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ОБЩЕСТВЕННОЕ ЗДОРОВЬЕ И ЗДРАВООХРАНЕНИЕ

Учебно-методическое пособие
для студентов 4–6 курсов факультета по подготовке специалистов для зарубежных стран, обучающихся по специальности «Лечебное дело» медицинских вузов

THE PUBLIC HEALS AND HEALTH CARE

The educational methodical work
for 4th, 5th and 6th year students of the Faculty on preparation of experts for foreign countries, specialty of «General medicine» of medical higher educational institutions

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Авторы:
Л. Г. Соболева, Т. М. Шаршакова, Е. Р. Линкевич, Н. Г. Скоромный

Рецензенты:
кандидат медицинских наук, доцент,
проректор по лечебной работе
Гомельского государственного медицинского университета ***Д. Ю. Рузанов***;
заведующий научно-исследовательским сектором
Гомельского государственного медицинского университета ***И. А. Чешик***

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INTRODUCTION

The medical care in a hospital is of great importance in preserving and restoring of health. It rendered at the most serious diseases that require an integrated approach to diagnosis and treatment, the use of complex methods of examination and treatment, constant medical supervision and intensive care. The knowledge of the issues of organization, planning, analysis and evaluation of this type of care provides an efficient and effective use of hospital beds in hospitals, to determine the development of hospital replacing forms for the rendering of therapeutic and preventive care.

Technical progress, the development of industry, transport, technicalization of all the parts of human's life make background of the growth of accidents, traumas, intoxications, mass catastrophes.

The demand in medical aid increases, because of the growth of emergency conditions of elderly and old people and also of children and teenagers. These are the conditions of necessity of development of emergency service medical aid.

Outpatients' clinic aid in its contents, meaning and volumes has a special place in health system in the Republic of Belarus. Being the main link of primary health care outpatients' clinic aid is also the most mass and available type of prophylactic aid and treatment. Considering rather low cost of outpatients' clinic aid and prophylactic orientation the development of this type, unlike hospital care and emergency service, is a priority in modern conditions of reforming the health systems.

CHE and PH control sanitary conditions, providing antiepidemic routine of work of every MPC (polyclinics, dispensaries, hospitals, MSP, outpatients clinics and etc). CHE and PH controls the performing of all the measures to detect infectious patients, their hospitalization, mass health examination, isolation, the completeness of prophylactic vaccination of population; it performs methodical management of the hospital and polyclinic personnel with the aim of providing opportune diagnostics of infectious people.

In its antiepidemic activity doctors are related to infectious diseases room in polyclinics, which are organized in order to increase the quality of diagnostics and cure of infectious diseases, outpatient's follow up the reconvalescents and chronically ill patients.

1. MUNICIPAL POLYCLINIC

1.1. Goals, tasks and structure

Outpatients' clinic aid is the leading in public medical care as the most mass and available type of medical care. This type of medical care has a lot of advantages, as provides prevention, early diagnostics and opportune treatment of diseases.

Municipal polyclinic (hereinafter — polyclinic) — is a multifunction medical organization of prophylactic and treatment, in its activity area it's aimed to implement wide prophylactic measures on preventing and reducing sickness rate and disability, prophylactic medical examination of population, early diagnostics of diseases, providing consultation and qualified specialized medical aid, implementation of medical rehabilitation and formation of health lifestyle.

The main aim of polyclinic is saving and promotion of health of attached population to polyclinic, public medical care, meeting population demands in qualified and specialized medical care. According to the main goal, the tasks of the polyclinic are:

1) providing qualified and specialized public medical care in the served area in the polyclinic and at home;

2) improvement of organization of medical care, introduction in work practice the technologies of hospital substitution;

3) the organization and implementation of system of prophylactic events, oriented to reducing morbidity, disability and mortality of population;

4) the organization and implementation of public prophylactic medical examination;

5) providing continuity in activity of polyclinics, hospitals, dispensaries, theoretical and practical centers and other organizations and establishments;

6) improvement of organizations types and methods of work in polyclinic is oriented to rise quality and effectiveness of treatment and diagnostic work and medical rehabilitation of sick and disabled.

7) implementation of work on public hygienic education.

Approximate organization structure of a municipal polyclinic:

1. The management of polyclinic.
2. Registry.
3. Prophylactic department.
4. Treatment and prophylactic subdivisions are: physicians' rooms, procedure units, surgeries, urologist's room, traumatic surgeon's room, otolaryngologists' rooms, neurologist's, cardiologist's, endocrinologist's room; department of medical rehabilitation (room of physiotherapy, acupuncture, logopedist, physical therapy room, day hospital).
5. Antenatal clinic (obstetric-gynecologic department).
6. Auxiliary-diagnostic subdivisions (Clinical — diagnostic laboratory, radiology department, X-ray room, x-ray room, ultrasound room, functional diagnostics department (room), endoscopic room).

7. Centralized sterilization.

8. Medical statistics room.

9. Administrative and economic part (accounting, personnel department, lawyer's office, civil defense engineer's office, labour protection and safety engineer's office, record-keeping office).

Management of the polyclinic consists of the head doctor and his deputies, head nurse.

Registry in polyclinic provides the management of the flows of people in the polyclinic, storing and giving out medical information about the patient in the form of «medical card» or information received in the result of computerized record. Immediate reception managing is done by the head reception nurse.

The main tasks of polyclinic reception are:

1) providing prerecord and emergency records of patients to doctors, both in presence or by the phone;

2) providing accurate regulation of the intensity of streams of patients in order to create equal work load for doctors and to divide it into the types of provided help;

3) providing opportune selection and delivery of medical documentation into doctors' rooms, correct keeping and saving card file of polyclinic.

Prophylactic department consists of:

- preliminary examination room;
- room for patients' examination (masculine and feminine);
- anamnestic room;
- organization and control of public prophylactic medical examination office including keeping centralized card file of patients observed by a specialized clinic;
- creating healthy lifestyle room;
- vaccination room;
- profpathologist's room.

The main tasks of prophylactic department are:

1) organization of early diagnostics of sick and people at risk;

2) organization and carrying out preliminary and periodic examinations;

3) organization and control of public prophylactic medical examination;

4) organization and control of carrying out prophylactic vaccination for teenagers and adults;

5) the development of plans of action for primary and secondary prevention of diseases on the territory of the services of polyclinics;

6) managing of work on propaganda of sanitation knowledge among population, creating healthy lifestyle and fight with unhealthy habits.

The leading organization principle, on the base of which the activity of polyclinic is built is **local — territorial principle.** All the served area is divided into the districts, each district has **a district physician**. According to state social standards one district doctor has to serve 1700 people of adult population. And with it, the amount of population, attached to a district physician is stated by the

head doctor or the head of the department according to standards currently in force and considering age and gender groups, population density, the attendance formed and some other factors.

A district physician must provide:

1) opportune qualified therapeutic aid to the population of his district in presence or at home;

2) case follow-up and active patients' treatment till their recovery, remission or hospitalization;

3) emergency medical care for patients, regardless their residence, in case of their direct visit with acute conditions, traumas, intoxications;

4) opportune hospitalization of therapeutic patients with mandatory preliminary examination with planned hospitalization, if necessary providing further out-patient treatment after their discharge from hospital;

5) studying the state of the health of served population, detection of people at risk and providing the necessary health promotion programs;

6) consulting the patients by the head of therapeutic department or by other specialists from the polyclinic or from other public health organizations, if needed;

7) using modern prophylactic, diagnostic and treatment methods in his work, including complex therapy (medications, dietologist, exercise therapy, massage, physiotherapy, etc.);

8) organization and carrying out a set of measures on adult public medical organization of the district (detection, registration, case follow-up, health promotion programs); the analysis of effectiveness and quality of medical examination;

9) assistance in solving medical and social patients' problems;

10) issuing conclusions to the residents of the served district, who is doing medical examinations and leaving abroad;

11) organization and carrying out vaccination and dehelminthization of the district population;

12) early diagnostic and treatment of infectious diseases, immediate report to the head of the department and the doctor of infectious diseases room about all the cases of mass infectious diseases or suspected of infection patients, about food and professional intoxication, about all the cases of violation of regimen and non-compliance with the antiepidemic regulations by patients, performing home treatment; opportune referral of emergency notifications to the corresponded center of hygiene, epidemiology and public health;

13) antiepidemic programs (together with the centers of hygiene andepidemiology): planned and emergency immunoprophylaxis, detection of infectious patients, case follow up the people, being in contact with infectious patients and the convalescents;

14) check ups of applicants to the polyclinic because of entering higher educational establishments, changing job, taking up sport, providing health care programs, immigration and etc.;

15) expertise of temporary disability of patients according to regulations currently in force;

16) referral of people with the symptoms of limitations of life activity to medical expert rehabilitation committee (MERC);

17) active and regular implementation of work on hygiene education of population, fighting against unhealthy habits, organization and carrying out «health schools» and etc.;

18) analyzing the level of health of population, the volume and quality of work performed in a formed order;

19) execution and keeping corresponding medical records and reports.

