

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
STATE HIGHER EDUCATIONAL INSTITUTION  
«UZHHOROD NATIONAL UNIVERSITY»  
MEDICAL FACULTY №2  
DEPARTMENT OF PUBLIC HEALTH AND HUMANITARIAN DISCIPLINES

**«SOCIAL MEDICINE, PUBLIC HEALTH.  
MODULE II»**

**METHODICAL RECOMMENDATIONS FOR PREPARATION TO PRACTICAL  
CLASSES FOR FOREIGN STUDENTS III YEAR OF STUDY OF THE MEDICAL  
FACULTY №2**

Authors:  
prof. Pogoriliak R. Yu.  
as. Feger O.V.  
as. Ladani S.A.  
as. Turok A.V.

Uzhhorod - 2021

**Pogorilyak R.Yu., Feger O.V., Ladani S.A., Turok A.V.** Social Medicine, Public Health. Module II // Methodical recommendations for preparation to practical classes for foreign students III year of study of the Medical faculty №2. - Uzhhorod, 2021. - 57 p.

The methodical recommendations provide educational and methodical material for the preparation and conduct of practical classes on the subject «Social Medicine, Public Health» for third-year students of the Medical Faculty №2, which corresponds to the requirements of the educational qualification level «Master» qualification «Doctor» in higher educational institutions of III-IV levels of accreditation of Ukraine, as well as the requirements of the Regulations on state certification of Ukraine's higher medical educational institutions graduates. These guidelines consider the general principles of social medicine in Ukraine and other countries in the framework of Module II in the discipline of Social Medicine, Public Health.

**Approved:**

- at the meeting of the Department of Public Health and Humanitarian Disciplines from «16» of June 2021, protocol №11;
- by the decision of the scientific and methodical board of Medical Faculty №2 from «16» of June 2021, protocol №11.

**Reviewers:**

- Doctor of Medicine (D.M.), full professor **V.V. Kaliy** – dean of the medical faculty №2, SHEE “UzhNU”
- Doctor of Medicine (D.M.), full professor **I.M.Rogach** – head of the department of social medicine and hygiene of the medical faculty, SHEE “UzhNU”

## CONTENT

INTRODUCTION .....	4
Topic 1. Social medicine and health organization as a science. Subject, methods and significance for public health practice.....	5
Topic 2. Health of the population .....	12
Topic 3. Demography .....	18
Topic 4. Indicators of the natural movement.....	22
Topic 5. Morbidity of population as medical and social problem. ....	30
Topic 6. Outpatient care.....	37
Topic 7. Inpatient care .....	45
Topic 9. Family medicine and its role in the system of medical care. The content and organization of the family doctors (general practitioner).....	52

## **INTRODUCTION**

Social medicine as a science studies the patterns of public health and the organization and operation of the health care system. It is studied to develop methods to ensure the high potential of public health as a decisive factor of society development.

The object of "Social Medicine" science studying is the health of various groups and the health care system.

Public health is a unique value and occupies an important place among the priorities in the field of social medicine and is an indicator of socio-economic development of the state. At the same time, health is extremely important in the life of every person, every family and society as a whole.

The country's health care system faces a key challenge - to provide the most efficient medical care for the population with the existing resources and to achieve the highest possible level of medical care and medical services.

In order to increase the level of future specialists training in the field of health care, methodological recommendations were developed within the framework of Module II.

## **Topic 1. Social medicine and health organization as a science. Subject, methods and significance for public health practice.**

### **Learning objective:**

- To get acquainted with the content of the concept of "Social Medicine".
- To get acquainted with the history of social medicine.
- To get acquainted with the sections of social medicine and methods of its study.
- To get acquainted with the basic principles of health care.

### **Students must:**

#### **Know:**

- Definition of "social medicine" concept, its purpose and objectives. Basic principles of health care. Sections of social medicine. Methods of studying social medicine.

### **Questions to prepare:**

1. Social medicine or public health: definition.
2. Following structures of social medicine.
3. Main aim of social medicine.
4. Basic tasks of social medicine.
5. Sections of social medicine.
6. Main methods of study social medicine.
7. Basic principles of Ukraine population health protection.
8. Health protection and medical aid.
9. System of the health protection: definition.
10. Concepts of «Health».
11. Basic medical parameters (indicators) of the public health.
12. Risk factors: definition, classification.
13. Methods of studying population health.
14. Sources for the study of population health.
15. Groups and criterias of population's health
16. «Index of health»: definition.
17. Main indicators of health in Ukraine.
18. The reasons of Ukraine population critical health state.

### **Materials for self-preparation:**

#### **SOCIAL MEDICINE or PUBLIC HEALTH**

- is a science, which studies the population health state and its health system protection.

This science explores the impact of social, economic, environmental, behavioral, organizational and other factors on the formation of population health to develop preventive measures for its improvement.

Unlike clinical sciences, public health does not study the health of individuals, but study health social groups and society in a whole, examines the connectivity of health with lifestyle of the population etc.

**Social medicine** has the following structures:

- own budget;
- material and technical base (building, medical equipment etc.);
- staff (doctors, medical personnel);
- high medical school for medical staff training (doctors and nurses);
- institutes for postgraduates and medical scientific departments (Scientific Research University and Academy of Medical Sciences).

**Main aim of social medicine:**

- development and scientific substantiation of social, medical, economic measures to ensure an optimal level of the population's health and its active longevity.

**Basic tasks of social medicine:**

- to study condition of health population;
- to study social factors, conditions and lifestyle influence on population's health;;
- development of scientific recommendations for the prevention and elimination of unfavorable factors on population health;
- to develop methods of social preventive maintenance of diseases (measures of social preventive maintenance);
- to organize an optimal form of medical aid.

**Social medicine consists of 3 sections:**

- medical statistics (biostatistics)
- health of the population
- systems of health protection

**These sections include the following units:**

- problem of health and medicine;
- legal principles of health care;
- conditions and lifestyle of the population;
- basics of biostatistics;
- health care organization;
- economy and planning of health care;
- medical insurance;
- management of health care.

**Main social medicine studying methods:**

- Statistical methods –basic method which allows you to substantiate the regulatory – organizational needs in providing certain types of aid, identifying regularities of population health etc.
- Sociological method, which allows studying social structure of a society and its influence on health;
- Historic method, establishes historical regularities of development of public health and its protection;

- Economical method, which enables to determine economic efficiency in systems of medical services;
- Experimental method, allows studying advantages (disadvantages) of organizational forms of medical services;
- Method of expert estimation, which helps to study quality and efficiency of medical services;
- Epidemiological method.

### **Basic principles of Ukraine population health protection**

- Priority of the government's and society's activity in the sphere of health.
- Decentralization of management.
- Multi-structure of system and financing.
- Complimentary primary medical sanitary help (PMSH) (increased sanitary culture, prevention, aid in acute diseases, rehabilitation).
- Prophylactic character (dispensarisation, family medicine, hygienic education, district principle).
- Scientific validity

### **Health protection and medical aid**

- Health protection is a system of the state, organization and individual measures, which strengthen the health, decrease morbidity rate, and prevent early death. It also provides optimum life activity and working capacity of population.
- Medical aid is a system of medical measures and methods which strengthen the health, decrease the illness rate and prevent the early death, provide active life activity and working capacity of population.

### **System of the health protection**

- It is a system directed at protection and development of physiological and psychological functions, social activity and optimal working capability of a person.

**There are many (about 100) definition of «Health», but each of them don't takes into account certain important aspects of human life.**

- There are several approaches to the definition of "Health"
- Individual theoretical approach
- Individual practical approach
- General philosophical approach
- Population approach

### **Concept of «Health» from the individual theoretical approach point of view:**

- «Health» – it is the state of complete physical, mental and social well-being and not merely the absence of diseases and physical disabilities. (It is a definition according to WHO).

### **Concept of «Health» from the point of view of individual practical approach:**

- «Health» – it is conditions of human body, when he (she) can fully carry out his/her biological and social functions.

**Concept of «Health» from the point of view of population method:**

- «Health» – it is conditional statistical term, that is characterized by complex of medical and demographic indicators, morbidity, physical development, invalidity and frequency of premorbid (prenosology) conditions (state which symptoms of disease are still absent).

**«Public health»**

- it is health of different demographical, social, professional and others groups of people living in a particular area.

**Basic medical parameters (indicators) of the public health are:**

- Demographic indicators (birth rate, death rate, natural growth rate, average life expectancy);
- Morbidity (sickness) rate (general morbidity, primary morbidity, hospital morbidity, etc.)
- Physical development (morphological and biological development, harmonious development, anthropometrical parameters: growth, weight);
- Invalidity (stable disability) (primary and general);
- Pre-morbidity conditions.

**Health studied on 6 levels:**

- an individual;
- a group of people;
- the organization;
- the community;
- the country;
- around the world.

**Most often studied:**

- Individual health - is based on the physical and mental characteristics of the individual, his life.
- Group health - caused by the specifics of livelihoods of employment or family group.
- Public Health - describes the health of the population as a whole and finds a coherent system of material and spiritual relations in society.

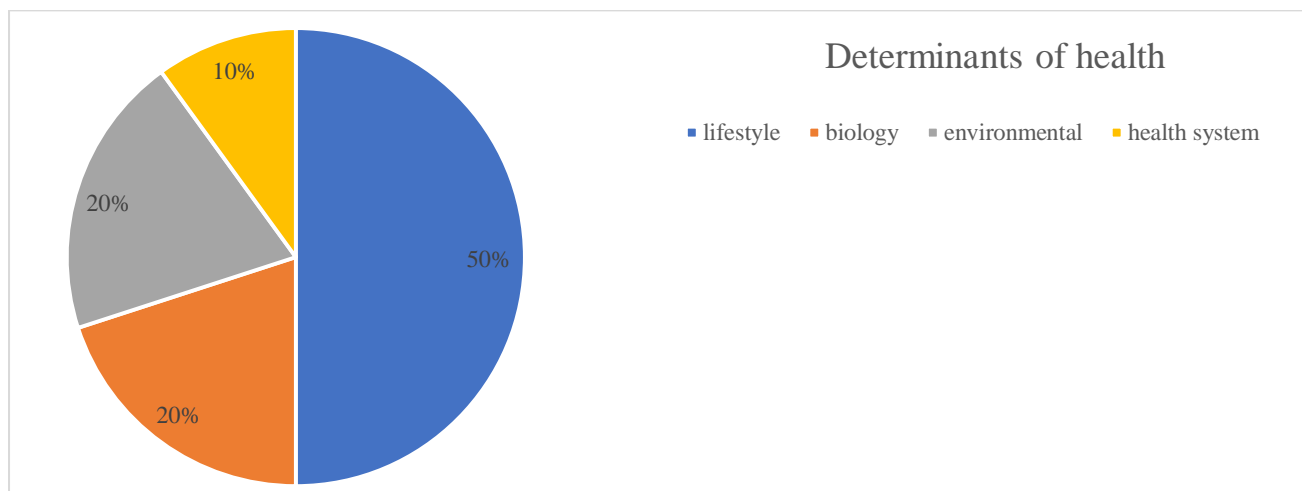
Important role in formation of public health level of the population play the so-called **risk factors** of disease and death.

