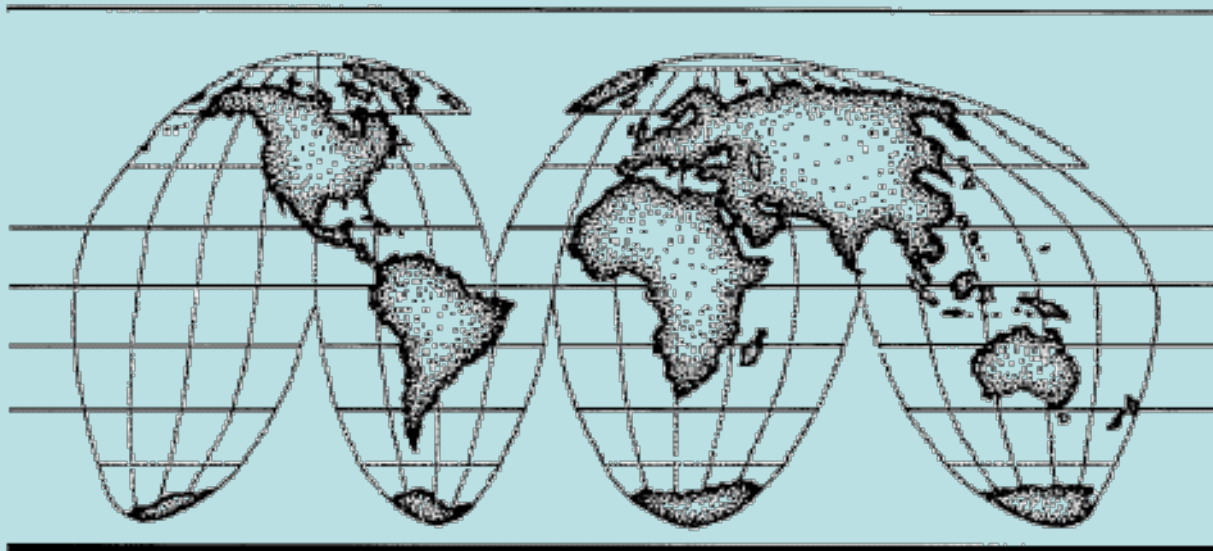


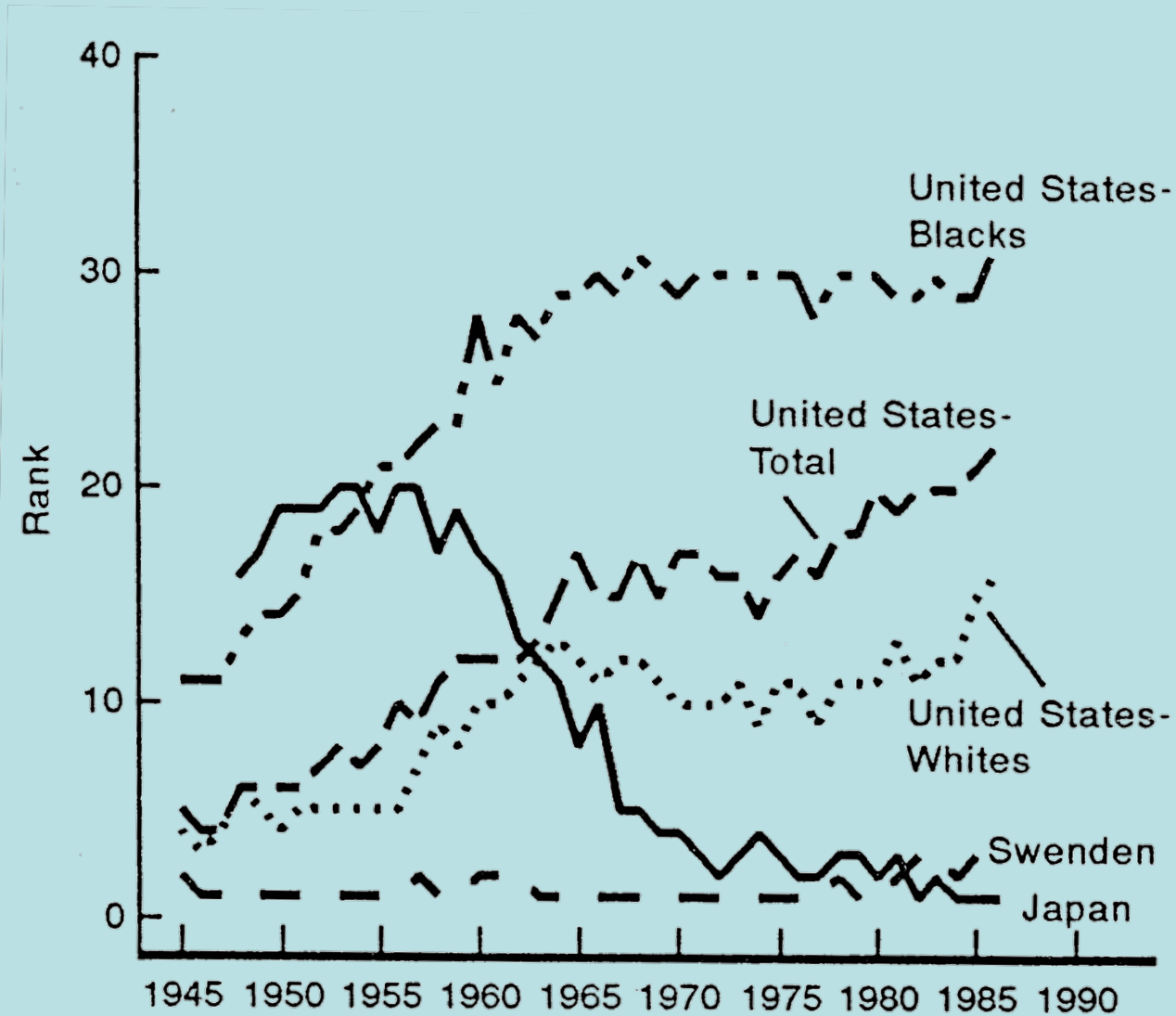
International Collaborative Effort on Perinatal and Infant Mortality, 1984-94