Medical statistics office performs the following functions in polyclinic:

1) recording and processing preliminary medical documentation, describing the activity of polyclinic;

2) grouping statistics information, calculation of rates, making tables, warning reports, coding diseases;

3) analyzing the health rate of the served population;

4) opportune providing the necessary information to the heads of the departments, to doctors to analyze;

5) compilation of quarterly and annual reports, opportune providing them to superior organizations;

6) calculation and analysis of polyclinic work rates, functions of medical practice, models of the final results of polyclinic activity;

7) efficient statistics processing of polyclinic work rates and of health level of served population;

8) control of the efficiency and completeness of record, control of the quality of keeping medical records in polyclinic.

The main criteria of the volume of outpatients' help to population is the number of doctor's visits in polyclinic and at home.

According to the regulations of volumes of medical aid, provided by government-financed organizations in the Republic of Belarus, **the regulation of the volume of outpatient's medical aid** is expressed in number of visits outpatients' polyclinic organizations and visits paid by doctors at patients' homes there are 10600 visits per 1000 residents.

For a district-physician workload in polyclinic is 4,5 visits an hour and it's about 2 visits an hour at home.

1.2. Public medical examination

Public medical examination — is a method of active follow up the health conditions of all the groups of population (healthy, almost healthy, sick).

Medical examination of adult population is a system of medical programs, oriented to detect diseases or factors, influencing on their appearance, to assess health level of every Belorussian citizen. This assessment includes:

1) medical examination;

2) regular medical check-up;

3) propaganda of healthy lifestyle, education of having interest and responsibility to one's health;

In the prophylactic department (office) of a public health organization, a medical card of an ambulatory (form № 025/y) and registry form № 131/y — D «Card of regular medical check-up».

Groups of case follow up:

D (I) — healthy people, who don't complain about their health level, who doesn't have any acute, chronic diseases or dysfunctions of organs and body systems in their medical history and also those, who have slight deviations in their level of health (without tendency to progressing), which don't influence on work capacity;

D (II) — almost healthy people, having acute diseases or risk factors of chronic diseases in their medical history;

D (III) — people, having chronic diseases with moderate or evident dysfunctions of organs and body systems with periodical exacerbations and degradation, multiplicity of their medical examinations is defined by approximate scheme of case follow up.

D (IV) — people, people with disability group.

In every case follow up group people with risk factors of certain diseases or exacerbation of already existing diseases should be considered.

When defining case follow up group the results of previous check ups could be used including the results of laboratory examinations, clinical and instrument researches, only if they were done nor earlier than 12 months.

The doctor from prophylactic department (office) makes the individual programs of risk factor in disease progressing for people in group D (II).

People, who are on the list D (III) and who had some acute diseases, operations, traumas with high-risk and people, who are working in harmful areas, are registered at different doctors — district physicians, doctors — specialists of corresponding field, general practice doctors.

Person's refusal of case follow up is registered in an outpatient medical card (form № 025/y), which is signed by the patient himself and by doctor's signature of the public health organization.

To assess organization and quality of public prophylactic medical examination the following rates are used:

Completeness of population coverage with public medical prophylactic examination = number of people, registered in polyclinic at the end of reporting year × 1000 / average annual of attached population.

Opportuneness in registering sick people in polyclinic = number of sick registered in medical prophylactic list within a year from the number of newly diagnosed people × 100 / number of new diagnosed people this year.

Efficiency of public prophylactic medical examinations = number of sick registered in medical prophylactic list with certain disease with improve-

ment (worsening, without change of condition) at the end of the reporting year × 100 / general number of sick registered in medical prophylactic list with the same certain disease at the end of reporting year.

Besides the following final results of prophylactic medical examination can be used:

1. People considered healthy (%).
2. People transferred from 3 case follow up group to the second one (%).
3. People transferred from 2 case follow up group to the first one (%).
4. Assessment of changing in condition of the sick according to the criteria: recovery, improvement, without change, worsening, death.
5. Assessment of rates, characterizing the quality of performing prophylactic medical examination: observance of periods of check ups, completeness of performance of treatment and health-improvement programs.

Also, the efficiency of prophylactic medical examination is characterized by reduction general sickness rate, reduction of the number of cases and days of temporary disability, reduction of statistics of lethality rates, mortality and by reduction of frequency of people registered as disabled among the sick.

1.3. Preliminary medical documents and forms to state statistics reporting of outpatient polyclinic organization

To rule an outpatient polyclinic organization, to have efficient and long-term planning, the following information is necessary. One of the source of such information are preliminary medical documents and forms of state and official statistics reporting. All the medical staff of medico-prophylactic institutions fill in all the necessary preliminary documents. After special processing of preliminary medical documentation, some information from there gets into the forms of statistical reporting.

The main forms of preliminary medical documentation, used in polyclinic:

- Medical outpatient's card.
- Case follow us patient's card.
- Case follow up card.
- Card of prophylactic fluorography examinations.
- Prophylactic vaccination registry.
- Letter.
- Prerecord card.
- Record book of doctor's callings in.
- Statistical letter for registration final (exacted) diagnoses.
- List of registering visits in policlinic (outpatient), dispensary, consultation, at home.
- Outpatient's letter.

The forms of state reporting are approved by corresponding Decree of the Misitry of statistics and analysis of the Republic of Belarus and they usually have annual periodicity.

The basic forms, showing the activity of medical institutions:

1. **The form of state statistics reporting 1-organization** (public health ministry) «Report of public health organization (of hospital and outpatient' polyclinic organization)».

2. **The form of state statistics reporting 1-sickness rate** (public health ministry) «Report on the sickness rate, registered with the patients at the age of 18 and older, living in the served district by the public health organization, which renders medico-prophylactic aid».

2. HOSPITAL

2.1. Functions and structure

Health care is rendered in a hospital at the most severe diseases that require an integrated approach to diagnosis and treatment, use of complex methods of examination, treatment, surgical interventions, around the clock medical supervision and intensive care unit. At the hospital, the population receives a highly specialized medical care.

There are marked out 4 basic functions of a modern hospital:

1) restoration functions (diagnosis, treatment, rehabilitation);

2) prevention (primary and secondary prevention, including clinical examination) functions which are typical for the hospital combined with the clinic;

3) training functions (training for medical staff and postgraduate education);

4) research functions.

The capacity of hospital beds is determined by the absolute number.

Depending on the capacity the hospital institutions are divided into the next categories:

1. On the administrative territorial principle:

- republican;
- province;
- municipal;
- central district;
- district;
- divisional hospitals.

2. Depending on the type and nature of medical care:

- multisectoral;
- specialized (infectious, tubercular, psychiatric, drug abuse, dermatovenereological, etc.).

3. Depending on the urgency of hospitalization of patients:

- the hospitals of urgency hospitalization (emergency hospitals);
- the hospitals for planned hospitalization;

• the hospitals of mixed type (the most hospitals) where patients come on urgency indications and for a planned hospitalization.

4. According to the system of organization:

• combined with the clinic;

• not integrated with the clinic.

There are other indications for the classification of hospitals, for example, on the regimen of activity, on the degree of the treatment and care intensity, etc. The order of the Ministry of Health of the Republic of Belarus approved the range of health care institutions where particularly are showed all the possible types of hospitals.

The hospital has usually 3 structural subdivisions: management, station, administrative and economic department.

At the head of the municipal hospital is a chief doctor responsible for medical-diagnostic, financial, administrative and economic work. The **chief doctor has the next deputies on:**

• the medical part (who direct medical diagnostic and sanitary and epidemic hospital work, supervises and who is responsible for the quality of care);

• the surgical activity (in hospital with the number of beds — 500 and above);

• the organizational and methodological work.

The structure of the hospital include:

• the reception department. It can be centralized (for all hospitals) and decentralized for its separate main structural parts (example, the hospital reception for infectious diseases, for women in childbirth, etc.);

• medical main departments (therapeutic, surgical, neurological, gynecological, etc.);

• medical subsidiary departments (physiotherapeutic, exercise therapy, radiological, of hyperbaric oxygenation, hemodialysis, etc.);

• diagnostic departments (laboratories, roentgenologic department, the ultrasound diagnostics department, the department of functional diagnostics, the department of endoscopy, the department of radio-isotopic diagnosis, the department of morbid anatomy);

• operational unit;

• pharmacy.

The basic structural unit of the hospital is **a main department.** The hospital department consists of the wards in which there are patients, and subsidiary rooms of medical and household purpose. The capacity of rooms may be different. Advantage should be given to wards with 1–2–3 beds which have a separate sanitary unit (toilet, wash-bowl for hand washing and so on).