**Risk factors** – it is endogenous or exogenous additional adverse effects on the body, which increases the probability of disease or death.

<b>Risk factors</b>			
Endogenous		Exogenous	
<u>Controllable</u>	<u>Uncontrollable</u>	<u>Controllable</u>	<u>Uncontrollable</u>
Arterial hypertension	Age	Conditions of surrounding environment	Climate
Dysmenorrhoea	Sex	Lifestyle	Natural conditions
	Heredity	Lack of medicine	



According to the classification of the American scientist Robinson all factors influencing health can be divided into 4 groups:



### Classification of ROBBIN'S factors influencing on health

Groups of risk factors	Percentage (%)
<p><b><u>Lifestyle</u></b>            smoking, improper nutrition, alcohol consumption, drug addiction, occupational hazards, stress, hypodynamia (lack of motion), low standards of life, incomplete family, urbanization etc.</p>	51 - 52
<p><b><u>Condition of environment</u></b>            Pollution of an environment (water, air, nutrition, ground)            Level of radiation (electromagnetic fields)</p>	20 - 21
<p><b><u>Biological factors</u></b>            Age, sex, heredity, body constitution.</p>	19 - 20
<p><b><u>Medical examination &amp; quality of treatment</u></b>            Inoculation against infectious diseases, medical aid, quality of treatment</p>	8 - 9

From these data we can conclude: the main focus on the preservation and strengthening of health of the population is improving the lifestyle of people and the environment.

### Methods of studying population health:

- according to the appeals of the population;
- by survey;
- by conducting medical examinations;
- special sample surveys.

### Sources for the study of population health are:

- official records of health care institutions.
- specially organized records of cases of diseases and deaths in medical institutions - prospective study.
- retrospective data records documents of health care institutions in the past period of time.

- data survey population.
- data medical examinations.
- electronic databases.

**Information about the health status make it possible to determine:**

- risk factors;
- substantiate health measures;
- evaluate the effectiveness of measures already taken;
- for current and strategic planning staff;
- for improving the structure of institution and health services in general.

**Research of health of population allows conditionally divide population into the groups of health.**

**Groups and criteria of population's health**

<b>Group</b>	<b>Criteria</b>
I	Healthy (not more than 1 time per year of acute respiratory diseases)
II	Practically healthy (persons with premorbid conditions, 2-3 times per year of acute respiratory diseases or other acute disease)
III (III a)	Chronic patients in the compensation condition (persons with chronic disease without exacerbation, acute respiratory syndrome more than 4 times per year)
IV (III b)	Chronic patients in the subcompensation condition (persons with exacerbation of chronic disease during one year)
V (III c)	Chronic patients in the decompensation condition

**«Index of health»**

- Specific weight (percent) of persons, who haven't been ill during year.

**Main indicators of health in Ukraine have following tendency:**

- **demographic situation:** urbanization, population aging, increased mortality, negative natural growth, depopulation, changes in life expectancy, namely - shortening of average expectancy of life;
- **morbidity:** increased morbidity, both primary and chronic, in all classes of diseases, increase in the frequency of transition of acute chronic diseases, formed non - epidemic type disease; multiple pathology (combination of various disorders in one patient), first place occupied the diseases of the circulatory system;
- **physical development:** increases number of children with disharmonic growth; increasing the proportion of people overweight (lifestyle changes, diet, lack of exercise), acceleration of physical development, decreases number of practically health children;
- **invalidity:** indicator of primary invalidity rises up.

### **Ratio of population vitality**

Since the middle of 60th, the developed countries of the world began to apply a complex index is a **coefficient of vitality of population**, which is determined recognition:

- average life expectancy,
- infant mortality,
- food quality,
- budget for social, medical and environmental applications.

*Maximum values (5 points) was not detected, ratio 4 points were Sweden, Belgium, Netherlands, Luxembourg, 3 points - US, Japan.*

*Coefficient viability of Ukraine's population is 1.4 points, 1 point – it is critical level.*

### **The reasons for the crisis state of health of the population of Ukraine**

- the lack of a significant part of the population of healthy lifestyles;
- the destruction of society and the poor financial situation of the population;
- the negative impact of the environment
- it is not always adequate, affordable and quality health care.

## Topic 2. Health of the population

### Learning objective:

- To get acquainted with the "Public Health" content concept.
- To get acquainted with the factors that affect health (lifestyle, biological, environmental conditions, volume and quality of medical care).

### Students must:

#### Know:

- Definition of "public health", basic medical parameters, indicators of individual health. Components of health. The main groups of factors that affect the population health. The role of lifestyle, environmental, genetic (biological), medical factors in health forming.

#### Be able to:

- To assess risk factors.

### Questions to prepare:

1. «Public health»: definition.
2. Basic medical parameters (indicators) of the public health.
3. Indicators of individual health (according to WHO).
4. Components of health.
5. Levels health studied.
6. Risk factors: definition, classification.
7. Methods of studying population health.
8. Sources for the study of population health.
9. Information about the health status.
10. Groups and criteria of population's health.
11. «Index of health»: definition.
12. Main indicators of health in Ukraine.
13. Ratio of population vitality.
14. The reasons of Ukraine population critical health state.

### Materials for self-preparation:

#### «Public health»

- it is health of different demographical, social, professional and others groups of people living in a particular area.

#### Basic medical parameters (indicators) of the public health are:

- Demographic indicators (birth rate, death rate, natural growth rate, average life expectancy);
- Morbidity (sickness) rate (general morbidity, primary morbidity, hospital morbidity, etc.)
- Physical development (morphological and biological development, harmonious development, anthropometrical parameters: growth, weight);
- Invalidity (stable disability) (primary and general);
- Pre-morbidity conditions.

## **Indicators of individual health (according to WHO)**

- absence of diseases, lesions;
- functional conditions of body organs;
- physical and psychological development;
- physical and mental ability to work;
- state of immunity.

## **Components of health:**

- Social health.
- Spiritual health.
- Physical health.
- Age health.
- Physiological health.
- Sexual health.

### **«Social health»**

This is the condition of the body when the human capacities to participate in the social system of society are the best.

### **«Spiritual health»**

Person's characteristic, which define its ability to cope with difficult circumstances of own life, while maintaining optimal emotional background and appropriate behavior.

### **«Physical health»**

Human condition, characterized by its ability to adapt to different environmental factors, the level of physical development, physical and functional readiness of the organism to the execution of the appropriate loads.

### **«Age health»**

The harmonious development of person under the age period of life, which shows the relevant of anatomical, physiological, biochemical, physical, social and mental characteristics of a particular age period.

### **«Physiological health»**

Normal human body function at all levels of its organization: a body, organs, histological, cellular and genetic structures, the normal course of physiological and biochemical processes that contribute to survival and reproduction.

### **«Hereditary health»**

Normal function of the human body that is controlled by the genetic code of the individual and shows the ability to reproduce healthy new generation.

### **«Sexual health»**

Complex of somatic, emotional, intellectual and social aspects of sexual human existence that positively enrich the personality, improve communication skills and human capacity to love her

**Health studied on 6 levels:**

- an individual;
- a group of people;
- the organization;
- the community;
- the country;
- around the world.

**Most often studied:**

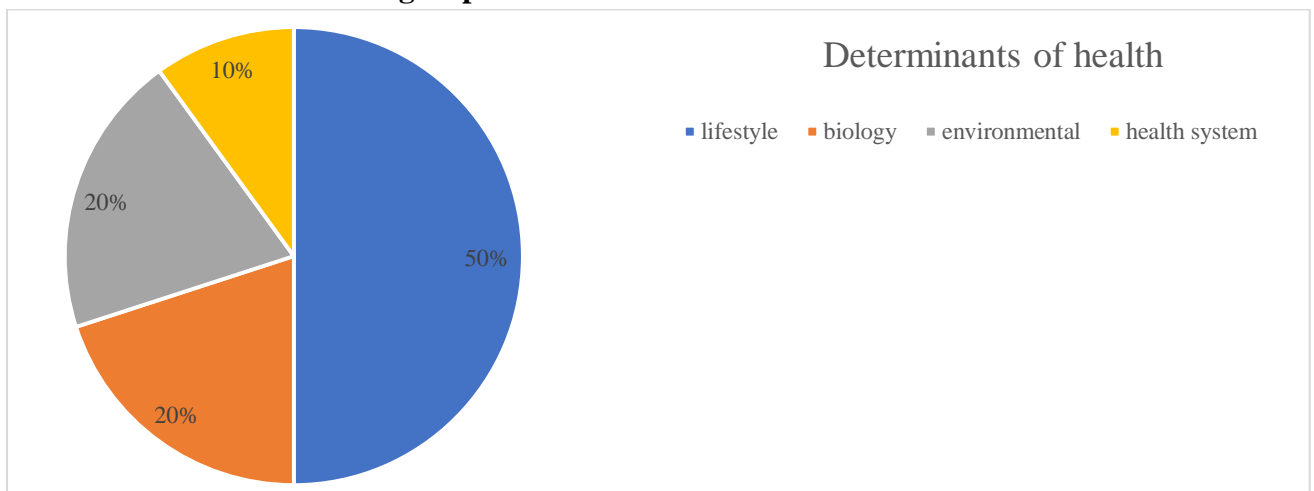
- **Individual health** - is based on the physical and mental characteristics of the individual, his life.
- **Group health** - caused by the specifics of livelihoods of employment or family group.
- **Public Health** - describes the health of the population as a whole and finds a coherent system of material and spiritual relations in society.

Important role in formation of public health level of the population play the so-called **risk factors** of disease and death.

**Risk factors** - – it is endogenous or exogenous additional adverse effects on the body, which increases the probability of disease or death.