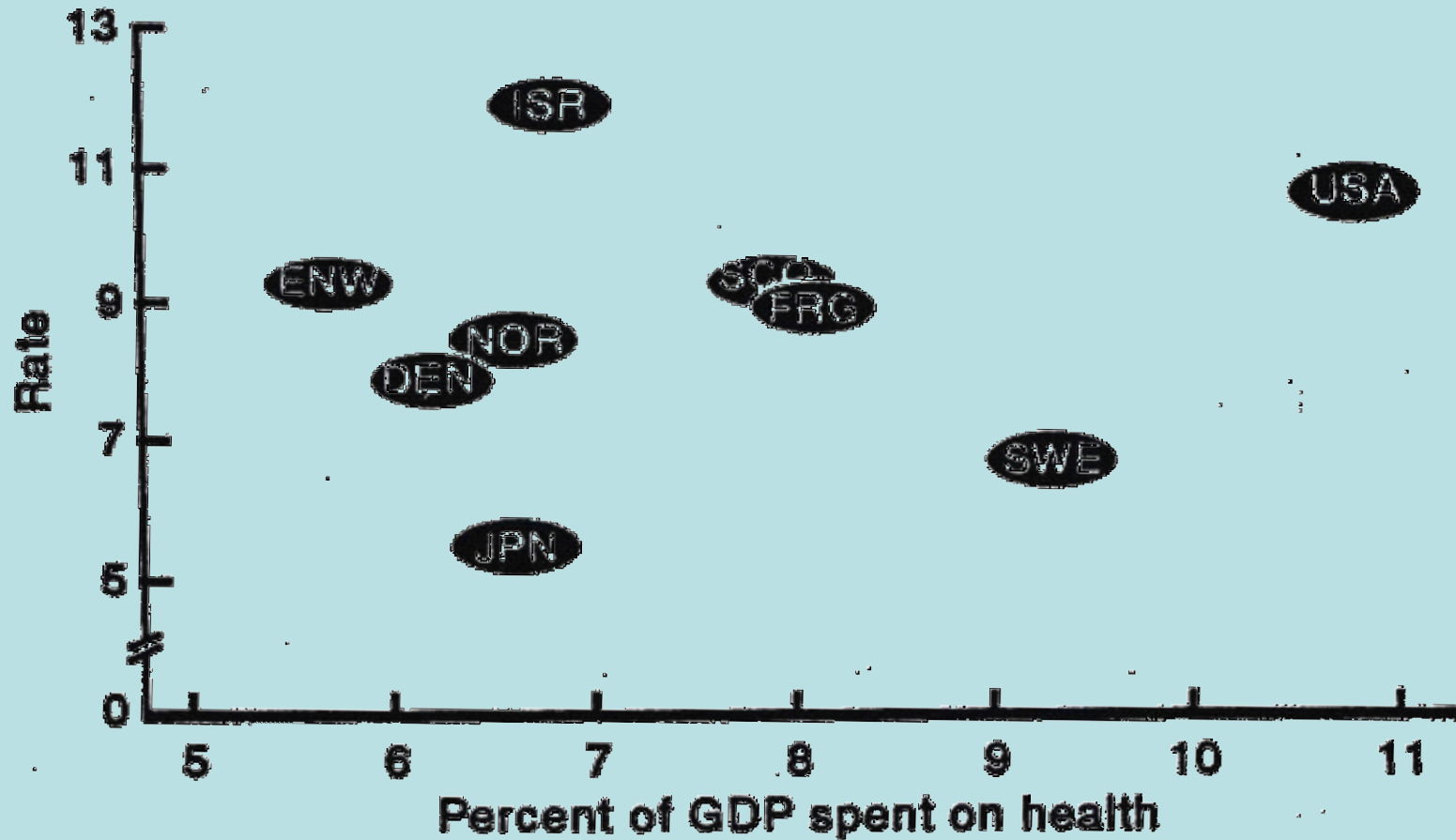
ICE on Perinatal and Infant Mortality

- History of the ICE
- Problems of international comparisons
- What we learned from the ICE
- Prospects for future international comparisons

Infant mortality ranks: Ice countries, 1950-90



Percent of GDP spent on health and rate of infant mortality: ICE countries, 1985



Rationale for ICE on Perinatal and Infant Mortality

- US lagging behind other countries
- Questions are becoming more complex
- Need to benefit from research in other countries
- Establish ICE to generate analyses not obtainable by research in a single country

ICE on Perinatal and Infant Mortality: Member countries

- USA
- England and Wales
- Scotland
- Norway
- Sweden
- Denmark
- West Germany
- Israel
- Japan

Activities of ICE on Perinatal and Infant Mortality

- First symposium in Bethesda, 1984
- APHA sessions in 1985, 1989
- Second symposium in 1990
- Workshop in 1994
- Research based on common, multinational dataset

ICE Country Files Database 1: Frequency Files

- **Country**
- **Year of birth**
- **Type of event:**
 - Live birth
 - Late fetal death
 - Deaths < 7 day
 - Neonatal death
 - Infant death
- **Plurality:**
 - Singleton
 - Multiple
- **Race/ethnic group:**
 - USA: black, white
 - Israel: Jews, non-Jews
- **Birth weight (500 gm):**
 - < 500 gms., ...
 - ...4500+ gms.
 - Unknown