The administrative household part includes food service sterilization and disinfection service, sanitary technical maintenance of the hospital (water supply, heating and ventilation), transport and other services.

2.2. The primary medical documents and forms of state statistical reports of the hospital

For the management of hospital activity, efficient and perspective planning is necessary a proper information. One source of such information are the primary medical documents and forms of governmental and departmental statistical reports.

The main forms of primary medical documentation used in hospitals:

- the medical history of hospital patient;
- statistical card of the patient who quitted the hospital;
- the registry of patients reception and refusal in hospitalization;
- the medical card; N the registration paper of the transfusion media;
- the log file of the transfusion media;
- the registry of operative interventions in hospital;
- the paper of main indicators of the patient's state who was in the intensive care unit;
- the paper of main indicators of the patient's state who was in the therapy unit of the cardiology department;
- the report of post-mortem examination;
- the paper of registration of patients motion and hospital stock;
- the summary list of patient's motion registration and hospital stock in the hospital, department or type of beds.

The forms of state statistical reports are approved by the proper Decree of the Ministry of Statistics and Analysis of Republic of Belarus and, in general, have an annual periodicity.

The basic form reflecting the activity of hospital of various types is the form of state statistical reports the 1st hospital N 1, «The report about the activity of medical prophylactic organization».

2.3. The estimation of medical prophylactic activity of ogranizations based on the eventual results model (ERM)

In order to improve efficiency and quality of health care organizations activity of the republic an objective estimation of the activities of the administrative territories health care organizations is estimated on the eventual results model (ERM). The model of eventual results of administrative units public health activity is annually approved by the Ministry of Health.

The content of the eventual results model:

1. The indices of productivity:

- **The indices of health and activity** (reduction in overall mortality index, infant mortality, coefficient of outcomes of treatment of neoplasms, the performance of the growth rate index of paid medical services, the surgical activity, the duration of preoperative period for planned patients, the temporary disability of employees of public health institution, the indicator of the efficiency of the regular medical check-up, etc.).

2. The indices of defects (postoperative mortality at acute surgical pathology, the tuberculosis morbidity of antituberculous organizations workers, the maternal mortality, the lethality from acute pneumonia, the cases of patients during stay in the public health organization, the proportion of mismatches of pathological and clinical diagnoses of II–III category, on the main disease, and others).

3. The projected level (planned values).

4. The estimating scale in points (the forecast of the level, normative values, the sign of the deviation, the measure).

The indices of productivity (IP)

The planned values of effectiveness indicators is formed by the Ministry of Health of Republic of Belarus. Each productivity indicator has a normative value in points and the sign of the deviation (+ or –).

The indices of defects (ID)

The planned values for indicators of defects does not exist. Each indicator defects has only one defect sign of the deviation (–).

The stages of the estimation of medical prophylactic organizations on the base of (ERM):

1) the estimation of the indices of productivity — the comparison of actual achieved indices the planned value;

2) the estimation of defects indices;

3) the calculation of the score effective coefficient (SEC) — the sum of effectiveness indices in points;

4) the calculation of the score defective coefficient (SDC) — the sum of defects indices in points;

5) the calculation of score normative coefficient (SNC) — the sum of estimations of normative values of effectiveness indices;

6) the calculation of the result achievement coefficient (RAC), formulae 1:

$$\mathrm{RAC} = \frac{\mathrm{SEC} - \mathrm{SDC}}{\mathrm{SNC}} \qquad (1)$$

The coefficient of the result achieving should aim to be towards 1.0 and be above 1.0. The coefficient of the result achieving shows how the activity of estimated institutions corresponds to the requirements demanded to them.

3. THE ORGANIZATION OF MEDICAL SERVICE FOR RURAL POPULATION

Among the organizational principles of modern national health one of the important ones is maintenance of medical help unity and succession for urban and rural population. The majority of population lives in rural area. There are 28–30 % of national population living in rural area in the Republic of Belarus.

Medical help for rural population is based on the main principles of the organization of public health. Though the factors, which determine the differences

between the city and the country influence the organizational forms and mode of operation of rural medical organizations.

The main ways of developing medical and sanitary help in rural area:

1. Saving united governmental system of public health.
2. Improvement of population's health by the rise of living standard and improvement of environmental conditions.
3. Optimization of personnel policy in rural area and elaboration of social development programs and protectability of public health workers. Upgrading of medical and sanitary aid for the purpose of attaching medical workers in rural area, renewing and securing of minimal benefits (free habitation, heating and lighting, upgrading qualification etc.).
4. Improvement of work of effective placement mechanism by supporting priority way in the activity of rural organizations of public health (introducing the institution of general practitioners).
5. Strict observance of medical and organizational principles of the formation of establishment net in rural area subject to the need of population in medical help and medical and demographic prospects and medical and organizational situation.
6. Upgrading the structure and functions of rural medical and prophylactic organizations.
7. Assurance of succession in the work of rural local net and specialized services.
8. Development of primary accounting and report documentation, expertise of its reasonability.
9. Creation of medical and social help establishments (with rehabilitation inclination) for elderly, handicapped and senile people in district hospitals with combined financing of pointed beds by public health and social protection services.
10. Widening of medical and social help in outpatient and polyclinic organizations and domiciliary.
11. Giving public health system status of basic system which establishes corresponding requirement to another field of national economy by the criteria of their influence on the health of population and assurance of favourable environment.

Basic principles of rural public health:

- Governmental pattern.
- Smoothness.
- Free of paying.
- Accessibility.
- Prophylactic orientation.
- Connectivity with science.
- Participation of the community in health protection.

The main task of rural public health is full satisfaction of rural population needs in all fields of medical help.

The main peculiarity of organization of medical help for rural population is periodicity of its rendering. The essence of periodicity principle is that on every

of following period corresponding medical help is rendered to the patient which couldn't be provided during the previous period.

The peculiarities of rendering medical help to rural population:

1. Periodicity.
2. Field forms of work.
3. Development of general practitioner practice.
4. Important role and meaning of paramedical personnel.
5. Combining of medical and prophylactic and sanity and antiepidemic measures.
6. Development of in-patient department substituting technologies.
7. Priority of organizational cooperation with local authorities.
8. Development and introduction of telemedicine.

Other peculiarities are specified by socio-economic situation and quality of the authority work of all levels of public health.

The scheme of organization of medical help for rural population is presented by three stages:

I stage. Rural medical area.

Local hospital consists of hospital, out-patient clinic, day patient facility, first-aid and obstetrical stations, pharmacy. ***Medical out-patient clinic*** consists of the same departments except hospital.

II stage. Central district hospital is in composition of hospital, specialized department, consulting polyclinics, methodological-organizational consulting room.

In close rapport with Central district hospital there works regional centre of hygiene and epidemiology, district pharmacy.

III stage. Regional, republic hospital consists of hospital with specialized departments, consulting polyclinics and methodological-organizational department; emergency and planning and consulting medical help;

- ***Regional specialized departments*** (oncologic dispensary, TB dispensary, hemotransfusion station, etc.);
- ***Regional centre of hygiene and epidemiology;***
- ***Medical clinics and research institutions*** which situate in regional centre;
- ***Regional pharmacy authority.***

Rural population health conditions are identified by:

1. demographical characteristics;
2. social and living conditions;
3. working conditions;
4. district peculiarities (endemic goiter, autoimmune thyroiditis, allergosis, bronchopulmonary pathology, infectious and parasitic diseases).

Predoctor care and first-aid help for rural population is rendered in rural local medical departments. For rural population it is the first period of getting medical help-the closest and most accessible section of public health.

3.1. Rural medical area

Rural medical area is a functional formation which is the main organizing unit of interconnection between medical and sanitary aid station and all the specialized kinds of medical help at different periods. Average number of population is 5–7 thousand, average area of service is 8–15 km.

Rural medical area is a territory with living population which is rendered by the doctors of its local medical organization. The territory of rural medical area usually coincides with the borders of rural administrative area (one, rarely two Soviets). There are either rural local hospitals with out-patient clinic or independent rural medical out-patient clinic are organized in rural medical area. The work of these departments is run by head doctors-correspondingly by the head doctor of rural district hospital or the head doctor of rural medical outpatient clinic. All the rural medical departments operating in rural medical area (first-aid and obstetrical stations) are run by them.

The village where local hospital (out-patient clinic) is situated is called stationary. The farthest settlement from stationary is called district radius.