Risk factors			
Endogenous		Exogenous	
<u>Controllable</u>	<u>Uncontrollable</u>	<u>Controllable</u>	<u>Uncontrollable</u>
Arterial hypertension	Age	Conditions of surrounding environment	Climate
Dysmenorrhoea	Sex	Lifestyle	Natural conditions
	Heredity	Lack of medicine	

According to the classification of the American scientist **Robinson** all factors influencing health can be divided in to 4 group:



### Classification of ROBBIN'S factors influencing on health

Groups of risk factors	Percentage (%)
<p><b><u>Lifestyle</u></b>            smoking, improper nutrition, alcohol consumption, drug addiction, occupational hazards, stress, hypodynamia (lack of motion), low standards of life, incomplete family, urbanization etc.</p>	51 – 52
<p><b><u>Condition of environment</u></b>            Pollution of an environment (water, air, nutrition, ground)            Level of radiation (electromagnetic fields)</p>	20 - 21
<p><b><u>Biological factors</u></b>            Age, sex, heredity, body constitution.</p>	19 - 20
<p><b><u>Medical examination &amp; quality of treatment</u></b>            Inoculation against infectious diseases, medical aid, quality of treatment</p>	8 - 9

From these data we can conclude: the main focus on the preservation and strengthening of health of the population is improving the lifestyle of people and the environment.

#### Methods of population health studying:

- according to the appeals of the population;
- by survey;
- by conducting medical examinations;
- special sample surveys.

#### Sources for the study of population health are:

- official records of health care institutions.
- specially organized records of cases of diseases and deaths in medical institutions - prospective study.
- retrospective data records documents of health care institutions in the past period of time.
- data survey population.
- data medical examinations.
- electronic databases.

#### Information about the health status make it possible to determine:

- risk factors;
- substantiate health measures;
- evaluate the effectiveness of measures already taken;
- for current and strategic planning staff;
- for improving the structure of institution and health services in general.

**Research of health of population allows conditionally divide population into the groups of health.**

### **Groups and criteria of population's health**

<b>Group</b>	<b>Criteria</b>
I	Healthy (not more than 1 time per year of acute respiratory diseases)
II	Practically healthy (persons with premorbid conditions, 2-3 times per year of acute respiratory diseases or other acute disease)
III (III a)	Chronic patients in the compensation condition (persons with chronic disease without exacerbation, acute respiratory syndrome more than 4 times per year)
IV (III b)	Chronic patients in the subcompensation condition (persons with exacerbation of chronic disease during one year)
V (III c)	Chronic patients in the decompensation condition

### **«Index of health»**

- Specific weight (percent) of persons, who haven't been ill during year.

### **Main indicators of health in Ukraine have following tendency:**

- **demographic situation:** urbanization, population aging, increased mortality, negative natural growth, depopulation, changes in life expectancy, namely - shortening of average expectancy of life;
- **morbidity:** increased morbidity, both primary and chronic, in all classes of diseases, increase in the frequency of transition of acute chronic diseases, formed non - epidemic type disease; multiple pathology (combination of various disorders in one patient), first place occupied the diseases of the circulatory system;
- **physical development:** increases number of children with disharmonic growth; increasing the proportion of people overweight (lifestyle changes, diet, lack of exercise), acceleration of physical development, decreases number of practically health children;
- **invalidity:** indicator of primary invalidity rises up.

### **Ratio of population vitality**

Since the middle of 60th, the developed countries of the world began to apply a complex index is a **coefficient of vitality of population**, which is determined recognition:

- average life expectancy,
- infant mortality,
- food quality,
- budget for social, medical and environmental applications.

*Maximum values (5 points) was not detected, ratio 4 points were Sweden, Belgium, Netherlands, Luxembourg, 3 points - US, Japan.*

*Coefficient viability of Ukraine's population is 1.4 points, 1 point – it is critical level.*



**The reasons for the crisis state of health of the population of Ukraine**

- the lack of a significant part of the population of healthy lifestyles;
- the destruction of society and the poor financial situation of the population;
- the negative impact of the environment
- it is not always adequate, affordable and quality health care.

### Topic 3. Demography

#### Learning objective:

- To get acquainted with the method of studying population statistics.
- To get acquainted with the scope of demographic data in health care practice.
- To get acquainted with the patterns of demographic processes.
- To master the method of calculating and analyzing traffic indicators (population reproduction).

#### Students must:

##### Know:

- Medical and social aspects of demographic processes. The subject and content of demography. Changes in the number, composition, age and gender structure of the population of Ukraine. Population dynamics. Mechanical movement. Natural movement.

##### Be able:

- To calculate and analyze demographic indicators, as well as apply them in the practice of the doctor.

#### Questions to prepare:

1. Demography: definition, types.
2. Statics of the population in Ukraine.
3. Urbanization: definition, types.
4. The gender structure of Ukraine population.
5. The age structure of Ukraine population.
6. Types of population age structure.
7. Indicator of demographic burden (demographic loading).
8. Dynamic: definition, types.
9. Mechanical movement of population (migration) : definition, types.
10. Internal migration: definition, types.
11. External migration: definition, types.
12. Main indicators of natural movement.

#### Materials for self-preparation:

##### The purpose of theme

- One of the main tasks of economic and social development is an effective demographic policy aimed at increasing life expectancy, labor activity, preserving and strengthening the health of the population.
- Here's why among health indicators demographics play an important role.

##### Demography

- it is the science about population and its social development.

**Demographic data are widely used in the practice of health care in order to:**

- assess the state of health;
- planning of health care;
- preparation of scientifically based forecasts and purposeful organization of care;
- the choice of priorities in health care.

DEMOGRAPHY		
Statics	Dynamics	
	Mechanical movement (migration)	Natural movement

**Statics**

- characterizes the population at the some point in time by the size and composition (age, sex, social, place of residence and professional groups).

The main source of information about the size and composition of the population is a **census**. Census is conducted once in 10 years.

**Statics of the population in Ukraine**

At the beginning of 2015 the population of Ukraine was 42.9 million people.

- 69% of the total number of population lives in city;
- 31% - in rural areas.

Prevalence of urban population in the total population structure is typical for **urbanization**.

**Urbanization** – it is the movement of the population from rural to urban areas.

**Urbanization has positive and negative impact on human health.**

- **Negative:** pollution, lack of exercise, increas mortality of citizens from cardiovascular diseases, malignant neoplasms, neuropsychiatric diseases, injuries, deterioration of sanitary-epidemiological situation etc.
- **Positive:** easier to find a job, to get an education etc.

Population is also characterized by place of residence, gender and age.

**The gender structure of Ukraine population**

The gender structure of Ukraine is characterized by a predominance of women over men:

- **men** make up 46.2% of the population;
- **women** make up 53.8% of the population.

Population **distribution by sex** is primarily due to different levels of mortality among men and women, affecting both biological and social factors.

**The gender structure of Ukraine population**

Among children 0-14 years boys dominate - 51.2%.

The sex ratio depending on the age period (women account per 100 men):

- 18-29 years - 100
- 30-39 - 102
- 40-49 - 113
- 50-59 years - 147
- 60 years and over - 262

### **The age structure of Ukraine population**

- Analyzing the **age composition** of the population, defined in its structure the proportion of persons 0-14 years, 15-49 years, 50 years and older.
- This makes it possible to determine the type of the age structure of the population.

### **Types of population age structure**

1. **Progressive** – when number of young people (age 0-14 years) is more than those of age above 50 year. Population increases.
2. **Regressive** – when number of aged people (above 50 years) more than group of young ones (0-14 year). Population decreases.
3. **Stationary (permanent)** – balance between young and old age groups. Reproduction of population is evenly going on.

### **Feature of the age structure of the population in Ukraine is the high level of population aging**

- number of children (0-14 years) is 17,2%;
- over 60 years – 21,5%
- over 65 years – 15,9%.

Ukraine is characterized by **regressive type** of population age structure.

In countries where the proportion of persons aged 60 years and older more than 12% (persons aged 65 and older more than 7%) of the population is considered to be **demographically old**.

Ukraine is a «demographically old» country.

### **So, age structure of population in Ukraine is characterized by two major trends:**

- reducing the number of children, due mainly to a decrease in fertility;
- increasing the proportion of people in older age groups («aging» of population).

**Reducing the number of children** in the population, on the one hand, and **increasing the number of older age groups**, on the other, leads to demographic loading (demographic burden) on the people of working age.

### **Indicator of demographic burden (demographic loading)**

- **Demographic loading** - the ratio of the number of children and persons of not working age, which accounted per 1,000 people of working age:  
number of children + retired persons (pensioners) + invalids \* 1000 / working age population (employable persons)
- In Ukraine, for 1000 persons of working age accounts 651 persons not working age.

### **Dynamic (movement of population)**

- it is changes of population for the specific period of time.

### **Dynamic:**

- **mechanical movement** – it is change in number of population due to migration;
- **natural movement** - it is change in number of population due to birth and death rates.

### **Mechanical movement of population (migration):**

- **Internal migration** - movement of people both inside the country, region, area, location.
- **External migration** - travel outside the state.

### **Internal migration:**

- **Urbanization** - the movement of population from rural to urban areas.
- **Seasonal** - move in certain periods of the year.
- **Pendulum** - regular trips to and from work or study outside their locality.

### **External migration:**

- **Emigration** (leaving out of the country for permanent residence).
- **Immigration** (arrival in this country for permanent residence).

Migrate mainly **young men** of the population, especially during mass relocations.

Mechanical movement of the population is important for sanitary and epidemiological situation in the country, as it can lead to the transfer of infectious diseases, the emergence and spread of other diseases (neuropsychiatric, cardiovascular, etc.).

## Topic 4. Indicators of the natural movement

### Learning objective:

- To get acquainted with the methods of studying mortality, including maternal and infant mortality.
- To master the method of calculation and analysis of maternal and child mortality (neonatal, perinatal, postnatal).

### Students must:

#### 1) Know:

- Methods of its study, the role of doctors in the registration of births and deaths. The concept of live birth. Indicators of fertility, overall mortality, natural increase.
- Infant mortality (up to 1 year of age), its causes. Neonatal mortality (early and late), stillbirth. Perinatal mortality, causes. Methods for determining indicators. Maternal mortality.

#### 2) Be able to:

- Calculate and analyze mortality rates, including infant and maternal mortality, as well as apply them in the practice of the doctor.

### Questions to prepare:

1. Rules for registration of newborn.
2. Birth rate indicators.
3. Assessment of the level of birth rate.
4. Factors, which regulate birth rate.
5. Factors contributing to the decrease of birth rate.
6. Factors that contribute to increase birth rate.
7. Registration of deaths.
8. Mortality (death rate) indicators.
9. Level of mortality.
10. Features of mortality in Ukraine.
11. Structure causes of death.
12. Maternal mortality: definition, indicators.
13. The main causes of maternal death.
14. Infant mortality: definition.
15. Infant mortality rate: indicators.
16. Levels of infant and perinatal mortality.
17. Rate of infant mortality.
18. Types of infant mortality.
19. The structure of the causes of infant mortality.
20. Factors influencing on infant mortality.
21. Factors influencing on perinatal mortality.
22. The decline in infant mortality has been attributed.
23. Stillbirth.
24. Natural growth.
25. The average life expectancy.
26. The average life expectancy in Ukraine.