ICE Country Files Database 2: Frequency Files

- **Country**
- **Year of birth**
- **Type of event**
 - Live birth
 - Late fetal death
 - Infant death
- **Plurality:**
 - Singleton
 - Multiple
- **Race/ethnic group:**
 - USA: black, white
 - Israel: Jew, non-Jew
- **Length of gestation:**
 - 7 groups plus unknown
- **Age at death:**
 - 8 groups plus unknown
- **Cause of death:**
 - 7 groups plus remaining causes
- **Birth weight (100 gm):**
 - < 500 gm., ...
 - ..., 4500+ gm.
 - Unknown

ICE Country Files Database 3

Unit Record/Microdata Files

- **Country**
- **Year of birth**
- **Type of event**
- **Plurality**
- **Sex**
- **Gestation length:**
 - LMP
 - Alternate method
- **Birth weight**
- **Birth length**
- **Cause of death**
- **Autopsy**
- **Age at death**
- **Time of death: fetal death**
- **Mother's education**
- **Occupation**
- **Race/ethnicity**
- **Maternal age at delivery**
- **Pregnancy parity**
- **Live birth parity**
- **No. prenatal visits**
- **Mo. prenatal care began**
- **Method of delivery**
- **Maternal smoking**

Findings of ICE on Perinatal and Infant Mortality

1. Differences in definitions can have impact on infant mortality rates reported
 - 1a. Can adjust for some of these differences
2. Can develop cause of death categories comparable across countries and across ICD revisions
3. Simple data sets can produce useful information
4. BW distributions can differ substantially by country, which can affect impact of BW on infant mortality
5. SES gradient in infant mortality exists in all ICE countries, regardless of health care system

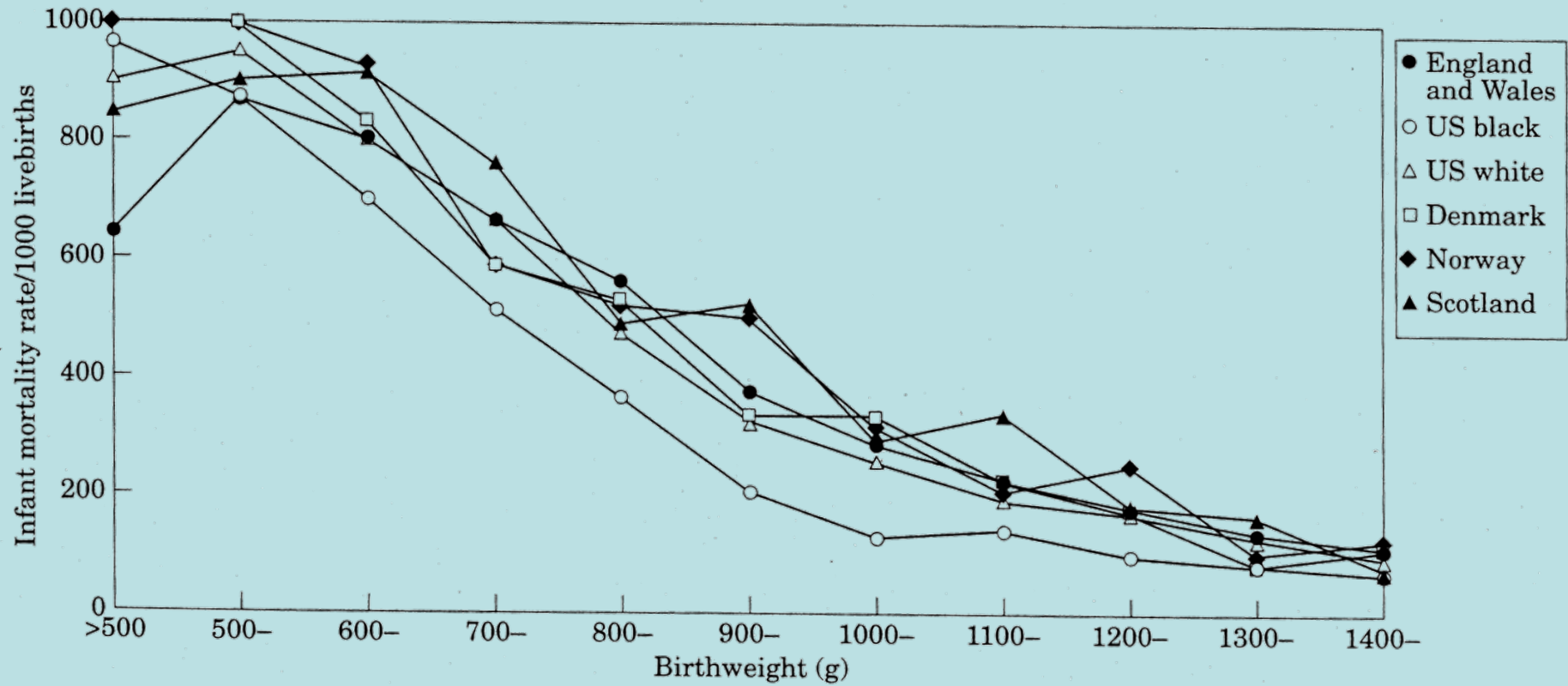
1. Problems of international comparisons of infant mortality

- Differences in birth, infant death and fetal death registration practices
- Differences in definitions of live- and stillbirth
- Different legal issues, social benefits, etc.
- Resuscitation practices differ
- Differences in measurement of gestational age

1a. Adjustments for differences in reporting infant mortality

- Combine live births and late fetal deaths to produce feto-infant mortality rate
- Exclude births and deaths below 500 grams
- Exclude births and deaths under 28 weeks
- Exclude deaths in first week of life

Birthweight-specific infant mortality rates under 1500 g: Selected ICE countries, 1985 (Norway 1984)