Rural medical area (local hospital, rural medical out-patient clinic) goals:

1) rending medical and prophylactic help for population;

2) introduction of modern methods of prophylaxis, diagnostics and treatment during the practice;

3) development and improvement of organizational forms and methods of medical service for population, the rise of quality and effectiveness of medical and prophylactic help;

4) organization and holding of complex prophylactic measures among the population of the area;

5) holding of medical and prophylactic measures for mother and child's health protection;

6) providing research of reasons of common sickness rate and temporal disability diseases and development of measures for its reduction;

7) organization and realization of mass health examination, firstly of children and teenagers;

8) realization of antiepidemic measures (vaccination, identification of infectious patient, dynamic people observation contacting with them, etc.);

9) realization of current sanitary supervision over conditions of working and municipal areas, water supply sources, child care institutions, public nutrition establishments;

10) holding of medical and prophylactic measures for tuberculosis control, dermatovenerologic diseases, malignant neoplasms;

11) organization and holding of sanitation measures oriented on population development, promotion of healthy life-style including rational nutrition, strengthening of physical activity; fight with alcohol, smoking and other unhealthy habits;

12) widespread involvement of the community into the development and holding of public health protection measures.

According to these goals rural district doctor's responsibilities are worked out:

1) providing outpatient reception;

2) hospital treatment of patients in rural local hospital;

3) rendering domiciliary (doctor's visits at home);

4) rendering medical help for acute disease and accidents;

5) allocation of patients to other medical departments according to medical indications;

6) examination of temporal disability and issuance of disability health certificate;

7) organization and providing prophylactic examination;

8) opportune clinic registration of patients;

9) providing medical and health promotion programs, control of clinical examination;

10) active nursing of the pregnant and children;

11) providing sanitary and antiepidemic complex programs;

12) local sanitary and antiepidemic authorities announcements about infectious, professional and parasitic diseases, intoxication among population;

13) derangements of sanitary and hygienic requirements;

14) providing community health;

15) sanitary activists trainings;

16) organization and providing planned set-offs of doctors to first-aid and obstetrical stations.

Special place in local doctor's professional activity is occupied by the maternity and childhood problems. If there are 2 or more doctors in the local outpatient clinic or local hospital thus by the head doctor's order one these doctors charges for the children medical service in the area.

3.2. The first-aid and obstetrical stations

The first-aid and obstetrical station is a specific peculiarity of rural public health and occupies an important place in rural population medical provision.

The first-aid and obstetrical station are outpatient and polyclinic agencies. Their creations are caused by the peculiarities of rural public health, by the necessity of the medical help approximation to population in the wide radius service conditions of the local hospital (outpatient clinic) relative to all the villages.

It is organized in the settlements with the population over 700 people and over 5 km away from the nearest medical organization, 300–700 people and over 5 km away or less than 300 people and over 6 km away.

The first-aid and obstetrical station goals:

1) providing programs which are oriented on prevention and reduction of diseases including infectious diseases; prevention and reduction of parasitic and professional diseases, traumatism and intoxications among population;

2) increasing of sanitary and hygienic culture of population;

3) rendering first aid, realization of doctor's prescriptions;

4) rendering medical help for acute disease and accidents;

5) active nursing of the women; providing community health;

6) participation in current medical surveillance over children and teenage departments, municipal, nutritional, industrial and other services, water supply and settlements cleanings;

7) providing bypassing the farmsteads according to epidemic demands in order to detect infectious patients, people contacting with them and people suspected of being infected.

8) notification of local sanitary and antiepidemic authorities about infectious, professional and parasitic diseases, intoxication among population; derangements of sanitary and hygienic requirements;

9) realization of medicine.

The first-aid and obstetrical station is run by hospital or outpatient clinic to which it subordinates.

The first-aid and obstetrical station must contain places which correspond to sanitary and hygienic requirements and goals of chosen area.

One of the important fields of the first-aid and obstetrical station is mother and child's health fortification.

There are following the first-aid and obstetrical station's functions for its realization:

- widespread of information about family planning methods;
- detection of the pregnant in short terms;
- registration of the pregnant;
- nursing and dynamic women follow-up during pregnancy and after discharge from maternity hospital;
- differentiated observation and medical service of the newborns, prematurely born and physically broken children, especially 1–2 or 3-year old.

Nowadays the part of the first-aid and obstetrical station participation in medical and prophylactic help rendering for rural population is not big yet because it serves considerable quantity of population and it is the nearest and the most accessible type of medical help especially for inhabitants of remote villages.

Subject to remoteness of a settlement from medical outpatient clinic, local hospital or central district hospital the percentage of rural population visits in the first-aid and obstetrical station is about 30–40 % and more from the common levels of visits.

The summary:

1. The first-aid and obstetrical station is one of the most accessible and mass types of medical service for rural population.

2. The first-aid and obstetrical station goes far in rendering medical and prophylactic help for rural population.

Documentation of the first-aid and obstetrical station:

1) patient reception register;

2) doctor's (specialist's) register of observations and proposals;

3) doctor's set-off schedule.

The rest documentation is assigned by the authority of rural local hospital, rural medical outpatient clinic, central district hospital.

3.3. Rural medical outpatient clinic

Rural medical outpatient clinic is a primary unit in the social and hygienic, medical and prophylactic, sanitary and antiepidemic system of rural population assurance.

It organizes and renders first medical and pre-medical aid.

The rural medical outpatient clinic goals are the same as rural medical area's. The personnel structure depends on the quantity of serviced population. There is usually 1 physician for 1300 adults, 1 pediatrician for 800 children. One dentist for 1,5 job of a doctor. The jobs can be combined for several rural medical outpatient clinics or rural medical areas (in this way working hours are scheduled).

Medical documentation is completely the same as in outpatient clinic.

Specification:

1) specialist's set-off register;

2) central district hospital specialist's set-off schedules.

3.4. Rural local hospital

Rural local hospital is the main medical and prophylactic department of rural medical area.

According to the area of service, quantity and density of population local hospitals are subdivided into 4 categories:

- I category — 75–100 beds. This type of local hospital must contain specialized therapeutic, surgical, obstetrical, pediatric, infectious disease, tuberculous beds. As a rule there is X-ray room in this type of hospital.
- II category — 50–75 beds. It provides therapeutic, surgical, obstetrical and infectious disease beds.
- III category — 30–35 beds. There must be therapeutic beds for adults and children, surgical, obstetrical and infectious disease beds.
- IV category — 25–35 beds. There must be therapeutic, surgical, obstetrical beds.

The outpatient amount of help more often is the same as in rural medical outpatient clinic. Additionally, there can be: surgical, obstetrics and gynecologic, etc. The diagnostic capabilities significantly increase: X-ray and biochemical laboratories.

If there are 100 beds it is settlement or district hospital. The area of service is usually about 15 km, population 5 thousand and more.

The rural local hospital goals:

1. The goals of rural medical area.
2. Organization of hospital medical help for population.
3. Analysis of hospital beds usage and work oriented on increase of effectiveness of their usage.
4. Prophylaxis of hospital infection.
5. Organization of hospital nutrition.
6. Running of hospital economy (community facilities, transportation, improvement, fire precaution measures, maintenance supply, etc.).
7. Medical and social function.

Medical documentation is completely the same as in outpatient clinic.

The peculiarities of work analysis of rural local hospital:

1) terms of hospitalization;
2) seasonality of hospitalization;
3) replication of hospitalization;
4) distribution of hospitalization rate by the days of week.

2/3 of the budget is spent on hospital treatment.

Rural local hospital renders hospital aid, performs medical and social functions; must practically fully satisfy the requirement in pre-medical and first aid.

3.5. Territorial medical association

Central district hospital.

Central district hospital is the main department for qualified rendering of medical aid. At the same time central district hospital is the centre of organizational and methodological authority of public health of a district.

According to facilities central district hospitals are subdivided into 5 categories:

1 category — 600 and more beds;
2 category — 400–600 beds;
3 category — 250–400 beds;
4 category — 125–250 beds;
5 category — 125 beds.

They are categorized by the payment depending on facility.

The facility of central district hospitals and other structural medical establishments are defined by average annual quantity of extensive beds.

Regardless of bed facility, serviced population quantity and area of service of central district hospital must have definite list of organizational **departments**:

1) polyclinic;
2) hospital with therapy departments of all the main medical specialties;
3) admission department;
4) medical and diagnostic departments (rooms) and laboratory;
5) organizational and methodological room;
6) emergency and urgent medical help;
7) maintenance unit (nutrition unit, garage, etc.).

If there is no separate children's hospital with consultation and infant feeding centre, maternity hospital including antenatal clinic thus antenatal clinic, children's hospital with consultation and infant feeding centre are included into central district hospital polyclinics as organization department.

One-man management principle is realized in the central district hospital by the head doctor of the central district hospital (territorial medical association). Medical board is organized under the control of the direction of the head doctor. There is a definite quantity of deputies, a chief accountant, a chief nurse.

Peculiarities:

1) is a legal person;

2) is a manager of financial funds;

3) has social structures of management (medical board, medical assistant council, nurse council);

4) makes organizational and managerial decisions;

5) has specialized departments;

6) has organizational and methodological room (department);

7) has medical emergency service;

8) the departments (services) can perform inter-district functions;

9) has chief specialists.