27. Comparative characteristics of life expectancy in Ukraine and Europe.
28. Highest rates of life expectancy.
29. Greatest impact on the rate of life expectancy causing.

### **Materials for self-preparation:**

#### **Main indicators of natural movement are:**

1. birth rate;
2. death rate (including maternal, neonatal);
3. natural growth;
4. the average duration of the expected life.

#### **1. Birthrate**

- it is a process of reproduction of new generations, due not only biological, but also socio-economic factors, conditions and lifestyles of women and men, traditions, including religious and so on.

#### **Rules for registration of newborn**

- In the case of **live birth**, birth registration is conducted by place of birth or residence of parents.
- Application for registration of birth of the child must be submitted to the local registry office **not late than 1 months after birth**, and in a case of **stillbirth – no late than 3 days**.
- Registration is based on “**Medical birth certificate**” (form №103-1)”, which is issued mother in maternity hospital.

#### **Birth rate indicators:**

**birth rate** - number of live births per year to the average population (in ‰) and is defined as:

- $\text{number of live births per year} * 1000 / \text{average number of population}$

**fertility rate** - number of live births per year to the number of fertile women (15-49 years) age (in ‰);

- $\text{number of live births per year} * 1000 / \text{number of fertile women (15-49 years) age}$

**reproduction rate** - the average number of children, that woman gives birth during her fertile period.

#### **Assessment of the level of birth rate:**

- to 19.9 ‰ - the lowest level
- 20-29,9‰ – medium level
- 30‰ or more - high level

#### **Factors, which regulate birth rate:**

- biological (reproductive health)
- socio-economic
- age-sex
- conditions and lifestyle factors
- tradition

- religious attitudes and other

#### **Factors contributing to the decrease of birth rate:**

- decrease in the number of marriages and the increasing number of divorces;
- active involvement of women in social life (90% of women are studying or working);
- imbalances in the sex composition of the population;
- significant abortion rate (13,9 per 1 thousand live births);
- poor reproductive health of women and men;
- economic conditions in society.

#### **Factors that contribute to increase birth rate:**

- national traditions;
- religion.

Assess the social, demographic and medical well-being of an area should be considered not only fertility, but also **mortality**. Interaction between birth rate and death rate, changing one generation to the other provides continuous reproduction.

#### **Rules for registration of deaths**

- Registration of death is held at the place of residence, at the place of death and burial.
- Application for **registration of death** must be made **no late than 3 days** from the date of death.
- Registration is based on documents: “**Medical certificate about death**”, “**Medical assistant’s certificate about death**”.
- In case of death of a child aged 0-7 days filled “**Medical certificate about perinatal death**”.

#### **Mortality (death rate) indicators:**

**Total death rate** - the number of deaths per year to the average population (in ‰);

- $\text{number of deaths per year} * 1000 / \text{total number of the population}$

**Special death rate** - the number of deaths in some age groups per year to the average population of the corresponding age (in ‰);

- $\text{number of deaths in some age groups per year} * 1000 / \text{average population of the corresponding age}$

**Structure of causes of death** - the number of deaths from specific disease to the total number of deaths (in%).

- $\text{number of deaths from specific disease} * 100 / \text{total number of deaths}$ .

#### **Assessment of the level of mortality**

- up to 10 ‰ - low
- 10-14,9 ‰ - medium
- 15-24,9 ‰ - high
- 25-34,9‰ - very high
- 35‰ and over - extremely high



## **FEATURES of mortality in Ukraine**

- Most acute demographic problem in Ukraine is unfavorable mortality rate.
- During 2006-2016 years the total mortality rate is kept too high, as a European country - 16,2 - 14,6 ‰.
- In Ukraine, the mortality rate 4.2 times higher than in the EU.
- Mortality among the rural population is 1.5 times higher than in urban areas.

**Reasons:** low quality of life, worse quality and availability of medical care, poor working conditions, high prevalence of alcoholism.

### **Structure causes of death:**

- the first place is occupied - **cardiovascular diseases;**
- the second – **tumors;**
- the third - **an injury, poisoning and other external causes.**

### **Maternal mortality**

- This is the death of a woman during pregnancy, delivery or within 42 days after birth, regardless of the duration and location of the pregnancy, from any cause related to pregnancy or burdened by it, or its conduct, but not from accidental or incidental causes.
- Calculated per 100 thousand live births.

### **The main causes of maternal death are:**

- 1<sup>st</sup> place - bleeding during pregnancy and childbirth,
- 2<sup>nd</sup> place place - extragenital pathology (indirect causes),
- 3<sup>d</sup> place – sepsis (toxemia),
- 4<sup>th</sup> place - gestosis.

Most causes of maternal deaths are manageable.

Most maternal deaths and pregnancy complications can be prevented if pregnant women have access to good-quality antenatal, natal and postnatal care, and if certain harmful birth practices are avoided.

**The maternal mortality rate** – is considered an indicator of integrated reproductive health, that reflects:

- general health status of women;
- quality of care for pregnant women;
- organizational level of obstetric facilities;
- combined interaction of these factors with economic, health, cultural, social - hygienic and other factors.

### **Infant mortality**

- Infant mortality refers to the group of important parameters that determine the demographic situation in a given region.

### **The level of infant mortality indicators determines:**

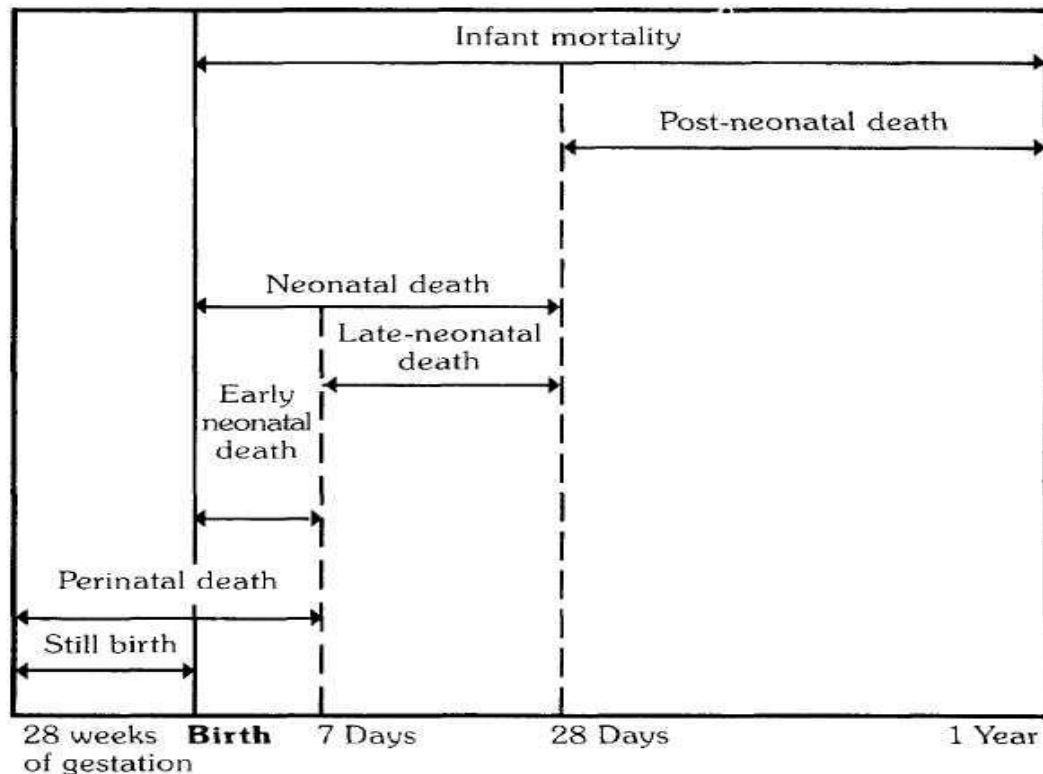
- health status;
- level of socio-economic development in general;

- degree of health literacy of the population;
- the level and quality of health care.

**Infant mortality rate is divided into:**

- early neonatal period
- late neonatal period
- neonatal period
- post - neonatal period

These are illustrated in Fig.



**Infant mortality rate:**

- number of children who died within 1 year \* 1000 / number of children born alive

**Early neonatal mortality rate:**

- number of children who died within the first 7 days of life \* 1000 / number of children born alive

**Neonatal mortality rate:**

- number of children who died during the first 28 days of life \* 1000 / number of children born alive

**Post neonatal mortality rate:**

- number of children who died at the age of 29 days - 12 months \* 1000 / number of children born alive

**Perinatal mortality rate:**

- number of children born dead + died within the first 7 days of life \* 1000 / number of children born alive and dead

### **Levels of infant and perinatal mortality:**

#### **Infant:**

- low level - up to 3 ‰
- medium - 3-5 ‰
- high - more than 5 ‰

#### **Perinatal:**

- low - up to 1,0-1,5 ‰
- average - 1,5-2,5 ‰
- high - greater than 2,5 ‰

### **Rate of infant mortality**

- In Ukraine - 9,1 ‰.
- In Western Europe, the mortality of children under 1 year are much lower than in Ukraine (almost 2 times), namely:
  - 4 ‰ to 5 ‰ - Germany, Luxembourg, Malta, Netherlands, Norway, Slovenia, Spain, Switzerland;
  - 3 to 4 ‰ - in Finland and Sweden.
- Grate practical importance have to determine the relationship between neonatal and postnatal mortality in percentage.
- For this it is necessary to determine the proportion of neonatal deaths in total infant mortality (under 1 year).
- This index allows to determine the type **of infant mortality**.

### **There are 3 types of infant mortality:**

- *type A* – 50% of deaths occur during 1st month;
- *type B* – 30 to 49 % of deaths occur during 1st month;
- *type C* – less than 30 % of children die during 1st month of life.

Biologically logical WHO defined the prevalence of type A, as observed in recent years in Ukraine

### **The structure of the causes of infant mortality:**

- conditions arising in the perinatal period (52.7 %);
- congenital abnormalities (23.8%);
- injury, poisoning and other consequences of external effects (5.8 %);
- respiratory diseases (3.1 %).

### **Factors influencing on infant mortality:**

- the health status of parents (reproductive disease, chronic extragenital infections, poor nutrition, bad habits);
- familial disorder of women;
- the educational level of the mother;
- availability and quality of care a woman during pregnancy, childbirth and newborn and child under the age of 1 year;
- the nature of feeding;
- state of the environment;
- gender and age of child (boys die 30% more likely than girls).

External causes (accidents, injuries and poisoning), respiratory diseases, infectious diseases, which in most cases can be prevented.

