


# Statistics of Natural movement

Chapter 5

# Natural movement of the population

- births;
- death;
- marriages;
- divorces;

- 
- ✓ **Fertility** increases the population.
  - ✓ **Mortality** reduces the population of the territory.
  - ✓ **Marriages** increase the number of births and, in a favorable condition, reduce mortality.
  - ✓ **Divorces** reduce fertility and increase mortality.

Natural movement and also called-as natural increase is the difference between the numbers of births and deaths in a population

# Indicators of the natural movement of the population

```
graph TD; A[Indicators of the natural movement of the population] --> B[Absolute]; A --> C[Relative];
```

**Absolute**

**Relative**

# Absolute indicators :

Number of births per year (**B**)

Number of deaths (**D**)

Absolute natural population growth, which is defined as the difference between the number of births and deaths (B-D)

# The system of indicators of natural motion



- Absolute number of demographic events



- Relative parameters of structure and average values



- Demographic coefficients

**Fertility is the process of procreation in the aggregate of people making up a generation, or in the aggregate of generations**



```
graph TD; A([Sources of fertility data]) --- B[Population census]; A --- C[Specially organized sample surveys];
```

Population  
census

Specially  
organized  
sample surveys

Sources of fertility  
data

**Population aggregates  
involved in the analysis of  
fertility**

```
graph TD; A[Population aggregates involved in the analysis of fertility] --> B[The totality of mothers]; A --> C[The totality of Fathers]; A --> D[The totality of newborns];
```