Except central district hospitals, specialized clinics (TB dispensary, dermatovenerologic dispensary) can be organized in a district, but they work as inter-district establishments (they serve population from the nearest districts). In the enlarged districts, which were created by two or more districts unification, former district hospitals continue functioning and they safe all their functions, organizational and personnel structures and standards of serving of population.

Sanitary and antiepidemic establishments are organized and function in each district of the republic-they are district centres of hygiene and epidemiology. Settlements, which are situated around a district centres and serviced by medical establishments of a district (polyclinics or central district hospital), are called bonded areas.

The territorial medical association goals:

1. Population assurance of a necessary capacity of highly qualified hospital and polyclinic medical help.

2. Efficient and organizational and methodological running, controlling work of all public health establishments and individual people who provide private medical activity on the territory of a district.

3. Planning, financing and organizing of material and technical support of public health establishments of a district.

4. Planning and providing programs which are oriented on medical establishment net development.

5. Development and realization of programs oriented on improvement of quality of medical service; reduction of sickness rate and disability, hospital le-

thality, children's mortality and common death rate and children's, women's and teenager's health improvement.

6. Opportune and wide introduction of modern methods and prophylactic means, diagnostics, treatment and rehabilitation in working practice of all the medical and prophylactic establishments;

7. Development, organization and realization of measures of distribution, rational usage, professional qualification improvement, education of medical personnel and other staff of public health establishments of a district;

8. Running of hospital economy.

There's a certain number of deputies under the direction of a head doctor:

1. Deputy director for medical services is in charge of organizational and methodological assurance of medical and prophylactic establishments of a district, work of chief specialists.

2. Deputy for the medical unit is in charge of hospital medical aid, emergency service.

3. Deputy for outpatient work is in charge of outpatient medical help.

4. Deputy director for medical rehabilitation expertise is in charge of morbidity with temporal and permanent disability, all types of expertise.

5. Deputy for childhood and childbirth is in charge of maternity and childhood protection.

6. Deputy director for administrative work is in charge of material and technical support in medical and prophylactic establishments.

3.6. Regional unit of rendering medical aid

Regional Children's Hospital is regional hospital for children and it is the leading organization establishment, organizational and methodological and consulting centre of public health.

The structure of regional hospital:

1) hospital with admission department (specialized departments);

2) consulting clinic (can be separate);

3) medical and diagnostic departments, rooms, laboratories;

4) organizational and methodological department and medical statistics department;

5) emergency and planned consultative help departments;

6) X-ray department;

7) pathologic department;

8) maintenance unit (nutrition unit, storehouse, etc.).

The regional hospital goals:

1) rendering of consultative, specialized or qualified medical aid which can't be rendered in other medical establishments in a region;

2) helping medical establishments and health authorities of a region by improvement of quality of medical and preventive activities, generalization of advanced experience and improvement of forms and methods of medical activity;

3) coordination of medical and prevention activities, organizational and methodological activities which is realized by all the specialized medical establishments in a region;

4) allocation of air medical service and surface transport for emergency and planned consultative help;

5) regular examination of region population's level of health and organization of establishment activities, development of necessary programs oriented on sickness rate reduction and improvement of quality of medical service together with chief specialists of regional authority of public health.

Based on regional hospitals extension, courses for health care workers of a region are provided. Bed facility of a regional hospital depends on population size of a region. Average facility of a regional hospital in the Republic of Belarus is 1000 beds.

There are specialized clinics in each region (TB dispensary, oncologic dispensary, etc.) and other specialized medical establishments (regional mental hospital). These establishments are regional centres for rendering specialized medical and organizational and methodological help.

The peculiarities of some types of medical help for rural population should be considered. Emergency aid in the rural area.

At first-aid and obstetrical station, rural local hospital, rural medical outpatient clinic units emergency aid is rendered by medical staff of these establishments all the time.

The most important problems in emergency aid organization for rural population are:

1) existence of schedule and order of providing emergency aid in all organization establishments;

2) existence of packagings, bags, and necessary equipment;

3) existence of providing emergency aid algorithm in every organization establishment, especially in control service of emergency aid, registration of entering calls and measures taken;

4) proper succession (based on feedback principle) between emergency aid service, outpatient clinic and control services of farmsteads and enterprises;

5) preparing population to be able to provide self-care and mutual aid; improvement of sanitary competence of population;

6) development and existence of incentive motivation for rendering this type of aid among medical workers including paramedical personnel;

7) medical personnel training for providing emergency aid;

The priority of medicinal, material and technical supply to provide emergency aid.

4. ORGANIZATION OF EMERGENCY MEDICAL AID

Emergency medical aid (EMA) — a form of providing medical aid when a patient suddenly has some disease, trauma, intoxication or other emergency conditions, sudden worsening of the health level of a patient with chronic diseases, threatening his life, while which emergency medical interference is needed (law of the Republic of Belarus «About Healthcare article 16»).

State system of organization of EMA is in function in Belarus, including:

* **pre-admission level:**

- in the cities EMA stations with substations and branches, traumatology centres;
- in village administration districts — the departments of Emergency medical aid in Central district hospital (CDH) and EMA units;
- in regions — the departments of Emergency medical aid in regional hospitals.

* **hospital level:**

- hospitals of Emergency medical aid;
- the departments of emergency hospitalization of the general hospital network.

The activity of EMA stations (departments, hospitals) are regulated by the Ministry of Healthcare act from 12 October 2009 № 110 «About confirming the instruction on organization of Emergency medical aid service».

The structure of EMA service

In settlements with more than 100 thousand people EMA stations are established.

EMA substations are established in the districts of the city and in administrative-territorial units with population more than 50–100 thousand people.

The department of EMA is a structural subdivision of state organization of healthcare, offering EMA.

EMA unit is organized in the station (substation, department). EMA as a structural subdivision on the decision of the head of state healthcare organization. In the EMA stations other structural subdivisions can be made, including:

- operation section department of EMA station in the EMA stations with the amount of visits of EMA teams more than 250 thousand a year;
- the hospitalization department of EMA station in the EMA stations with the amount of visits of EMA teams more than 250 thousand a year.

EMA service is provided with ambulance cars according to the regulations, confirmed in the Ministry of Healthcare of the Republic of Belarus act № 72 from 21 April 2008 «About confirmation of regulations of providing state healthcare organizations of the Republic of Belarus with special cars».

System of management of EMA service

System of management of service has three levels:

1. Republican.
2. Regional.
3. District.

The principles of organization of EMA:

1. Availability.
2. Quickness in work.
3. Opportuneness.
4. Completeness.
5. High quality of provided aid.
6. Providing unimpeded hospitalization.
7. Maximum succession in work.

Tasks of EMA service:

1. Opportune providing of EMA to patients.
2. Providing the continuity of diagnostics — treatment process at the level of providing EMA with interconnection with outpatient — policlinic state organizations of healthcare.
3. Providing constant readiness to start work of EMA service in the case of emergency situations.
4. Methodical and organizational work on developing of EMA service.

EMA service performs:

1. In 24 hours mode:

In 24 hours mode EMA service provides:

- acceptance of calls to EMA teams and passage of them to the EMA teams;
- providing of 15-minute arrival in the city and 30-minutes arrival in village of EMA teams to the appointed addresses since the moment of the passage of the message to EMA brigades (point 18 of the Instruction «About the organization of activity of emergency medical aid»).

2. In the mode of higher readiness:

In the mode of higher readiness EMA service provides:

1) creation of necessary reserve of the EMA brigades;
2) direction of necessary amount of EMA brigades to accompany mass events in case of emergency;
3) providing of interconnection of EMA brigades:

*among themselves and with territorial bodies of management of healthcare and state organizations of healthcare;

*with operation services on duty of the Ministry of Internal Affairs of the Republic of Belarus and with the Ministry of Emergency cases of the Republic of Belarus.

3. In emergency mode (point 17 of the Instruction «About the organization of activity of emergency medical aid»).

In emergency mode **EMA service provides:**

1) notification about the emergency to all the managing bodies of healthcare;
2) direction to the zone edge the necessary amount of EMA brigades;
3) performance of treatment — evacuation events to the injured while destructing the emergency case.

EMA brigade — the main functional EMA unit, consisting of doctor and (or) assistant(s), aid-man (-men), driver and provided with an EMA car.

Priorities of calls to EMA brigades

Calls are divided into:

1) special;
2) urgent;
3) emergency.

Special call of EMA brigade — the call of EMA brigade to a patient, because of the conditions, which for the moment of call are dangerous for patient's life and health:

- accident;
- falling unconscious;
- children have rash with high fever;
- patient's intoxication with chemical substances or remedies;
- hanging, sinking;
- huge burn;
- deep and huge injuries;
- seizures;
- acute breath disorder;
- emergency case;
- traffic accident with injuried;
- electrotrauma;
- failure from the height higher than patient's own height.