#### **Factors influencing on perinatal mortality:**

- Low socio-economic status;
- High maternal age (35 years or more);
- Low maternal age (under 16 years);
- High parity (fifth and subsequent pregnancies, especially with short intervals between pregnancies);
- Heavy smoking (10 or more cigarettes daily);
- Maternal height - short stature (as compared with average for locality);
- Poor past obstetric history (one or more previous stillbirths and neonatal deaths, one or more premature live-born infants);
- Malnutrition and severe anemia;
- Multiple pregnancy.

#### **The decline in infant mortality has been attributed to:**

- improved obstetric and perinatal care, e.g., availability of oxygen, fetal monitoring during labour, improved techniques for the induction of labour;
- improvement in the quality of life, that is, economic and social progress;
- better control of communicable diseases, e.g., immunization and oral rehydration;
- advances in chemotherapy, antibiotics and insecticides;
- better nutrition, e.g., emphasis on breast feeding, and family planning, e.g., birth spacing.

#### **Stillbirth**

- **Stillbirth** - is death in antenatal (before the onset of labor) and intrapartum (during labor) periods.
- **Rate of stillbirths:**  
number of children born dead \* 1000 / number of children born alive + dead

#### **Natural growth**

The difference between the indexes of birth rate and death rate was called “**natural growth**”:

- If the birth rate is higher than the death rate = **positive natural growth**.
- If the death rate is higher than the birth rate = **negative natural growth**.

Negative natural growth is typical for Ukraine nowadays.

#### **The average life expectancy**

- It is a conditional number of years that has lived generation born under the condition that mortality rates will not change.

#### **The average life expectancy in Ukraine**

- Total population - 68 years;
- Men - 62.5 years
- Women - 74.3 years

### **Comparative characteristics of life expectancy in Ukraine and Europe**

- Despite a slight increase of life expectancy its level remains one of the lowest in Europe, especially in men.
- The gap between life expectancy in Ukraine and Europe is 13 years for men and more than 8 years - for women.
- Gap in male and female mortality is 12 years (in the cities – 11.1year, in the village - 12.3 year).

Highest rates **of life expectancy** is in:

- Japan - 83.9 years
- Italy, Australia - 81.9 years
- France, Canada - 81.5 years
- Spain - 81.3 years
- Sweden - 81.2 years
- Netherlands - 80.9 years
- Norway - 80.3 years

**Greatest impact on the rate of life expectancy causing:**

- mortality from diseases of the circulatory system;
- neoplasms;
- external causes.

## **Topic 5. Morbidity of population as medical and social problem. Epidemiological methods for studying disease**

### **Learning objective:**

- To get acquainted with the method of studying the incidence of the population.
- To master the method of calculating and analyzing the incidence of the population.

### **Students must:**

#### **Know:**

- Morbidity of the population as a medical and social problem. Methods of studying morbidity. International Statistical Classification of Diseases, Injuries and Causes of Death 10 revisions, principles of construction and significance. Types of morbidity. Morbidity rates and accounting documentation.

#### **Be able to:**

- Calculate and analyze morbidity indicators, apply them in the practice of the doctor.

### **Questions to prepare:**

1. Morbidity of the population: definition.
2. Medical and social significance of morbidity.
3. The main methods of disease study.
4. International classification of diseases.
5. Major sections of the ICD-10.
6. Types of disease.
7. The general morbidity: definition, the main source of information (registration document).
8. Main indicators of general morbidity.
9. Incidence rate (primary morbidity): definition, indicators.
10. Prevalence rate.
11. Structure of general morbidity.
12. Structure of primary morbidity.
13. Hospital or "hospitalized" morbidity: definition, unit of observation, registration document.
14. Indicators of hospital morbidity
15. Infectious disease: unit of observation, registration document.
16. Following groups of infectious diseases.
17. Indicators of infectious diseases.
18. Morbidity of major socially significant diseases.
19. Morbidity of major socially significant diseases: indicators
20. Morbidity of temporary disability: definition, unit of observation, registration document.
21. Selection criteria are often and for a long time get sick.
22. Often get sick.
23. Long time get sick.
24. Morbidity of temporary disability: indicators.
25. Morbidity according to medical check-ups.
26. Indicator of pathologic lesions.
27. Medical check-ups: definition, types.
28. Preventive and periodical medical check-ups carried out for the following contingents:

## **Materials for self-preparation:**

**Morbidity** of the population - is the notion, which includes indicators that characterize the level of various diseases and their structure among the whole population or individual groups in the area.

### **Medical and social significance of morbidity**

- is that disease is the major cause of death, temporary and permanent disability, which in turn leads to large economic losses to society, impact on the health of future generations and reduce the population.

### **The main methods of disease study are:**

- appeals for medical care;
- medical check-ups;
- death reasons;
- population surveys;
- special selective investigation.

Each method has its positive and negative sides.

- The most complete account of **acute diseases** can be studied using of appeals for medical help.
- The most complete account of **chronic diseases** can be studied using data of medical examinations.

### **International classification of diseases**

- Since 1962 in Ukraine used the **International classification of diseases, injuries, causes of death (ICD)**, which in 1993 was last revised and approved - **ICD 10**.
- The **basic principles** of building ICD 10 is the unity of etiology and pathogenesis.
- The **main innovation** ICD 10 - is to use alphanumeric coding.

### **The ICD-10 is arranged in 21 major sections**

- Certain infectious and parasitic diseases (A00 - B99)
- Neoplasms (C00 - D48)
- Diseases of the blood and blood forming organs and certain disorders involving the immune mechanism (D50 - D89) Endocrine, nutritional and metabolic diseases (E00 -E90)
- Mental and behavioral disorders (F00 - F99)
- Diseases of the nervous system (G00 - G99)
- Diseases of the eye and adnexa (H00 - H59)
- Diseases of the ear and mastoid process (H60 - H95)
- Diseases of the circulatory system (I00 - I99)
- Diseases of the respiratory system (J00 - J99)
- Diseases of the digestive system (K00 - K93)
- Diseases of the skin and subcutaneous tissue (L00 -L99)
- Diseases of the musculoskeletal system and connective tissue (M00 - M99)
- Diseases of the genitourinary system (N00 - N99)

- Pregnancy, childbirth and puerperium (O00- 099)
- Certain conditions originating in perinatal period (P00-P96)
- Congenital malformations, deformations and chromosomal abnormalities (Q00 - Q99)
- Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00 - R99)
- Injury, poisoning and certain other consequences of external causes (S00 - T98)
- External causes of morbidity and mortality (V01 - Y98)
- Factors influencing health status and contact with health services (Z00 - Z99)

#### **Types of disease:**

- general morbidity;
- infectious diseases;
- incidence of major non-epidemic diseases;
- hospital or «hospitalized» morbidity;
- morbidity with temporary disability.

#### **The general morbidity:**

- This is a record of all diseases (acute and chronic), registered at outpatient institutions among the population of a certain area over the certain period of time.
- The main source of information (registration document) – «**Statistical coupon for registration of final (concluding) diagnoses**» (form №025-2) and «**Outpatient's card**» (form №025-6).
- In each case of **acute disease** filled separate «Statistical coupon for registration of final diagnoses» with mark «+». In «Outpatient card» in case of acute diseases is put «1».
- Diagnosis of **chronic diseases** registered only one time during the year. If the diagnosis is made **for the first time** in the life of the patient - make a mark «+» in «Statistical coupon for registration of final diagnoses» or code «2» in «Outpatient card»
- If the diagnosis of **chronic diseases** was set initially, during the first visit to doctor **every next year** in the "Statistical coupon for registration of final diagnoses» put the mark «-», or code «3» in «Outpatient card».

**Indicators of general morbidity provide an opportunity to assess the level and structure of morbidity found and registered at outpatient institutions during the year.**

#### **Main indicators of general morbidity:**

- incidence rate (primary morbidity)
- prevalence rate of diseases
- structure of primary and general morbidity

#### **Incidence rate (primary morbidity):**

The incidence of a disease is the number of new cases occurring in a particular time period, such as 1 year. The incidence rate is therefore the ratio of new cases of the disease to the total number of people.



- total number of new cases of diseases first registered in current year (all acute + first registered chronic diseases) \* 100 (1000,10000.....) / total number of population

### **Prevalence rate:**

The prevalence of a disease is the number of people affected by it at a particular moment in time. The prevalence rate is therefore the ratio of the number of people with the disease to the total number of people.

- the number of cases reported in a given year (all acute + all chronic diseases) \* 1000 / total number of population

### **Structure of general morbidity**

- Number of reported during the year of diseases of the given class, group, nosology \* 100 / number of all registered during the year diseases

### **Structure of primary morbidity**

- number of first registered during the year of diseases of the given class, group, nosology \* 100 / number of first registered diseases during the year

### **Hospital or "hospitalized" morbidity**

- Holds records of patients treated in the hospital;
- **Unit of observation** is every case of hospitalization of the patient to the hospital about the disease, trauma, accident, etc.;
- **Registration document** is "Statistical card of patient, discharged from hospital (form №066)".
- The main medical document of hospital, which is filled for each patient by doctors in all hospitals, hospital dispensaries, university clinics, research institutes, sanatorium-and-spa establishments is "Medical history (form №003)".
- Information about incidence of hospitalized patients allows to draw conclusions about the timeliness, duration of hospitalization, treatment results, the amount of medical care.

### **Indicators of hospital morbidity**

- **frequency of hospitalization:**  
number of hospitalized \* 100 / the average annual population
- **the frequency of hospitalization for certain diseases** (age, sex, profession, etc.):  
number hospitalized with given disease (age, sex, profession, etc.) \* 100 / the average annual population
- **admission rate by sex** (age, place of residence):  
number of hospitalized sex (age, location) \* 100 / population of sex (age, location)
- **structure hospitalized:**  
number hospitalized with given disease \* 100 / number of hospitalized
- **the average duration of treatment of the patient in hospital:**  
number of bed-days preformed all patients / number of all patients who left

## **Infectious disease**

- **Unit of observation** is every case of infectious disease or suspicion of it.
- **Registration document** is «Emergency (special) notification on infectious disease, alimentary, acute professional poisoning, unusual reaction to vaccination (form №058)» which, in the case of an infectious disease must be sent during 12 hours in sanitary-epidemiological station.

## **All infectious diseases are divided into the following groups:**

- **quarantine disease** - characterized by high mortality and high contagiousness;
- **diseases, of each case which is necessary reported to the organs sanitary and epidemiological surveillance** (typhoid, paratyphoid, dysentery, childhood infections, rabies, malaria etc.);
- **disease that recorded the most important socially significant diseases** (tuberculosis, cancer, venereal, fungal disease);
- **disease, which hospitals provide the total (digital) information to the organs sanitary and epidemiological surveillance** (influenza, acute respiratory infections).