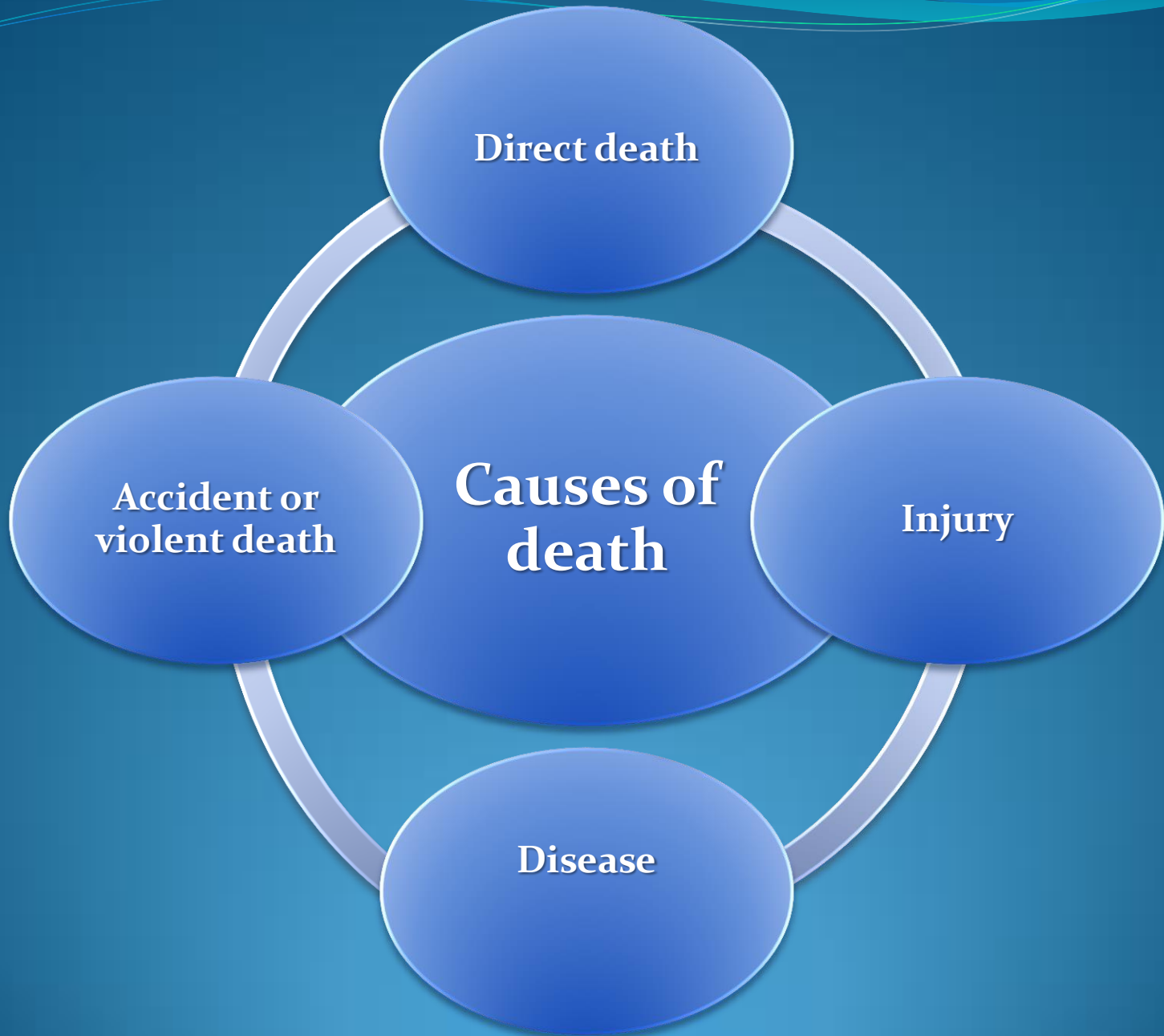
**The totality of  
mothers**

**The totality of  
Fathers**

**The totality of  
newborns**

Mortality is the second most important demographic process after birth, since death is the final stage in the life of any living organism, incl. and man.





# Mortality Factors

```
graph TD; A[Mortality Factors] --> B[endogenous Factors]; A --> C[exogenous Factors];
```

**endogenous  
Factors**

**exogenous  
Factors**

# Mortality rates

Crude Birth Rate (CBR)

$$= \frac{\text{Total live births}}{\text{Mid-year population}} \times 1000$$

# Mortality rates

## Age-specific mortality rate

- Number of people who died in a particular age group x 1000  
Total midyear population of the  
same age group during the same year

# Estimating the level of the overall death rate

<i>The first approach</i>		<i>The second approach</i>	
The value of the coefficient, ‰	Characteristics of the level	The value of the coefficient, ‰	Characteristics of the level
More than 20	Very tall	35.0 and above	Excessively high
16-20	Tall		
13-15	Above average	25,0-34,9	Very tall
11-12	Average	15,0-24,9	Tall
9-10	Below the average	10,0-14,9	Average
7-8	Low	До 10	Low
7	Very low		

**Marriage is a socio-demographic process that covers the whole set of marriages between people.**

# Distinguish forms of marriage (specific variations of conjugal unions)



monogamy



polygamy

the first

repeated

**Forms of  
marriage in  
order of  
priority**

```
graph TD; A[the first] --> C(Forms of marriage in order of priority); B[repeated] --> C;
```

# FORMS OF MARRIAGE BY DEMOGRAPHIC CONSEQUENCES

**children**

**childless**

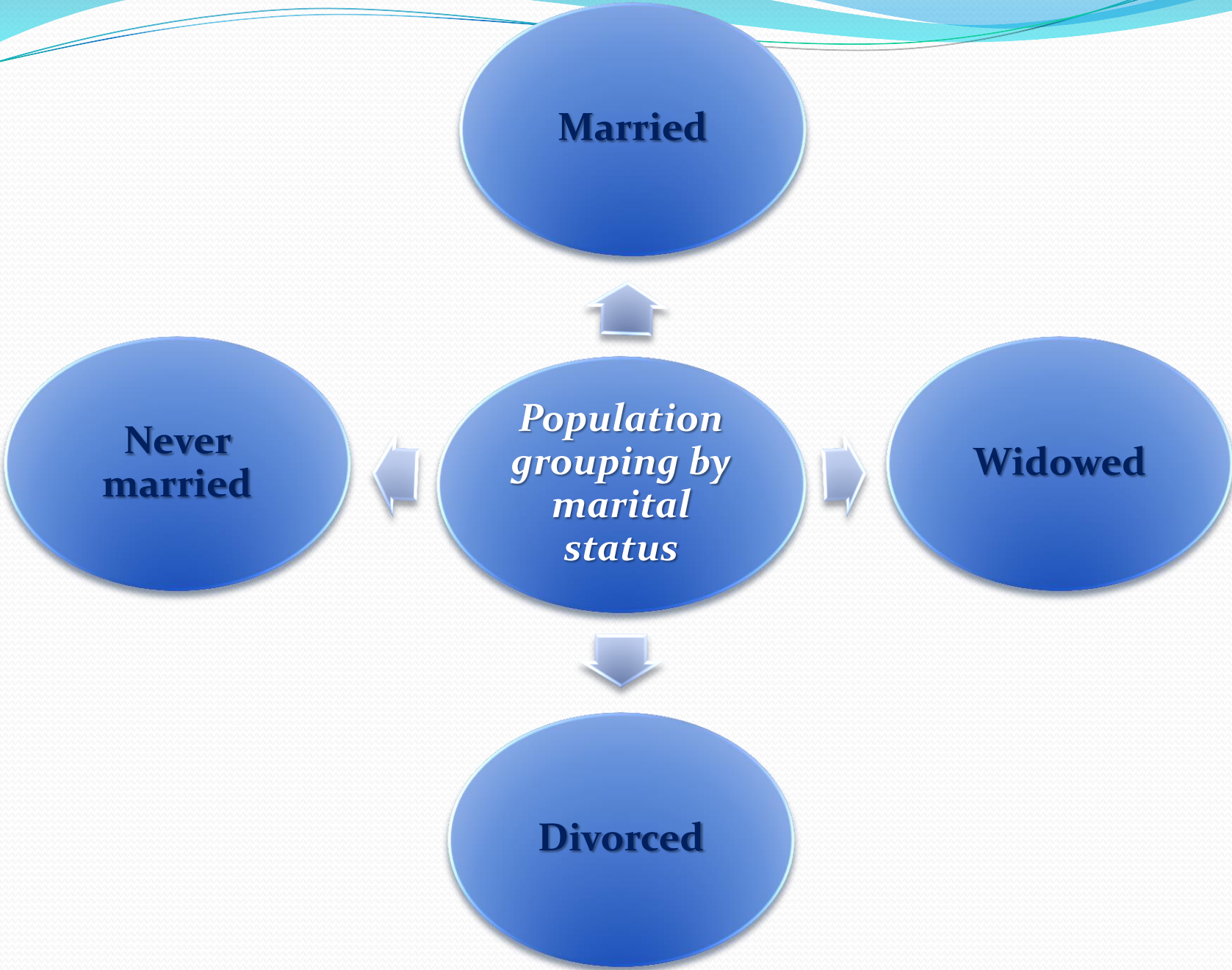
# The main tasks of marriage statistics and divorce statistics