Special call of EMA brigade is passed by nurse or assistant responsible for calls to a free EMA brigade according to its specialty not later than 4 minutes after its registration.

Urgent call of EMA brigade — call of EMA brigade to a patient, because of the conditions, which for the moment of call are not dangerous, but without aid during an hour can cause a threat for patient's life and health:

- heart beat disorder (arrhythmia);
- heart attack;
- attack of asthma;
- trauma;
- foreign body;
- bleeding (gastrointestinal, uterine, nasal);
- frostbite;
- birth;
- sudden movement activity disorder;
- calling EMA brigade, connected with sharp worsening of patient's state with impossibility to clarify the reason of calling.

Urgent call of EMA brigade is passed by nurse or assistant responsible for calls to a free EMA brigade according to its specialty not later than 15 minutes after its registration.

Emergency call of EMA brigade — call of EMA brigade to a patient, because of the conditions, which for the moment of call are not dangerous, but without aid during a day can cause worsening to patient's health:

- significant change in blood pressure;
- allergy;
- headache;
- stomachache, backache, pain in chest;
- haemophilia;
- inadequate behaviour;
- renal colic;
- vomiting;
- rash;
- high fever (if the fever doesn't go down with the help of peroral remedies);
- acute urinary retention;
- food intoxication;
- sudden change of behavior of a child less than one year old;
- pain relief;
- transportation of a patient according to the call, made by medical worker.

Emergency call of EMA brigade is passed by nurse or assistant responsible for calls to a free EMA brigade according to its specialty or to outpatient state organization of healthcare during its work hours not later than 1 hour after call registration.

Ineffectual visit of EMA brigade — it's a visit finished without providing any medical aid to a patient, because of wrong address or patient's absence at the address or false call of EMA brigade.

4.1. Emergency medical aid station

Station (department) of EMA — is healthcare organization, which provides emergency medical aid to adult and child population in threatening life conditions, accidents, acute serious diseases and worsening of chronic diseases on the spot of an accident (staying) and on the way.

EMA station is a state organization of healthcare. The head of the station is appointed according to the legislation of the Republic of Belarus.

Tasks of EMA station:

1. Providing medical aid in the shortest time possible after getting a call of emergency medical aid to the ill and injured people, who are not inside the healthcare organizations and during their transportation into the hospitals.

2. Transportation of patients, who need emergency aid, injured, parturient women, dysmature infants with their mothers in the resuscitation ambulance on demand of doctors and administration of healthcare organizations.

EMA stations provides:

1. Special medical aid:

a) when there are sudden diseases threatening patient's life (acutely developing disorders of cardiovascular system, central nervous system, respiratory, abdominal (severe pain in the heart, asthma, acute abdomen, psychosis);

b) when accidents (different types of traumas, injuries, burns, hitting by electric shock, lightning, foreign bodies in respiratory tracks, frostbite, drowning, poisoning, suicide attempts);

c) when birth giving occurred outside the specialized hospitals;

g) in mass catastrophes and natural disasters.

2. *Emergency medical care*: when worsening of different chronic diseases, when the reasons of calling can't refer to point 1, also when there are acute diseases with children, especially during first year of life.

The category of EMA station is established depending on number of visits carried out in a year:

outcategorized — more than 100 thousand visits a year.

- I category — from 75 thousand visits a year to 100 thousand visits a year;
- II category — from 50 thousand visits a year to 75 thousand visits a year;
- III category — from 25 thousand visits a year to 50 thousand visits a year;
- IV category — from 10 thousand visits a year to 25 thousand visits a year;
- V category — from 5 thousand visits a year to 10 thousand visits a year.

Served area is determined regarding next things:

- population amount;
- density of population;
- age structure of population;
- applying for medical aid.

In the Republic of Belarus according to the state minimal social standards of regulations to provide doctor, assistant, special EMA brigades (in summary) is — 1 brigade for 12 thousand people (for the city of Minsk — 12,5 thousand); the amount if calls for a brigade for 1000 people is 300 calls a year.

EMA station is headed by Head doctor, department or a substation id headed by an assistant head doctor of the station (substation). At the substation with the calls more than 40 thousand a year, the position of head physician is provided.

***Head physician functions*:**

1) quick management of all the medical personnel of the station;

2) control over:

- the work of operation department and brigades;
- organization of emergency hospitalization, transportation, giving out medical certificates;
- to change the composition of mobile brigade when necessary, undertake measures to manage all the resources quickly in case of mass catastrophes.

At EMA stations operations departments of the acceptance, spread and control over the call attendance are organized. At EMA departments there's a 24-hour unit with the dispatcher, accepting the calls.

Calls from population are accepted by the medical employees of operations department.

At the station with more than 25 thousand calls a year there's one position of medical registrar, and at the station with more than 75 thousand calls a year there're two such positions.

Functions of medical registrar:

1) acceptance and passage of call to attend;

2) management of mobile brigades;

3) switching them over after their release from the solution of tasks of previous call;

4) giving out information and medical certificates to population.

Registrar has information about availability of vacant places and about the amount of sick in the hospitals of the city and provides conformity to plan of emergency hospitalization.

At the station with more than 25 thousand visits a year there's a position of medical statistic, and at the station with from 50 thousand to 100 visits a year there're two such positions.

Brigade (doctor, doctor's assistant) — a functional unit of stations (substations) of emergency medical aid. It's organized according to staff regulations to provide work in two or one shift, i.e. up to 24 hours by the agreement with medical worker and labor union committee, except the driver.

There are emergency medical aid brigades and transportation brigades. EMA brigades are divided into:

- EMA doctor brigades;
- EMA doctors' assistants brigades.

EMA doctor brigades are divided into:

- general EMA brigades;
- special EMA brigades.

At EMA stations (departments) in the cities with population more than 100 thousand people there are *brigades to provide medical aid to child population* considering not less than one 24 hour pediatric brigade for every 20 thousand children, cardiology and psychiatric brigades; in regional cities including Gomel there are anesthetic, intensive care, neurological, urological brigades. According to the needs ambulances with appropriate medical personnel for patients' transportation to hospitals are given (one 24 hour brigade for every 40 thousand calls a year), also there are pain relief brigades for oncological patients. Multisectoral brigades of intensive care and special brigades make 30–50 % of all extensive brigades at EMA stations. The members of doctor brigade are: doctor, doctor's assistant (nurse), aid-man, driver.

The members of doctor's assistant brigades are: assistant, attending patients by himself, assistant (nurse), aid-man, driver.

Transportation of infectious patients is also a duty of EMA station (department).

The equipment of linear sanitary van*:* electrocardiograph, minilab, infusion solutions, two universal stretchers, shield for the transportation of patients with

spinal cord injuries and pelvis, a portable handheld device for anesthesia, oxygen inhaler, apparatus for artificial respiration, blood pressure monitor, a set of transport tyres, doctor's (medical assistant) bag (package).

Ambulance cars must be radio-equipped, have according signs and must be equipped with car horn. Doctor (assistant) of a mobile brigade is equipped with doctor's (assistant's) bag (package), which contains all the necessary medical tools and remedies. Their list and amount is stated by according order.

Documentation of EMA station (department)

1. Registry or card file of EMA calls (form № 109/y), in the places without ACS (automatic control systems).
2. The card of emergency medical aid calling (form № 110/y).
3. Cover page with coupon (form № 114/y).
4. The diary of work of emergency medical aid station (form № 115/y).
5. Report «Information on the condition of emergency medical aid service of RB for (year, quarter)» — confirmed by the order Ministry of Health RB from 24.11.2009, № 1106.

The card of emergency medical aid calling and registries are kept for 3 years.

4.2. Hospital of emergency medical aid (HEMA)

Hospital of emergency medical aid — is a multisectoral treatment — prophylactic organization for providing emergency medical hospital aid to population 24 hours a day, when there are acute diseases, traumas, accidents, intoxications, also when mass injuries, catastrophes, natural disasters.

Main tasks of HEMA

1. Provide emergency medical aid to patients when they are in conditions threatening lives, demanding reanimation and intensive care with applying methods and means of express-diagnostics and treatment at the level of modern achievements of medicine and practice.
2. Performance of organizational, methodical and consultant work to health improvement organizations of the city (district) when organizing emergency medical aid.
3. Performance of the events on hospital's being constantly ready for work in case of emergency situations and mass attendance of injured in the city (region, district, republic).
4. Providing effective succession and interconnection with all the treatment and prophylactic organizations in the city (district) when proving medical aid at pre-admission and hospital levels.
5. The analyses of quality of emergency medical aid and estimation of effectiveness of hospital's and its structural subdivisions' activity.
6. The analyses of population's demand in emergency medical aid at all the levels of its organization.

7. Performance of sanitary and hygienic education of population to form healthy lifestyle, provide self- aid and mutual aid and etc.