## **Indicators of infectious diseases**

- **frequency of identified diseases** (the ratio of their number to the population of the area, calculated on 100 thousand. population);
- **seasonality** (the ratio of the monthly data to annual average);
- **frequency of hospitalization and completeness of coverage it** (ratio of the number of hospitalized to population (1) or the number of identified patients in% (2));
- **disease incidence by age, sex, occupation etc.**

## **Morbidity of major socially significant diseases**

### **Special account shall be:**

- tuberculosis;
- mental illness;
- cancer;
- venereal disease;
- fungal disease.

### **The need for special registration caused:**

- high levels of dissemination;
- significant mortality rate in some of them;
- epidemiological significance;
- social conditionality.

## **Morbidity of major socially significant diseases**

- Accounting record is «Notification about first registered active tuberculosis, venereal disease (syphilitic, gonorrhoeal, chlamydia infection, urogenital mycoplasmosis, trichomoniasis etc.)» or «Notification about first registered cancer in the patient» (form №090).

- Indicators - used by groups and the general indicators of the primary disease. Calculated on 100 thousand population.

### **Morbidity of temporary disability**

- is from 25 to 75% of primary of appeals for medical care;
- causes economic losses for society;
- is the only criterion for health of working age;
- **Unit of observation** is a case of loss of working capacity.
- **Registration document** is: «Sick list» (sick – leave)

### **In-depth account of the morbidity with temporary disability can get the information:**

- the proportion of those who get sick during the year;
- percentage of workers who had never been sick during the year (health index among working population);
- percentage of people who often and for a long time get sick.

### **Selection criteria are often and for a long time get sick:**

- etiological factor;
- number of disability cases;
- number of disability days.

### **Often get sick:**

- 4 or more etiological related diseases for the current year;
- 6 or more etiological unrelated diseases for the current year.

### **Long time get sick:**

- had sick-list lasting more than 40 days due etiological related diseases;
- had sick-list lasting more than 60 days or more due to etiological unrelated diseases.

### **Morbidity of temporary disability**

- **The number of disability cases per 100 workers:**  
number of cases disability \* 100 / average number of employees
- **The number of disability days per 100 workers:**  
number of days of disability \* 100 / average number of employees
- **The average duration of one case of disability:**  
number of days of disability / number of cases disability
- **The structure of morbidity with temporary disability:**  
number of days (cases) disability on a particular disease \* 100 / number of days (cases) disability

### **Morbidity according to medical check-ups**

- Registration document is the «Map of persons which is subject medical check-ups».
- The main indicator - is an indicator of **pathologic lesions**.
- This is facts of a pathological condition of the population that were found during medical examinations.

- During medical examinations, revealed diseases and pathological condition that by the time of examination do not encouraged people to go for help.

**Indicator of pathologic lesions:**

- number of persons in whose pathology detected during the medical examination \* 1000 / the total number of persons who have passed medical examination

**Medical check-ups are divided into:**

- Previous (preventive)
- Periodic
- Target (purposeful)
  
- **Previous (preventive) medical check-ups** - are held for learning health status of an individual before he/she is accepted for work or study.
- **Periodic medical check-ups** - it is periodic examination of certain contingent of working population.
- **Targeted medical check-ups** is conducted to - detecting appropriate diseases in the early stages of their development (tuberculosis, tumors, cardiovascular diseases, respiratory, gynecological diseases).

**Preventive and periodical medical check-ups carried out for the following contingents:**

- employees of enterprises that have contact with professional hazards;
- person, profession which can promote disease among the population (food workers, childcare facilities);
- children of all ages, teenagers, students.

## Topic 6. Outpatient care

### Learning objective:

- To get acquainted with the principles, types and organization of medical care at different levels of its provision. Explain the essence of the activities of individual health care facilities.

### Students must:

#### Know:

- types of medical care;
- features of primary, secondary and tertiary care;
- the role of outpatient care in ensuring the effective operation of the health care system.

#### Be able:

- to reveal the essence and significance of the basic principles of medical care;
- organization of outpatient health care facilities;
- accounting documentation in the work of a doctor;
- performance indicators of the clinic, calculation methods and values in the practice of the doctor.

### Questions to prepare:

1. Treatment - preventive care: definition.
2. The basic principles of treatment - preventive care.
3. Classification of medical aid.
4. Primary medical care: definition.
5. Secondary (specialized) medical care: definition.
6. Tertiary (highly specialized) medical care: definition.
7. Outpatient care: definition.
8. Inpatient (hospital) care: definition.
9. Emergency care: definition.
10. Classification of health facilities.
11. Classification of health facilities.
12. Appointment of basic health facilities.
13. Hospital: definition.
14. Classified of polyclinics.
15. The leading goals of polyclinics.
16. Main sections of the work in the polyclinics.
17. Anti-epidemic measures.
18. Preventive measures.
19. Treatment and diagnostic work.
20. Organizational and methodological work.
21. Key departments of polyclinic.
22. The primary goals of registry.
23. Essence of a section-territorial principle of service of the population.
24. Approaches to formation of a district site.
25. The essence of dispensary method.

26. Choice of dispensary groups is done using.
27. Population who have to pass medical examination according to medical indicators.
28. Population who have to pass medical examination according to social indicators.
29. The registration documentation of the district- doctors.
30. Indicators of policlinics work.

### **Materials for self-preparation:**

#### **Treatment - preventive care**

- is an important component of health of the population, which operates most of the medical staff.

Institutions and workers in this sector perform leading feature of health care, engaging in prevent, detect diseases, promoting healthy lifestyles, providing treatment and rehabilitation of patients by giving them various kinds of medical care.

#### **Treatment - preventive care**

- is a complex of measures aimed at preventing the disease, early diagnosis, assistance to persons with acute and chronic diseases, the rehabilitation of sick and disabled to continue their active longevity.

#### **The basic principles of treatment - preventive care are:**

- availability of medical care;
- high quality of medical care;
- continuity of outpatient and inpatient care;
- responsibility of health workers for their activities;
- independence of the medical staff.

#### **Classification of medical aid:**

##### **By type:**

- primary medical care (general),
- secondary (specialized) medical care,
- tertiary (highly specialized) medical care.

##### **By level:**

- pre-medical
- medical

##### **By organization of activity:**

- out-patient medical care;
- inpatient (stationary) medical care;
- emergency medical care;
- sanatorium and spa treatment.

#### **Primary medical care**

- is provided by family doctors, which provides qualified consultation, diagnosis and treatment of the most common major diseases, preventive measures, direction of patients to provide a specialized and highly specialized care.

### **Secondary (specialized) medical care**

- is provided by specialists in the direction of family doctors, provides qualified counseling, diagnosis, treatment, rehabilitation and prevention of diseases.

### **Tertiary (highly specialized) medical care**

- is provided in the direction of the physician, providing primary or secondary health care doctors, who have appropriate training in difficult for diagnosis and treatment of diseases and diseases rarely occur.

### **Outpatient care**

- provided to persons who require periodic medical surveillance for pre-hospital treatment and prevention activities. It is obtained directly in the outpatient institutions or at home.

### **Inpatient (hospital) care**

- provided to patients who require constant medical supervision, the use of difficult methods examination, intensive care and surgery that can not be performed on outpatient basis.

### **Emergency care**

- is given to patients with sudden illness with severe course and victims of accidents, provided health care facilities to the maximum extent possible the location of the call, during transport and hospitalization.

### **Classification of health facilities:**

By the type of ownership:

- state;
- communal;
- private.

### **Classification of health facilities**

**By territorial features:**

- **The central level** of medical care includes national and interregional powerful hospital, medical consultation and diagnostic centers, clinics, which are often clinical bases of medical faculties of universities or academies, scientific and medical centers.
- At the **regional level** (regions, districts) operate hospitals of different ownership, different profiles hospitals and counseling centers.
- **Institutions of local level** (rural, urban) are quite diverse. These include municipal and private hospitals, clinics and primary care units (ambulatories, health centers).

**By intensity of medical care:**

- multidisciplinary hospital intensive care patients with acute conditions;
- institutions for the planned treatment;
- institutions for rehabilitation treatment;
- institutions for palliative care and psychological support terminal patients (hospices);
- institutions of health and social care.

- **Primary care** is provided by ambulatories, polyclinics and health centers;
- **Secondary care** is provided by hospitals;
- **Tertiary care** is provided by regional hospitals, clinic in higher education institutions and medical centers.

**Appointment of basic health facilities:**

- Ambulatories and health centers provided primary medical care by doctors of one or several specialities. In most of these institutions work only general practitioners / family physicians.
- Polyclinics (outpatient departments of hospitals) provided consultative and primary medical care by doctors of many specialties.

**Polyclinics and ambulatories** occupy a leading position in the **prevention** healthcare system. Specific weight (%) of population, which is treated in outpatient establishments in Ukraine is 70-80%.

**Hospital** - a facility for permanent residence patients with trauma, one or another disease or suspected it, which provided short-term or long-term medical care - namely, observation, diagnosis, treatment and rehabilitation.

- Hospital can provide specialized and high specialized medical care and care during childbirth.
- Hospitals are treated patients with various pathological conditions or with one particular disease.

**Outpatient medical service is the leading organizational type of population treatment.**

**High demand and availability of outpatient medical care is determined by the following factors:**

- outpatient health care service is 3-5 times cheaper than hospital medical care;
- outpatient medical care easier to organize and control;
- outpatient medical care is closer to people;
- outpatient medical care is highly dynamic and therefore is easy in re-organization;

**Polyclinics are classified:**

**- by organizational structure:**

- united (with hospital)
- non-united with hospital (independent)

**- by organization of activity:**

- independent
- polyclinic union
- polyclinic center

**- by territory belonging:**

- rural
- city
- district



- regional
- **by type of provided medical care:**
  - general medical care
  - specialized medical care
- **by spectrum of medical service:**
  - few-disciplined
  - multi-disciplined
- **by type of service:**
  - common for all ages and social groups of people
  - pediatric
  - antenatal clinic
  - for certain social and occupational groups of population
- **by property:**
  - state (centralized state property)
  - private
  - municipal (local state property)

**The leading goals of polyclinics:**

- treatment of patients in polyclinics and at home;
- carrying out of preventive actions (prophylactic medical examination);
- carrying out anti-epidemic actions;
- carrying out dispensary supervision over various states of the population;
- medical examinations of temporary disability;
- hygienic education of the population;
- patient referral to hospital and sanatoria-and-spa treatment.

**Main sections of the work in the polyclinics:**

1. preventive measures;
2. anti-epidemic measures;
3. treatment and diagnostic measures;
4. organizational and methodical measures.