Studying the marriage market;

- study of the marital status of the population;

a quantitative analysis of the aggregates of marriages and divorces in the context of demographic and socio-economic characteristics of marriages and divorces;

- study the intensity of marriage and divorce processes and identify the main factors; celibacy



# Marital status indicators

General :

$$K_S = S_{UW} / S_{UM}$$

where  $S_{UW}$  – number of unmarried women;  
 $S_{UM}$  – number of unmarried men.

**The level of early marriages (the rate of propensity to early marriages): (the proportion of marriages contracted under the age of 20 by men and women (separately) in all marriages registered for the period):**

$$Km_{15-19} = M_{15-19} / S_{15+} \times 1000$$

**The coefficient of propensity to late marriage:**

$$Km_{50+} = M_{50+} / S_{50+} \times 1000$$

➤ **Divorce is the dissolution of marriage in the life of both spouses in the bodies of registration of acts of civil status or, in cases specially provided for by law, by a court decision.**

➤ **Diligence is the process of the disintegration of married couples in a generation due to dissolution of marriage (divorce). According to the existing legislation in our country, divorce without children is recorded in the registry office, and divorce with children is only by court order.**

# Main indicators of divorce statistics of population:

1. Absolute number of divorces per period.
2. The average duration of marriage before divorce, mode and median.

3. The total coefficient of divorce :

$$K_p = P/S \times 1000$$

4. Special factor of divorce:

$$K_{15+} = P/S_{15+} \times 1000$$

- 5) Net special divorce rate (the number of divorces per 1000 people of the marriages of a married age):

$$K^6_{15+} = P/S^6_{15+} \times 1000$$

- 6) The coefficient of divorce in the reproductive age (the number of divorces in the age of 15-49 years per 1000 people of reproductive age, married):

$$K^6_{15-49} = P_{15-49}/S^6_{15-49} \times 1000$$

- 7) The age-specific coefficients of divorce are the ratio of the number of males or females in a given period of time to their average number over the same period. The indicator characterizes the frequency of divorces in persons of different ages.
- 8) The total coefficient of dilution.
- 9) The coefficient of instability of marriages (the index of divorce) is the number of divorces per marriage:

$$K_{p/6} = P / B = K_p / K_6$$

# Factors affecting the stability of marriage

Factors directly correlating with the stability of marriage	Factors that are inversely correlated with the stability of marriage
<b>premarital factors</b>	
Equal social status of spouses	Exceeding the age of the wife over the age of her husband
Higher education of the husband	The early (late) age of marriage of both men and women
Successful family life of parents	Higher level of education of the wife
Mutual positive first impression of each other	Different social status of spouses
Courting period 1.0 - 1.5	Parenting in an incomplete family
Getting to know the situation of "work - study"	Unstable relations in the period of acquaintance
The initiative on the marriage of a man	The negative attitude of parents towards marriage
Accompaniment of registration of marriage by a wedding celebration	Difference in nationality and confession of spouses

# Marriage factors

High reproductive attitudes in the family	The discrepancy between reproductive attitudes in the family
The presence of a chapter in the family	The use of alcohol (drugs) by a spouse
Joint adoption of the main decisions in the family	Lack of trust and support in marriage
Equitable distribution of household care responsibilities for children	Divergence of the spouses' attitudes towards the distribution of household duties
The similarity of family values	Lack of adaptive behavior
Low Conflict	Limited communication, interests
Joint spouses holding free time	Unsatisfactory sexual relations
High respect and emotional acceptance of each other's spouses	Divergence of the spouses' attitudes to the professional work of the wife (husband)