HEMA is organized in settlements with not less than 250 thousand. The management of the hospital is performed by Head doctor.

EMA structural subdivisions:

1) administrative-managing part;

2) organizational methodic room with medical statistics office;

3) hospital: reception — diagnostics department with reference information services, specialized clinical departments of emergency aid (surgical, trauma, neurosurgery, urology, burns, gynecological, cardiology, emergency care, department of anesthesiology, intensive care, department of blood transfusion) department of physiotherapy and exercise therapy, etc.;

4) medical record;

5) pharmacy;

6) library;

7) nutrition unit, economic — technical part.

4.3. The specialties of providing emergency medical aid to dental patients

At the pre-admission level in every dentistry there's a position of general dentist, who provides emergency medical aid (at the daytime). During night and at weekends emergency dental medical aid is made by dental clinics of the served area by dentist on duty and also at the reception departments in hospitals.

In outpatient — polyclinical conditions emergency dental medical aid is provided to 80–90 % patients. Aid at hospital level is made only to 10–20 % of dental patients in specialized departments of HEMA, regional hospitals. In Gomel it's a department of oral surgery in State Establishment «Gomel Regional Clinical Hospital».

THE ANALYSES OF ACTIVITY OF STATION (DEPARTMENT) OF EMERGENCY MEDICAL AID

On the base of registry and report documentation next indexes can be counted:

1) completeness with the personnel (doctors and paramedical personnel):

$$\frac{\text{The number of occupied doctors' positions, (positions of paramedical personnel)}}{\text{The number of organic doctors' assignments (paramedical assignments)}} \times 100$$

2) the index of combined jobs:

$$\frac{\text{The number of occupied doctors' positions (paramedical personnel)}}{\text{the number of individual doctors (paramedics)}} \times 100$$

3) emergency medical aid appealability of population in a year:

$$\frac{\text{The number of applications of population for emergency medical aid a year *1000}}{\text{Average population of a year}}$$

4) Frequency rate of appealability, considering the reason (accident, sudden disease, giving birth and etc)

$$\frac{\text{The number of applications considering the reason a year} \times 1000}{\text{Average population of a year}}$$

5) The structure of appealability, considering the reason

$$\frac{\text{The number of applications on a definite reason} \times 100}{\text{The number of all emergency applications}}$$

6) Specific density of unreasonable visits

$$\frac{\text{The number of unreasonable visits} \times 100}{\text{The number of all visits}}$$

7) Opportuneness of visits

$$\frac{\text{The number of emergency visits performed in less than 4 minutes} \times 100}{\text{The number of all visits}}$$

$$\frac{\text{The number of emergency visits performed after 15 minutes} \times 100}{\text{The number of all visits}}$$

8) Specific density of visits performed by linear or specialized brigades:

$$\frac{\text{The number of visits performed by linear (specialized brigades)} \times 100}{\text{The number of all visits}}$$

9) Day average workload of one brigade

$$\frac{\text{The number of all visits performed during a year}}{\text{Average number of brigades in an hour} \times \text{the number of days in a year}}$$

Analyses of work of EMA station is performed separately on every district, station (substation), by hour a day, day of a week, months, year in the whole.

The appealability of population for emergency medical aid is analyzed. This allows to plan the organization of emergency medical aid service.

The frequency rate and structure of sickness rate of applicants for medical aid, regarding seasons of the year and hospitalization is studied. The periods of visits since the moment of call till the arrival of the brigade and the time of patient's attendance are analyzed.

Data on distribution of calls by hours a day, days a week, allow to make up optimal schedules regarding ambulance cars and medical personnel in possession.

The analyses of HEMA activity is done the same as the analyses of the activity of a hospital on the data of annual report in chapters of:

- hospital bed usage;
- the quality of medical service in the hospital;
- surgery work in the hospital;
- emergency surgical medical aid in hospital.

The quality of diagnostics, special density of disagreement on the diagnosis is studied.

The analyses of index data allows to improve the coordination of work on emergency medical aid with the activity of treatment and prophylactic organizations.

5. RENDERING OF OBSTETRIC-GYNECOLOGIC CARE FOR WOMEN

Maternity and childhood protection is a system of governmental, social and public private character which are aimed at safety and stabilization of children's and women's health, creation of optimal conditions for woman to fulfil her major function — birth and upbringing of a healthy child.

Perinatal care is a system of organization of rendering medical help for woman, fetus and newborn including pregravid period, pregnancy, delivery (parturition), and postpartum period.

The multilevel system of rendering of perinatal care is a comlex of organizational and diagnostic and treatment arrangements which are aimed at rising efficiency of management and coordination of health care and which provide medical help for pregnant women, parturient women, puerperal, newborn children and young children, maternity and newborn loss reduction, conservation of personnel, financial and informational resources.

Major aim of the multilevel system of rendering of perinatal care is:

- United criteria of qualitative perinatal care;
- Availability of all the components of the current perinatal care for every woman and.

Tasks and functions of the multilevel system of rendering of perinatal care:

- provide with availability, stages and continuity in the care of women and children with the use of modern medical technology;
- rendering of qualified and specialized medical help for women and children;
- qualified organization of emergency medical care for women and children;
- providing qualified and specialized medical care for gynecological patients using modern technologies and treatments, surgical techniques that preserve the reproductive health and provide with the quality of life in the later age period;
- creation of a modern consultative help for women with gynecological pathology, pregnant women and children;
- organizational and methodological work on interaction and continuity of the work of health organizations of all levels;
- rendering of practical assistance to healthcare organizations, higher technological assistance to qualified district and inter-district levels;
- training of medical personnel and paramedical personnel, refresher training for jobsites in health care institutions of higher technological level.

5.1. The multilevel system of rendering of perinatal care

There are ***four technological levels of rendering perinatal care*** in the Republic of Belarus:

- the first is district (city);
- the second is inter-district (city);
- the third is regional (city);
- the fourth is republic.

The first district (city) level of rendering perinatal care.

The organizations of the first-level health perinatal care include antenatal central district hospitals (CDH), maternity and children's services CDH allocated infant beds in the intensive care unit CDH, it is also limited by first-aid and obstetric stations which the include, outpatient clinics, antenatal clinics for adults.

The major tasks of the first-level are:

- identification of the state of perinatal pathology;
- holding of arrangements aimed on prevention and treatment of conditions and diseases leading to perinatal loss;
- rendering of health care in physiological pregnancy, childbirth, parturient and neonatal periods;
- rendering of emergency care for pregnant women, puerpera, parturient women and newborns;
- timely direction for patients in need for inter-district and regional.

The first level is provided by:

- implementation of delivery by obstetrician-gynecologist, neonatologist (pediatrician). In off hours the duty of obstetrician-gynecologist, neonatologist (pediatrician) is organized domiciliary. The orders of the department must provide the rules of professional call;
- twenty-four-hour anaesthetic and resuscitation care for pregnant women, puerpera, parturient women and newborns;
- for work in neonatal wards in the obstetric (obstetric and gynecological) staff of the department the job of the neonatologist should be introduced.

Patient referral for a consultation or hospitalization for interregional level routinely is conducted according to the approved indications for direction after a joint examination of district obstetrician or the head doctor deputy who is in charge of obstetrics and childhood, the head of the department or the hospital doctor.

The second inter-district level of rendering perinatal care.

The inter-dictrict level of rendering care includes:

- maternity hospitals or obstetrical departments in multifield hospital (or big CDH or city hospital (CH));
- neonatal intensive care units or intensive care stations and neonatal resuscitation as a part of anesthetic and intensive care unit;
- offsite resuscitation and consultative team (functioning order of a team is defined by the current normative and legal and instructive base);
- the second-level departments of infant management in children's hospital, pediatric departments of general hospitals or in CDH (CH), obstetric hospitals;
- to provide specialized care for pregnant women in the obstetric hospital department the inter-regional department (wards) for pathology of pregnancy is organized.

The major functions of the second level:

- ensuring the functions of the first level perinatal health care for the population of the attached area (according to the criteria and indications for the first level);

• ensuring of the required medical care for pregnant women and newborns from the attached areas with predicted complications in childbirth and pregnancy, according to the established criteria.

The inter-district level provides the twenty-four-hour duty of obstetrician-gynecologist, neonatologist and anesthetist-resuscitator (child anesthetist-resuscitator).

The third regional (city) level of perinatal care.

The regional level of rendering of perinatal care includes:

• regional (city) maternity;

• maternity department of a multidisciplinary regional (city) hospitals which function as regional maternity;

• regional perinatal center;

• regional (city) Children's;

• Medical Genetics Center (department, consultation);

• departments of pathology of pregnancy.

At the third level are organized:

• neonatal intensive care departments;

• offsite resuscitation and consultative team (functioning order of a team is defined by the current normative and legal and instructive base);

• the second-level departments of infant management in children's hospital, pediatric departments of general hospitals or in CDH (CH), obstetric hospitals.