**Anti-epidemic measures include:**

- immunizations;
- early detection of patients with infectious diseases and information about infectious patient to the sanitary epidemiological station;
- organization of patients isolation,
- supervision of contact and recovering;
- health and therapeutic measures for the prevention complications of diseases.

**Preventive measures include:**

**Primary:**

- prevention of beginning of diseases and influence of risk factors;

**Secondary:**

- prevention of further disease development and complication;

- hygienic education of the population.

**Treatment and diagnostic work involve:**

1. early detection of disease and full investigation of patients;
2. treatment in clinics and at home;
3. provide emergency medical care for acute disease;
4. inspection, examination and referral patients to hospital;
5. selection and examination of patients for sanatorium treatment;
6. examination of temporary disability;
7. referral of patients with evidence of disability to medical and social expert commissions.

**Organizational and methodological work involves:**

1. analysis of health status;
2. implementation in practice of new effective methods of prevention, diagnosis, treatment;
3. organizing and providing of training medical personnel.

**Key departments of polyclinic are:**

- management;
- specialized rooms;
- pre-medical rooms reception;
- registry;
- treatment-and-diagnostic department (laboratory, X-ray room, physiotherapy room etc.)
- preventive department;
- day care hospital;
- statistics room.

Important role in the work of polyclinics plays **registry**.

**The primary goals of registry:**

- record on reception to the doctor of a polyclinic and a call from the house;
- conducting and storage of the medical documentation;
- selection and delivery of medical cards of out-patients;
- regulation of a stream of visitors;
- reference maintenance.

Main doctors providing medical care in the polyclinic are family doctors, district therapeutics and district pediatricians.

Polyclinics operates for section-territorial principle.

**Essence of a section-territorial principle of service of the population:**

- supervision of the same contingents;
- dynamic supervision over patients;
- acquaintance with working conditions and a life of the population.

**Approaches to formation of a district site:**

- number of the population;
- radius of service;
- type of building;
- age structure of the population.

Optimum number of the population on district site - 1700 people.

An important part of the preventive work of the polyclinic is **dispensary observation**.

**The essence of dispensary method:**

- active detection contingents who are subject to prophylactic medical examination and registered;
- comprehensive survey of people who need it;
- treatment;
- dynamic monitoring of the state of health;
- providing recommendations on employment;
- development and prevention of disease and preventing complications.

**Choice of dispensary groups is done using:**

- data of visiting of medical institutions;
- data of preventive medical examinations;
- medical examination of people who had contact with infectious patients.

**Persons subject to dispensary observation divided into 2 groups:**

- 1 - healthy people with risk factors;
- 2 – patients.

Selection of individuals for dispensary observation conducted by **medical** and **social** indicators.

**Population who have to pass medical examination according to medical indicators:**

- people whose health status is influenced with risk factors;
- people with chronic diseases;
- people who get sick often and for long time.

**Population who have to pass medical examination according to social indicators:**

- people who work in dangerous and harmful conditions;
- people whose work is closely related with food, children and household;
- school teachers, children and adolescents;
- pregnant woman;
- people with social risk factors.

**The registration documentation of the district- doctors:**

- «Outpatient card»;
- «Statistical coupon for registration of final diagnoses»;
- «Emergency notification about infectious disease»;
- «Control card of dispensary supervision».

## **Indicators of polyclinics work**

### **The average number of visits to physicians per 1 person:**

- number of visits to doctors / number of the population

### **The total part of preventive visits (%):**

- number of preventive doctors visits \* 100 / total number of all doctors visits

### **Complete coverage of preventive examinations of different groups of the population (%):**

- number of examined \* 100 / number of persons, needed to be examined

### **The completeness of coverage by dispensary patients (in %):**

- number of persons with individual diseases under the dispensary supervision \* 100 / number of relevant diseases

### **The correct time of taking patients under dispensary observation:**

- number of patients taken under observation with the first-time viewed disease \* 100 / number of relevant first-time diagnosed diseases

## Topic 7. Inpatient care

### Learning objective:

- To get acquainted with the tasks of medical care, with the principles and organization of medical care in secondary and tertiary care, in hospitals.

### Students must:

#### Know:

- tasks, structure, content and organization of the hospital as a whole, as well as their main departments.

#### Be able:

- to fill in the basic accounting documents;
- to calculate and analyze the performance of the hospital.

### Questions to prepare:

1. Hospital: definition.
2. The functions of modern hospital (with WHO recommendations).
3. High level of hospitalization determine.
4. The main objectives of hospital.
5. Structure of inpatient department multidisciplinary hospital.
6. Indications for referral to inpatient department.
7. The primary goals of a admission department (reception).
8. The main task of the physicians in hospital.
9. Actions on rational use of bed fund.
10. Registration documentation of hospital.
11. Main indices of hospital activity.
12. The factors influencing an overall performance of a hospital.
13. Home hospital: definition.
14. Structure of a daytime hospital.
15. Dispensary: definition.
16. The main objectives of dispensary.

### Materials for self-preparation:

#### HOSPITAL

- is a key establishment of medical providing, is the scientific-organizational, methodical and educational center of public health in the region. It gives the complete set of high qualified specialized help to the population.

#### The functions of modern hospital (with WHO recommendations):

- treatment and rehabilitation (diagnosis and treatment, medical and social rehabilitation, emergency medical assistance);
- prevention (prevention of infectious diseases, prevention of acute transition in chronic disease, reduce the incidence of temporary disability and permanent disability);
- training (training of medical staff);
- scientific research.

**High level of hospitalization determine:**

- inadequate treatment at various levels of outpatient care;
- lack of continuity of treatment (policlinic - hospital, general practitioners - doctors specialists);
- late appeals for help;
- an aging of the population, lack of organization providing both medical and social care for older people;
- insufficient development replacement medical care.

**Hospitalization** is made by referral outpatient clinics, emergency medical care and appeals of the patient in the presence of special indications.

**The main objectives of hospital:**

- providing specialized clock inpatient care;
- testing and implementation of new methods of diagnosis, treatment and prevention;
- comprehensive rehabilitation treatment;
- examination of disability.

**Structure of inpatient department multidisciplinary hospital:**

- reception;
- specialized ward;
- treatment and diagnostic departments;
- laboratory;
- information-analytic center;
- others structure sections (morgue, pharmacy, kitchen).

**Indications for referral to inpatient department:**

- availability of emergency or extreme indications;
  - use of intensive treatment;
  - the need for complex diagnostic tests.
- 
- An important role in the work of the **hospital** plays reception (admission department).
  - It can be **centralized and decentralized**. **Centralized** admission department provides structural distribution of patients throughout the hospital, **decentralized** - in some departments (infectious, obstetric, etc.).

**The primary goals of a admission department (reception):**

- registration of patients which come to the hospital;
- statement of the diagnosis;
- rendering of the emergency help
- distribution of patients to the departments;
- taking of a material for laboratory researches;
- provide first aid if it is necessary;
- sanitizing patients.

**The main task of the physicians in hospital:**

- purpose of treatment and diagnostic inspections and rehabilitation;
- the control of performance by the average medical personnel of purposes;
- fulfillment of the medical documentation of the in-patient.

**Inpatient department** consists of chambers and different premises of medical and economic value (operating unit, treatment room, cabinet department head).

**Chambers** designed for 2-4 beds.

In infectious hospitals to isolate patients provided **boksy**.

On one post of doctor in many medical department accounts (has an average of) 25 beds.

**Actions on rational use of bed fund:**

- uniform hospitalization and extract of patients within a week;
- organization of a day time hospital and hospitals in home;
- full diagnostic inspection of an out-patient in a polyclinic;

Estimation of activity hospital carried out according to the report, health-care setting (form №20)

**Registration documentation of hospital:**

- Case report
- Discharge card
- Log-book of reception and refusals in hospitalization
- The medical certificate of death
- Sick leave
- Emergency notification

**Main indices of hospital activity:****The average bed occupancy:**

- the amount bed-days spent by patients / the average number of beds

**Turnover of beds or average number of patients, who were on 1 bed:**

- the number of patients who passed through the hospital / the average number of beds

**Average length of stay in hospital:**

- the amount bed-days spent by patients / the number of patients who dropped out of the hospital

**The average number of operations per 1 post surgery:**

- number of operations / number of surgeons

**Lethality rate:**

- number of deaths of patients \* 100 / number of discharged patients + dead patients

**Level of hospitalization:**

- number of hospitalized patients / number of the population

**Ratio combining:**

- number of employed position x 100 / number of individuals (doctors)

**The factors influencing an overall performance of a hospital:**

- Level of management of hospital
- Selection of patients on treatment

- Continuity in work of a polyclinic and a hospital
- Perfection of work first aid
- Integration of activity of medical branches and auxiliary services

**There are 2 forms of replacement medical care.**

- day time hospital;
- home hospital.

«**Home hospital**» is organized at home by district specialist of outpatient department.

«**Home hospital**» organized for patients with acute and chronic illnesses, whose state of health do not require hospitalization or if it is impossible owing to various circumstances.

To **daytime hospital**, direct the patients, who are capable to active movement in the absence of contraindications for treatment of community-acquired conditions and needs strict bed rest.

In **daytime hospital** can be treated patients in the following cases:

- taking certain medications that require surveillance over the condition patient for some time;
- intravenous drip of drugs;
- in preparing patients for complex diagnostic tests;
- if necessary emergency care for sudden deterioration during his stay in hospital.

**Structure of a daytime hospital:**

- Cabinet of the doctor
- Procedural cabinet
- Chambers of stay of patients
- Cabinet of psychological unloading and rest of patients
- Room for reception of food

Assistance to incurable patients occurs in **hospices**.

To provide specialized care for individual diseases created **dispensaries**.

**Dispensary**

- is an institution in which provided an outpatient and inpatient care in specific diseases (tuberculosis, venereal disease, mental, endocrine diseases, etc.), as well as victims of the Chernobyl accident.

**The main objectives of dispensary:**

- an active part in the identification of patients;
- examination and further diagnosis;
- appointment of appropriate treatment;
- active dynamic observation of patients and contact;
- conducting health measures;
- study of morbidity in the neighborhood;
- develop preventive measures for the emergence of pathology;
- organizational and methodical work;



- providing advice to doctors and other medical institutions;
- control timeliness and completeness of signaling when it detects the patient.

## Topic 8. Emergency care

### Learning objective:

- To get acquainted with the importance of emergency care. Tasks and principles of emergency medical care.

### Students must:

#### Know:

- tasks, functions and organization of emergency care for the population.

#### Be able:

- to analyze data on emergency medical care.