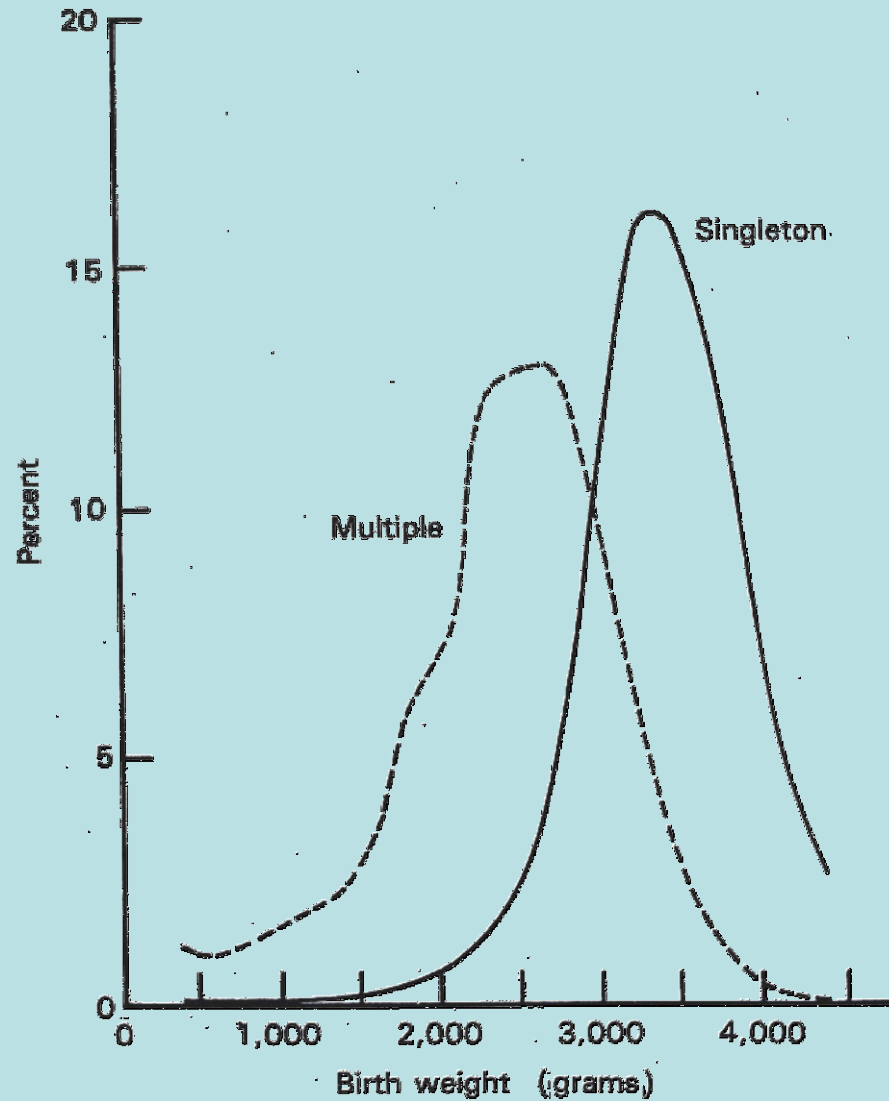
2. Cause of infant death categories

- Congenital conditions
- Asphyxia-related conditions
- Immaturity-related conditions
- Infections
- Other specific conditions
- Sudden Infant Death Syndrome
- External causes
- Remaining causes

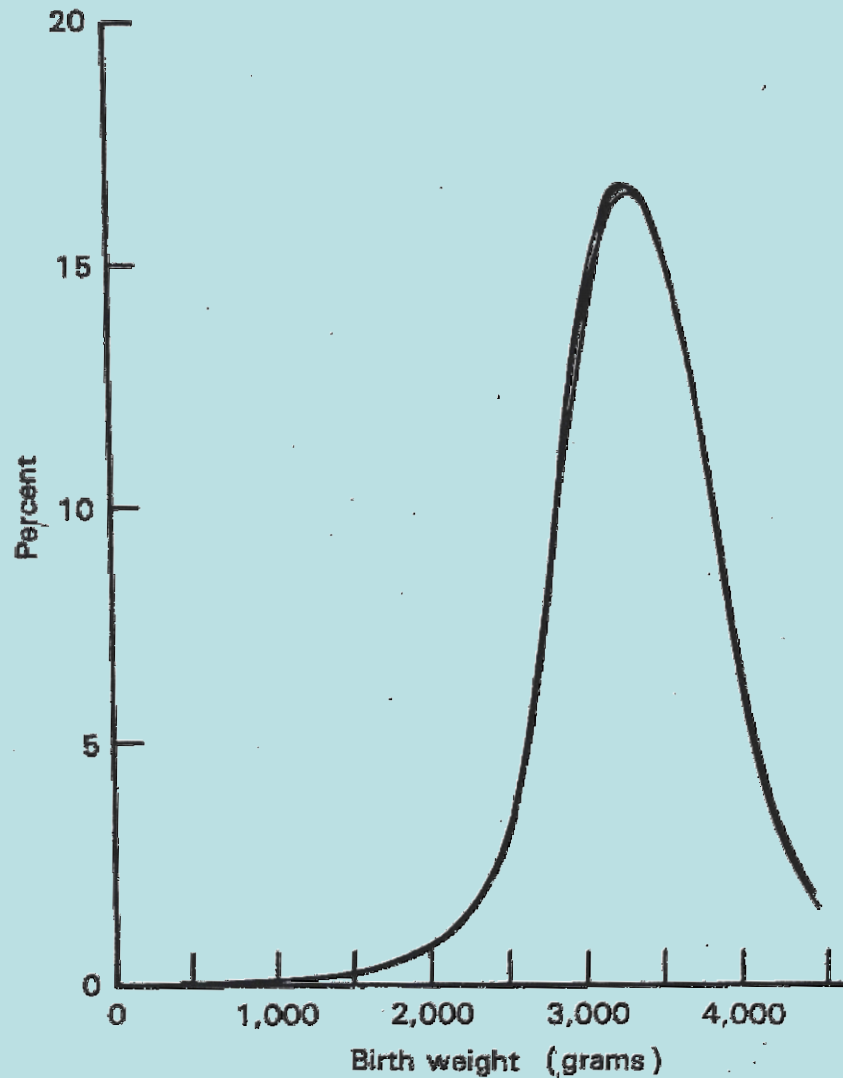
3. Simple datasets produce useful information

- Birthweight distributions

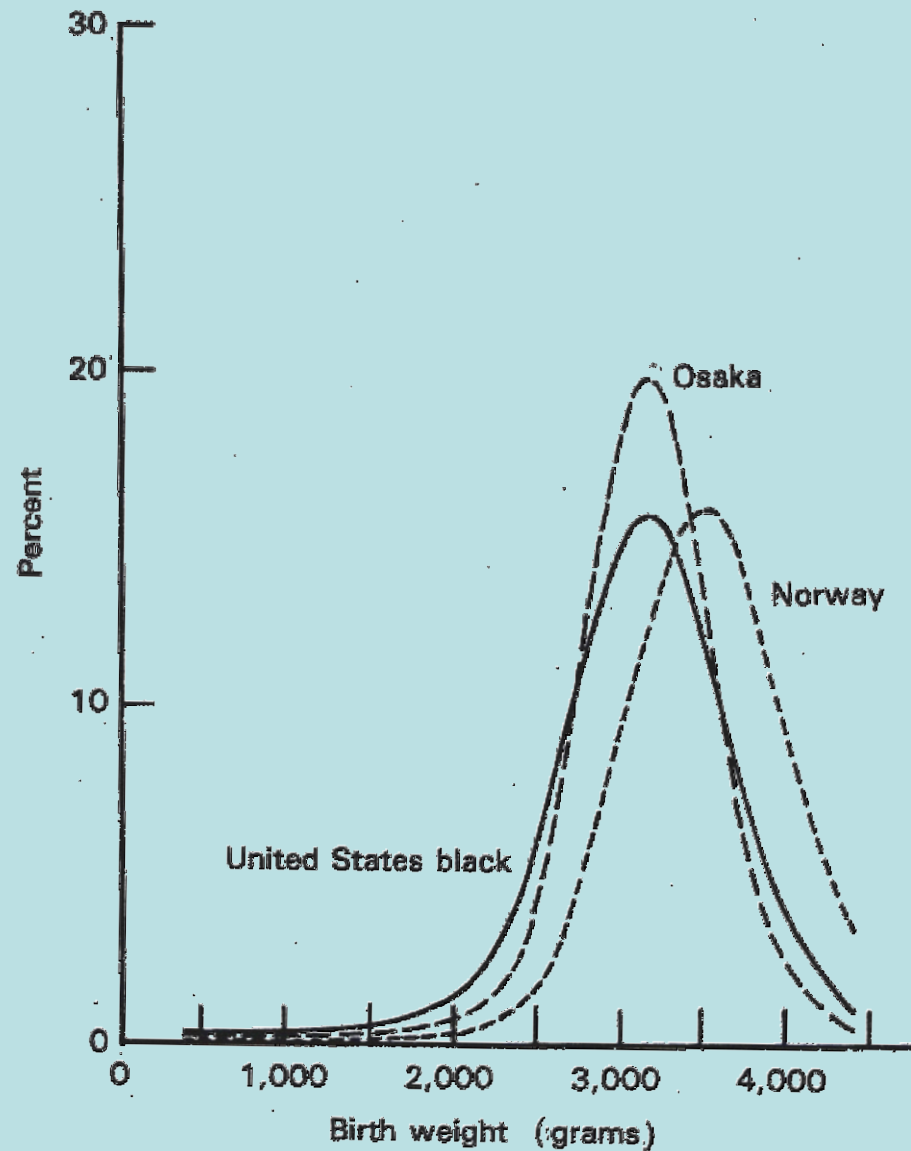
Birth weight distributions, total births: United States Whites



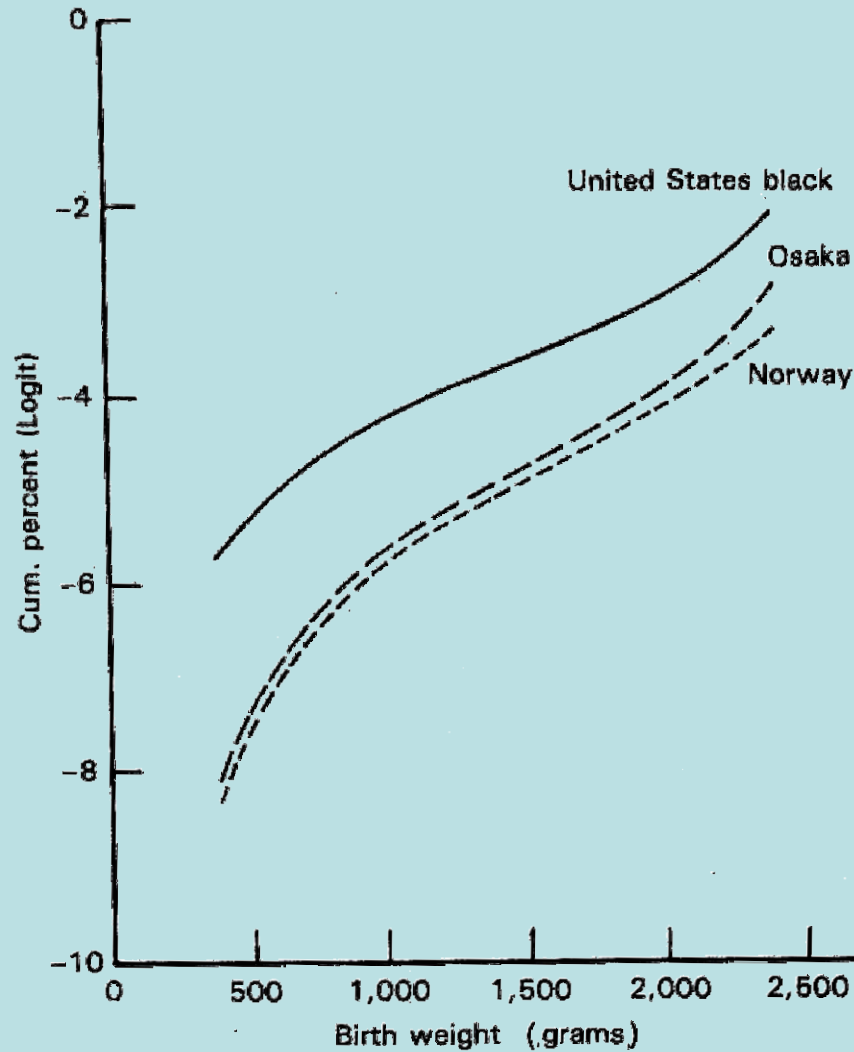
Birth weight distributions, singleton total births: Scotland, 1980-85