### Questions to prepare:

1. Emergency care: definition, types.
2. Emergency medical aid (EMA) service in Ukraine.
3. Emergency medical aid (EMA): definition, types.
4. Urgent medical aid: definition, types.
5. Emergency medical Aid (EMA) station.
6. Emergency medical aid (EMA) station doesn't.

### Materials for self-preparation:

#### Emergency care

- is an emergency out-patient care in maximal volume.
- Station of emergency care is a medical establishment with carrying out emergency medical aid to population during 24 hours.
- Staff: highly qualified doctors-physicians, pediatricians and nurses.
- There are specialized station and hospitals.
- Medical aid is free of charge.

#### Emergency medical aid (EMA) service in Ukraine presented by:

- EMA stations,
- EMA points,
- Hospitals.

**Emergency medical aid (EMA)** is a kind of special extra hospital medical aid in maximal volume *in case of sudden diseases and accidents at place and during transportation to hospital.*

**Urgent medical aid** is a kind of help to patients in case of *acute diseases or chronic diseases complications who has out-patient service in a territorial polyclinic.* It's realized by duty polyclinic physician and nurse, who goes to patient home to render urgent medical aid.

### **Emergency medical Aid (EMA) station**

- is a medical establishment rendering 24-hours special medical aid to adult and child population during before-hospital stage in case of accidents and conditions under the threat for life and health. Necessarily EMA station renders emergency medical aid for everyone according to call place, under transport to medical establishments, under direct contact. Its level is determined with medical-economical standards.
- EMA station works in 24 hours duty regime. Its ready to render emergency medical aid to population on appointed territory. In case of extreme situation - outside the appointed territory too. EMA station is a part of EMA system in case of extreme situations. It must be have a month stock of medicines, dressing, emergency medical equipment, sets to form additional exit teams, stable and autonomic power supply system, regular operative communication and reserve transport.

### **Emergency medical aid (EMA) station doesn't:**

- realize temporal disability examination, register sick-leave certificates;
- realize forensic-medical, alcohol and drug examination and doesn't make decision and medical certificates in these cases;
- realize consultative examination;
- doesn't give advices about following treatment.

## **Topic 9. Family medicine and its role in the system of medical care. The content and organization of the family doctors (general practitioner)**

### **Learning objective:**

- To get acquainted with the tasks of medical care at the primary level, with the principles and organization of medical care in primary care.

### **Students must:**

#### **Know:**

- Tasks, structure, content and organization of primary health care facilities, as well as their main units. Basic reporting documentation.

#### **Be able:**

- To calculate and analyze the performance of primary health care facilities. Fill in the basic accounting documents.

### **Questions to prepare:**

1. What measures PMSH must provide.
2. The valuable functioning of PMSH requires the decision of row of problems.
3. The fundamental principles of PMSH.
4. PMC (primary medical care): definition.
5. Institutions of PMC.
6. Tasks of PMSH.
7. Primary care: definition.
8. Principles of the family medicine.
9. Organizational models of district internists (family doctors) work.
10. What actions group practice allows physicians to do.
11. World experience of family medicine organization.
12. Organizational models of the district-territorial system reformation.
13. The centers of PMC include.
14. What services family doctor provides.
15. What services family doctor guarantees a population.
16. The out-patient's clinic of family medicine can be organized.
17. THE MAIN DOCUMENTS OF GP:
18. According to the report, health care setting (p. № 20) and records can calculate and estimate:

### **Materials for self-preparation:**

- In 70th in the light of reformation of health protection the new form of organization of medical care a population - primary medical-sanitary help was in the whole world offered (PMSH).
- The international Alma-Ata conference in 1978 put beginning distribution of term «primary medical-sanitary help (PMSH)».
- WHO was given by the following determination: a primary medical-sanitary help (PMHP) includes consultation and first aid which is rendered individually or together specialists of health protection, or family professions with a prophylactic and medical purpose.

- In bases of legislation of Ukraine on a health care (1992) determination following about a primary treatment-preventive help: PMSH is a basic treatment-preventive help, simple diagnostics, direction in difficult cases on consultation more high level and basic sanitary-educational measures.
- PMSH is not only treatment of widespread diseases of traumas the fixed assets but also assistance in organization of rational feed, providing of high quality water, conducting of sanitary-educational measures, health care experienced child, immunization against basic infectious diseases, prophylaxis of endemic illnesses and fight against them, sanitary enlightening of population.
- The functions of PMHP are not limited to only medical care.

**PMSH must provide:**

- assured volume of medical, psychological and social help;
- availability of the proper and social services for all of population;
- continuousness of looking after patients.

**The valuable functioning of PMSH requires the decision of row of problems:**

- conducting of organizational measures;
- determination of sources of financing;
- improvement and reorganization of infrastructure of PMSH;
- concordance of its cooperating with other types of the medical providing;
- adjusting of preparation and retraining of medical and other of personnel;
- conducting among the population of the proper sanitary-educational measures with the purpose of forming of positive perception of PMSH.

**The fundamental principles of PMSH are:**

- continuity of care;
- prevention orientation;
- a comprehensive approach;
- inseparability of family problems;
- high quality.

**PMC (primary medical care)**

- is not only the treatment of common diseases and injuries of fixed assets, but also promote the development of a balanced diet, providing benign water of sanitary and recreational activities; protection of maternal and child health, immunization against major infectious diseases, prevention of endemic diseases and their control, health education of the population.

**Primary care by numerous institutions:**

- independent outpatient clinics,
- clinic and polyclinic department of hospitals,
- maternity welfare,
- children's clinics,
- pre-medical facilities and ambulances.

**Tasks of PMSH:**

- diagnostics and treatment (before recovery or complete indemnification) of patients the most widespread diseases, including not therapeutic type;
- treatment after the receipt of other types of help;
- having a special purpose direction for the receipt of medical care in cases which go out outside jurisdiction of general practitioner;
- conducting of complex of prophylactic measures;
- health center system of patients with an orientation on correct diagnostics and medical-social prophylaxis;
- providing of the first aid.

**Primary care**

- Primary care in Ukraine is provided mainly by general practitioners / family doctors or local therapists and pediatricians.
- Family doctor, working long time with a permanent contingent, can take into account influencing on their health of various factors, before all of method of life.
- He studies personality, its family and social surroundings in detail, taking into account the medical, psychological and social aspects of the state of health.
- Family doctor, giving a help to the patients at a disease, in the decision of certain problems of social plan, becomes an authoritative man, to his advices listen, he can influence on the various aspects of life of population.

**Principles Family medicine:**

- looking after the stable enough contingent of population taking into account the medical-social problems of family;
- providing family free of charge, accessible, continuous, permanent PMSH;
- free choice of Family doctor a patient;
- central figure of PMSH is a district internist (family doctor);
- basic form of organization of work is group practice of doctors, trained nurses and other of workers.

**Organizational models of work of district internists (family doctors)****Types of models:**

- Individual practice is in independent establishment;
- Group practice is in domestic out-patient's clinics;
- An association of a few group practices is in the centers of health;
- Individual or group practice is in operating policlinics.

**Group practice allows physicians to:**

- replace each other on vacation or illness;
- economical use of funds for logistical support;
- consult each other in case of complex issues;
- improve their professional level, to become an advisor of his colleagues;

- provide assistance in the evening and at night;
- release time for research and so on.

### **World experience**

In separate countries can take advantage one or another model.

- Individual practice more frequent meets in Austria, Belgium, Denmark.
- Group practice more frequent meets in Great Britain, USA.
- The centers of health are widespread in the countries of Scandinavia.

Reforming PMSH on beginnings of family medicine, Ukraine takes into account world experience and studies the different forms of its organization.

The choice of **model PHC** affect both objective and subjective factors, including: the conditions of resettlement of the population, a doctor personality structure of medical institutions created in the earlier stages of the health care system.

In Eastern Europe and the Ukraine, primary health care is provided by territorial principle and combined with the organization of care based on family medicine.

The Ukrainian institute of civil health offered **three organizational models** of reformation of the district-territorial system:

- group practice of medical care as complex brigades (internists, pediatricians, gynecologists);
- general practitioner which renders many profile medical care, to the population fastened after him (to the grown man or child);
- family doctor which serves all the family.

To optimize primary care is recommended creation **centers of PMC** to provide primary medical and premedical aid in a certain city or rural area with a number of people between 30 to 100 thousand.

### **The centers of PMC include:**

#### ***in rural areas:***

- doctor's assistant and obstetrics center;
- medical centers;
- outpatient clinics, with a load of 1 200 persons per doctor;

#### ***in the cities:***

- outpatient clinics, each of which can work 2-4 doctors with a load of 1 500 persons per doctor.

### **A family doctor provides:**

- realization of ambulatory reception and visits on to the house;
- conducting of prophylactic, medical, diagnostic and rehabilitation measures is in cases, foreseen qualifying descriptions;
- providing at a necessity urgent and urgent medical care;
- organization of daily and home permanent establishments;
- help in the decision of medical-social problems of family;

- conducting of ant epidemic measures is in the hearth of infectious disease;
- informing about the cases of infectious diseases of doctor of infectious room of diseases and SES.

**Family doctor guarantees a population:**

- early diagnostics;
- timely ambulatory and home treatment is in full;
- timely direction to the specialist;
- organization of hospitalization of the planned and in heavy condition patients.

**The out-patient's clinic of family medicine can be organized as:**

- independent ambulatory-policlinic establishment;
- subdivision of communal policlinic establishment;
- subdivision of unstated medical establishment;
- private medical establishment (a few doctors can work in him).

**THE MAIN DOCUMENTS OF GP:**

- History of child development,
- Medical outpatient card,
- Individual card of pregnant and postpartum woman,
- Card of patient in day hospital or hospital at home.

**Reporting forms:**

- Report health care setting (p. № 20);
- Report on the number of diseases reported in patients who reside in the district hospital services (f.№ 12).

**According to the report, health care setting (p. № 20) and records can calculate and estimate:**

- the average number of visits to physicians per 1 person;
- the proportion of preventive visits (%)
- complete coverage of preventive examinations of various groups of the population (separately for each group) (%)
- complete coverage of preventive examination of the persons (%);
- timeliness taking patients under dispensarization (%);
- division of people according to which dispensarization are caring out by groups of health (%) and transfer them from one to another group health (%).

Assessment of the hospitals performed according reports health care setting (f. № 20), which define the following parameters:

- average bed occupancy (days);
- the average length of stay of patients in hospital (days);
- circulation beds, is the average number of patients who were in the same bed (during the period).



These figures are indicative of the process.

Indicators are calculated for general hospital and all its branches.

Conducts an analysis of mortality rates (total for departments with certain diseases).

Analyze the average length of hospital stay and mortality by class of diseases for certain age groups.

Mortality rates are used as indicators of outcome.