Birth weight distributions, singleton total births: ICE countries

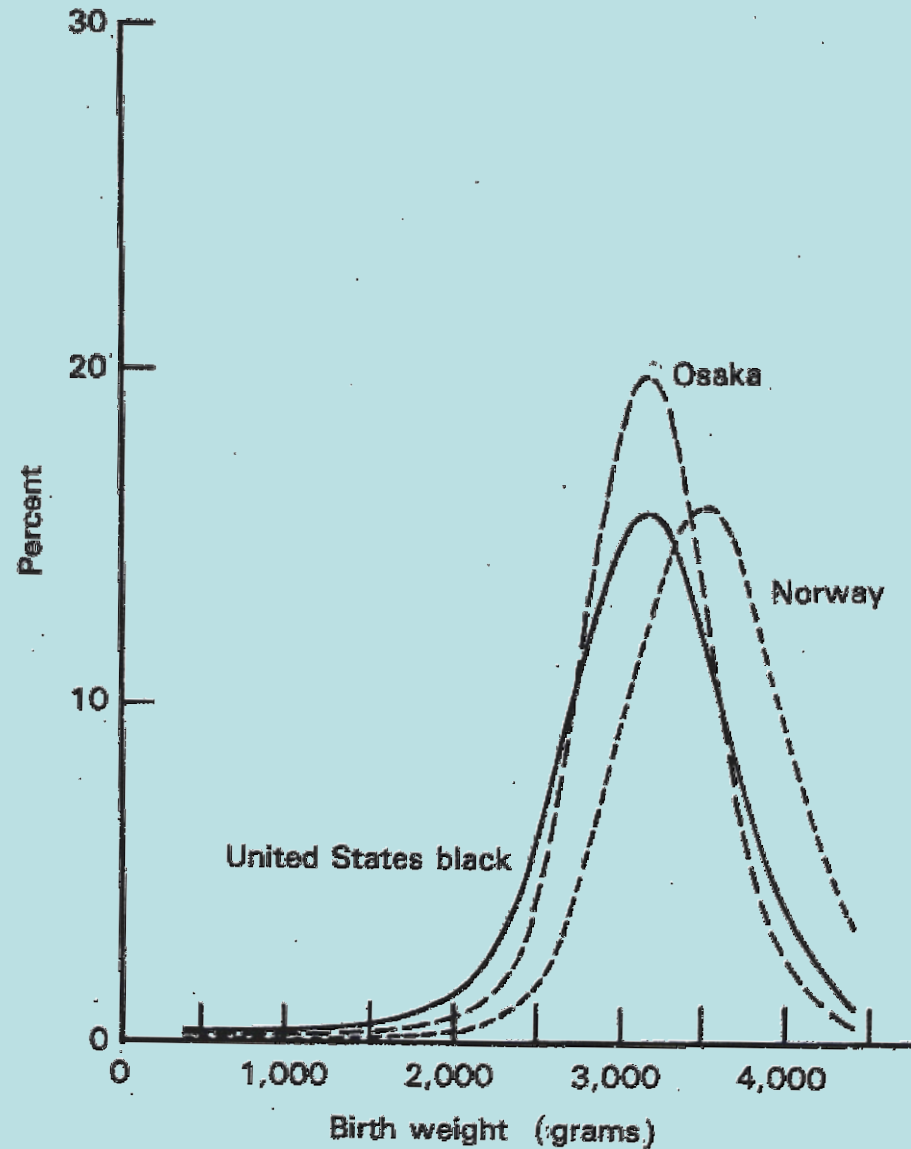


Birth weight distributions, singleton total births under 2,500 grams: ICE countries

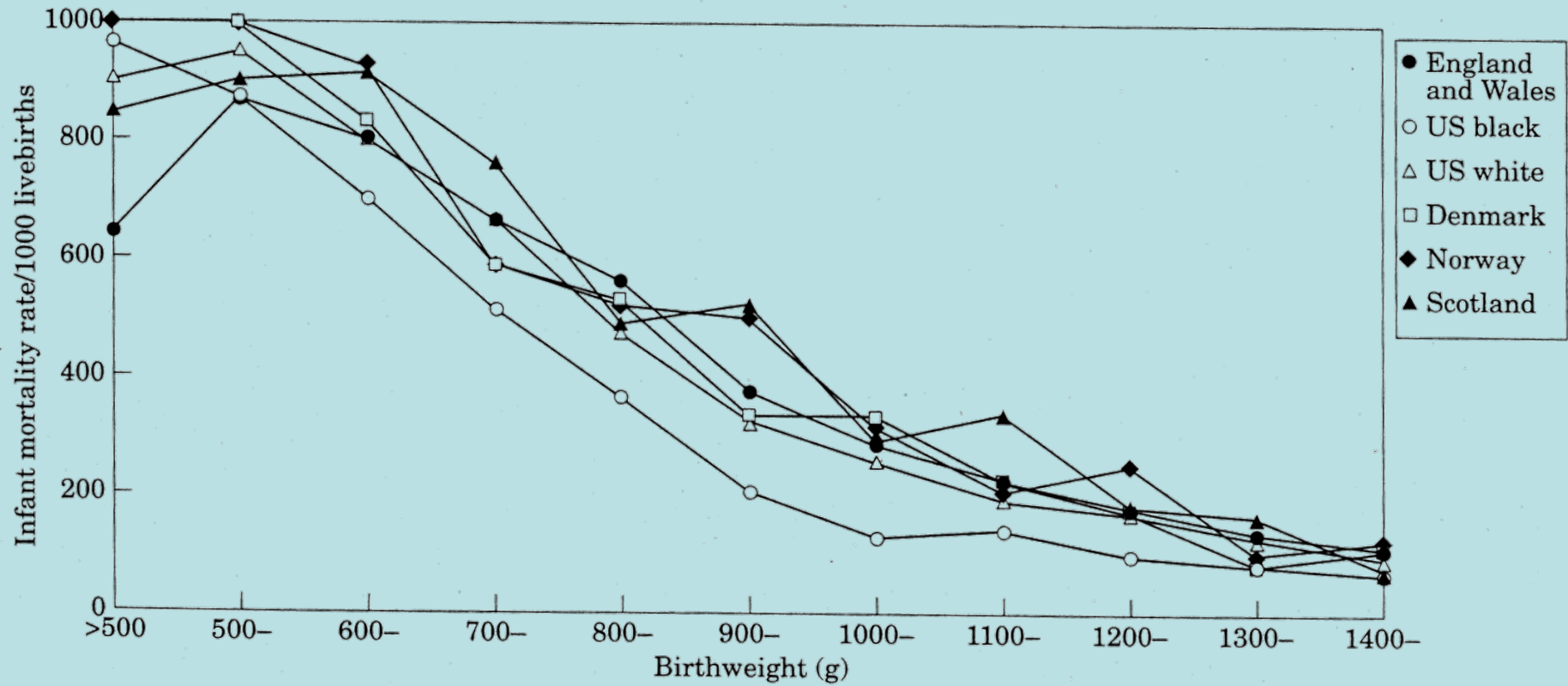


4. BW distributions can affect impact of BW on infant mortality

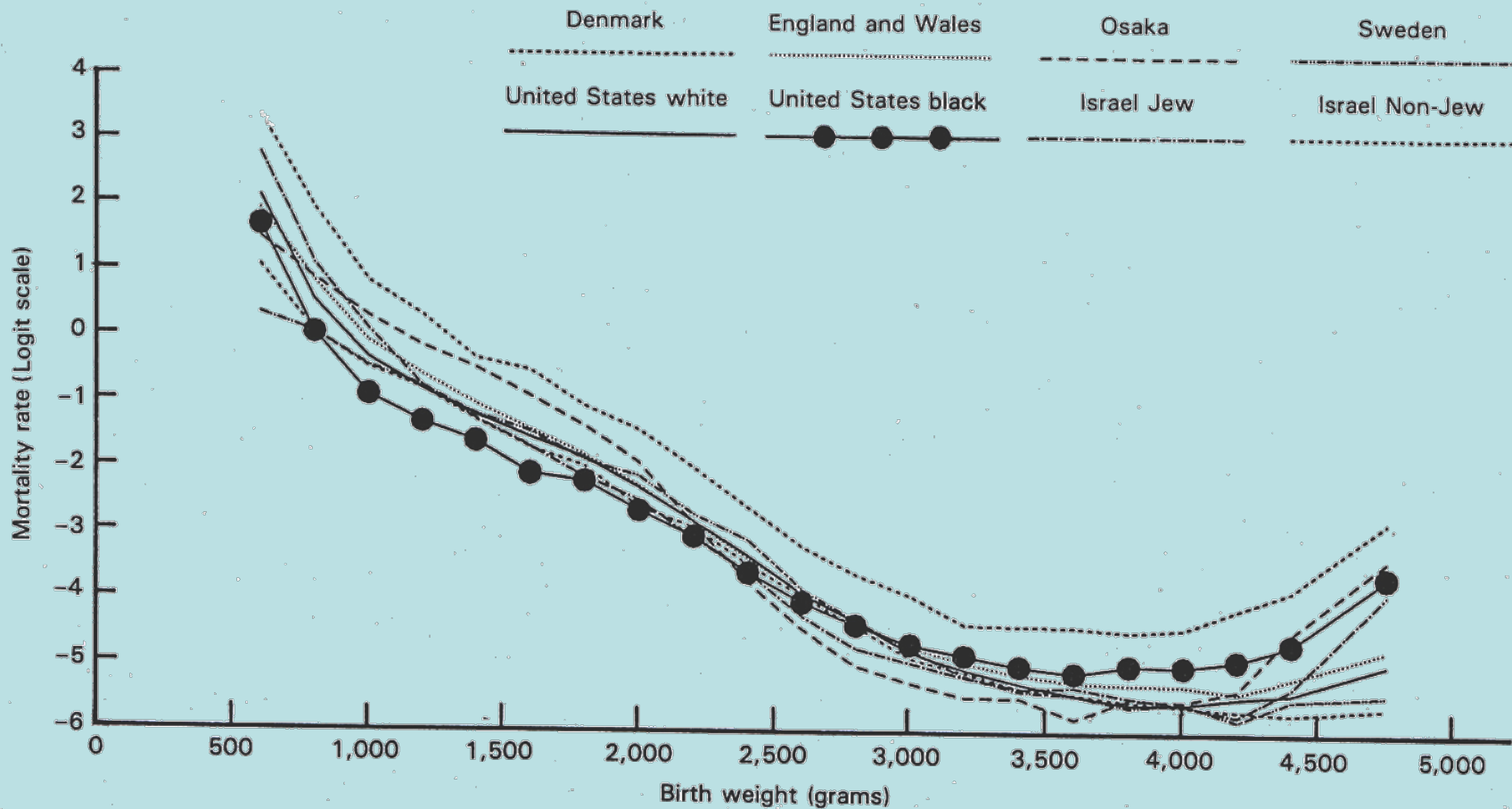
Birth weight distributions, singleton total births: ICE countries



Birthweight-specific infant mortality rates under 1500 g: Selected ICE countries, 1985 (Norway 1984)

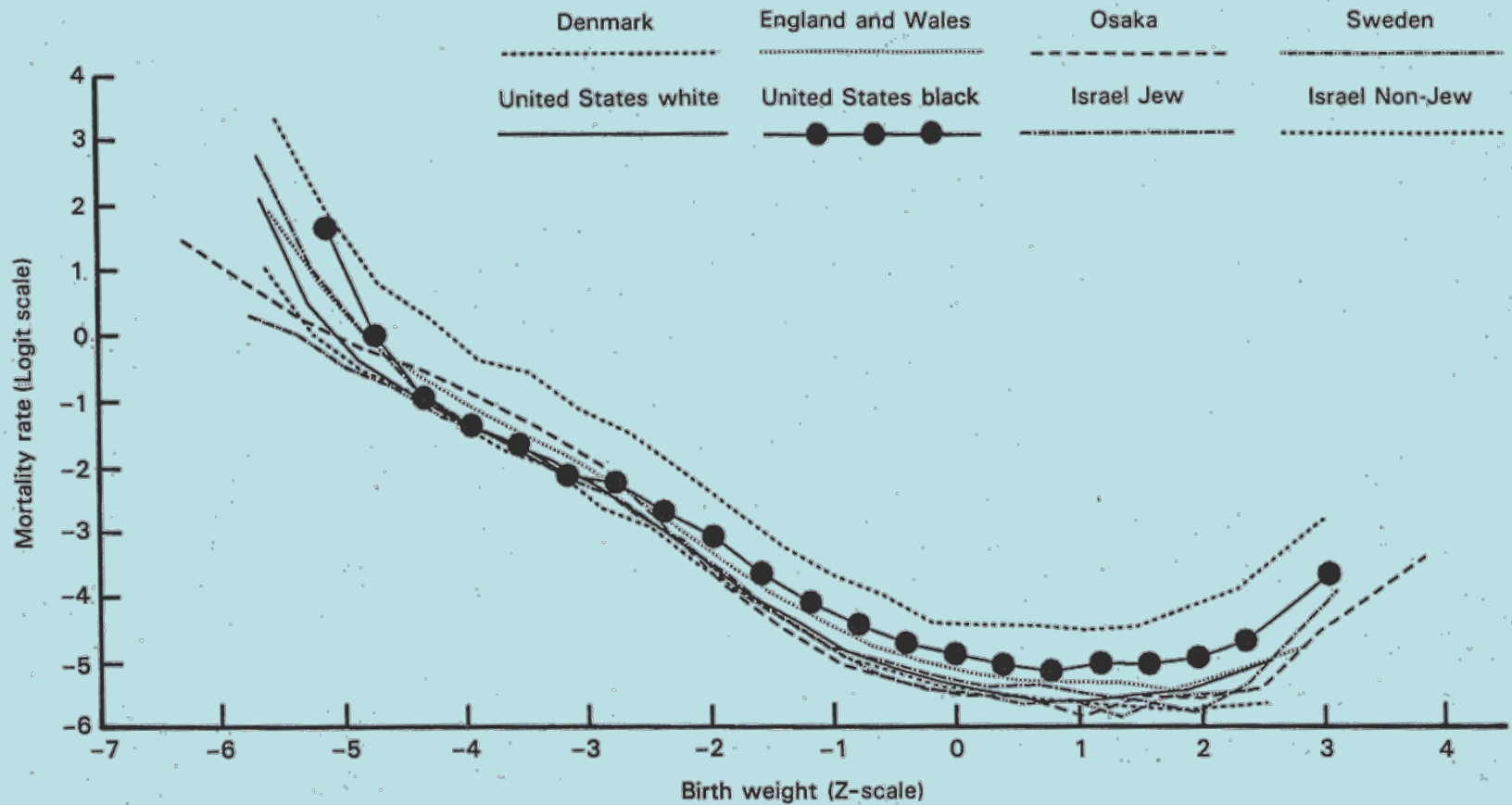


Birthweight-specific feto-infant mortality, singleton live births plus late fetal deaths: ICE countries, 1983-86.



SOURCE: International Collaborative Effort on Infant and Perinatal Mortality, NCHS

Birthweight-specific feto-infant mortality, singleton live births plus late fetal deaths: ICE countries, 1983-86



SOURCE: International Collaborative Effort on Infant and Perinatal Mortality, NCHS

**5. Socioeconomic differences
in infant mortality exist
regardless of health care
system**

Socioeconomic differences in Pregnancy Outcomes: ICE countries

- **Denmark:** LFMR, IMR 60% higher in lowest SES group (1983-87)
- **England and Wales:** IMR 100% higher in lowest occupation group (1987)
- **Germany:** IMR 25% higher for immigrants (1988)
- **Israel:** IMR 100% higher for Moslems, Druze (1987)
- **Norway:** PMR, PNMR 50-80% higher in less educated parents (1979-82)
- **Sweden:** LFMR, NNMR 50-80% higher among unskilled manual workers (1985-86)
- **US:** IMR 35% higher for black and 65% higher for white less educated mothers (1983-84)

A Future ICE on Perinatal and Infant Mortality?

- New participants will be required
- Data confidentiality will make it difficult to create detailed multi-country datasets
- Research grants would be a major facilitator of future collaboration