The major functions of the third level of rendering of perinatal help:

• ensuring the functions of the first and second levels of perinatal health care for the population of the attached area (according to the criteria and indications for the first and second levels);

• providing highly specialized care for women of reproductive age, pregnant women, parturient women and puerperas from the region which are hospitalized on indications for referral to the hospitals of the third level.

• rendering of medical help in the departments of perinatal centres and departments of Children's Regional Hospitals for newborns which were born at regional level and for transferred from other maternity hospitals, as well as young children with long-term effects of perinatal pathology;

• training of personnel of Health Organization of a region in the workplace.

Twenty-four-hour duty of a responsible obstetrician and gynecologist is whose actions must be defined by the corresponding order of the head doctor as well as the actions of obstetricians, neonatologists, anesthesiologists, intensive care and pediatric anesthesiology and intensive care is organized at the third level.

The fourth republican level

Level is represented by Republican state institution «Republican Scientific and Practical Centre» Mother and Child (RSPC «Mother and Child»), which provides medical assistance to the most heavy contingent of pregnant women, parturient women and puerperal, newborns and women with reproductive function disorder using modern and advanced diagnostic and treatment technologies.

The major functions of «RSPC» Mother and Child are:

- rendering medical assistance to the most heavy contingent of women of reproductive age, pregnant women, parturient women and puerperal, for newborns which were born at regional level and for transferred from other maternity hospitals, as well as young children with long-term effects of perinatal pathology;
- creation of the optimal conditions for the treatment process, teaching and research on its;
- staff training of Health Organization of different levels of perinatal care for the more rapid introduction of modern perinatal;
- holding of expert assessment of quality of medical care for pregnant women and young children in the regions;
- development, approbation and introduction of modern medical technologies prevention, diagnosis and treatment in the the work of health care organizations that provide medical care for mothers and children aimed at maternal and perinatal loss and disability in childhood, saving and restoring of women's reproductive health;
- implementation of statistical monitoring and analysis of main demographic indicators (maternal, perinatal and infant mortality and morbidity of parturient women, newborns and children);
- development of proposals for improving and developing of maternity and children protection services;
- introduction of quality and economic efficiency control of health care for women and children at all the levels of the region.

5.2. Organization of outpatient and obstetric-gynecologic care for rural residents in outpatient clinics of general practice, rural medical stations and obstetric stations

In modern conditions all the work of dispensary supervision of pregnant women and gynecologic patients, work with women at childbirth reserve, high social risk, family planning and implementation training of pre-conceptional preparation, implementation of community health arrangements lies entirely on antenatal clinics of CDH including doctors of outpatient clinics of general practice, rural outpatient clinics, rural regional hospitals and obstetric stations.

Obstetric stations

Obstetric station is pre-medical outpatient department for rendering primary health care for assigned female population. Under regional antenatal clinic’s doctors supervision including general practice doctors, medical workers of obstetric station provide work with women at childbirth reserve to arrange pre-conceptional preparation and dispensary separation of pregnant women and gynecologic patients.

Main aspects of obstetric station activity aimed on work with female population:

1. Creation of lists of the female population of the region which are sent to the rural outpatient clinic (ROC) by the rural district hospital (RDH), CDH:

- women of a fertile age (15–49 years);
- women at childbirth reserve;
- women of high social risk.

2. Under general practice doctors' supervision, ROC, RDH provide work:

- with women at childbirth reserve;
- on family planning and prevention of unwanted pregnancy;
- identification of people who is in need of free contraception.

3. Ensures timely (before 12 weeks) identification and registration of all pregnant women of the obstetric station service area. The personal card of a pregnant woman is filled (form № 111/a). The pregnant woman is directed to a doctor's appointment in antenatal clinic of CDH.

4. Maternity-nursing visits of pregnant women. The main aim is improving of health literacy, practical training of mother and other members of the family of methods of infant care, breastfeeding and parenting. If pregnant woman doesn't come to the doctor's appointment in antenatal clinic of CDH, a medical worker visits her at home or at work to find out the reasons of non-attendance and supplies the doctor's appointment.

5. Together and under general practice doctors' supervision , ROC, RDH or regional antenatal clinic find out working conditions of pregnant woman and in case of harmfulness disclosure medical worker of the outpatient clinic provides and controls her transition to easier work.

6. All pregnant women with complicated pregnancy should be hospitalized in advance (2–3 weeks) in the maternity department of CDH or other obstetrical medical hospitals of a higher level for preparation and delivery.

7. Medical worker from the obstetrical station provides timely identification of complications during pregnancy and the postpartum period by homestead rounds of pregnant women living in obstetrical station service area, neighbours' signals and by appealability, these women are immediately sent in maternity department of district territorial medical establishment by emergency call.

8. In the case of home deliveries by the call of medical worker of the obstetrical station he provides necessary primary help with the help of instrumentality and medicine which are kept in a special obstetrical bag. After rendering primary help obstetrician transports the puerpera to district territorial medical establishment by ambulance.

9. Medical worker of the obstetrical station provides community health work with the women living in the obstetric station service area and organizes mother and child school.

10. Medical worker of the obstetrical station must fulfil all the recommendations of obstetrician-gynecologist of the antenatal clinic of CDH and provide regular attendance of the pregnant woman of the antenatal clinic of district territorial medical establishment.

Continuity between the antenatal clinic of CDH and obstetrical station, ROC, outpatient clinic of general practice doctor and RRH is implemented with the help of the pregnant woman passport which is always kept with her-exchange card in which all the information of laboratory examinations, results of obstetrician-gynecologist examinations, examinations of related specialists and additional methods of examination is included.

Medical worker of the obstetrical station under supervision of the antenatal clinic of CDH doctor takes part in providing mass health examination of gynecologic patients:

- Invites patients to the reception which under the supervision of obstetrician-gynecologist and provides timely doctor attendance control.
- Files dispensary patients, completes medical documentary, monitors the implementation of measures prescribed by the doctor, takes part in the periodic examination of the dipesary patients.
- Provides reception of gynecological patients and if necessary sends them in district antenatal clinic.
- Provides preventive examinations with taking swabs on cytology and bacterial flora of women living at the served area of the station according to the schedule appealing medical staff of general practice outpatient clinic, ROC, RDH. In identifying gynecological or extragenital pathology women are sent on examinations to specialists of CHD.

Rendering of medical and obstetrical care to rural population and to remote and hardly available districts is organized by mobile medical teams which include obstetrician-gynecologists. It helps not to interrupt work of the major part of population and to prepare well to the appointment at the obstetrical station.

Mobile medical teams work twenty-four-hour according to the established schedule which foresee date, duration, place of the set-off and the membership of the team. The set-off schedule of the medical workers is brought to the head doctors of the outpatient clinics of general practice, RDH, district hospital, obstetrical station and headquarters of agricultural enterprises.

Rural outpatient clinic (ROC), rural district hospital (RDH)

According to the fact that all the organizational work of providing obstetrical and gynecological care, outpatient and hospital care for women of rural area is remained on the specialists of CDH, paramedical personnel of outpatient clinics of general practice, ROC, RDH don't have their own objectives of providing medical care for pregnant women and gynecological patients in The Republic of Belarus.

Though the doctors of those departments must provide primary and emergency help for pregnant women and gynecological patients by their direct access to those medical departments or by emergency call or by calling medical worker of the obstetrical station, doctors must take part in work with women at child-

birth reserve, in work of mobile medical teams, provide active prevention with women on contraception questions and healthy life-style.

For the purpose of prevention and timely identification of gynecological sickness rate, reduction of maternal and children's death rate, doctor of general practice must provide following preventive arrangements:

1. Clinical examination of pregnant women:

1.1. Registration — therapeutic examination, formation of risk groups with pregnancy, delivery, puerperal period complications. Doctor of general practice must provide references for pregnancy maintenance according to the identifying extragenital pathology and supervise its implementation.

1.2. Registration aimed at relief of doctors of a particular speciality, doctor of general practice must provide ophthalmoscopic examination, ear, throat and nose examination and endocrinological examination (by availability of diagnostic equipment). If necessary, the women is sent to a consultative appointment with a doctor of a particular specialization.

1.3. By referral of a pregnant woman to render therapeutic assistance. In doubtful cases timely provide consultation with the specialist.

2. Clinical examination of gynecologic patients:

2.1. To conduct preventive examinations of girls once a year. Objective — timely identification of inflammatory diseases of the genitals (vulvovaginitis), and assessment of the physical development of a girl and its compliance with sexual development (body hair, breasts, the beginning of menstruation.

2.2. Together with a gynecologist to assess adolescence (start time, the pathological symptoms).

2.3. To provide community health about ways of contraception, healthy life-style (priority of physical culture, family, education, etc.) actively among.

2.4. Participate actively part in the work of women at childbirth reserve group to provide prevention, timely identification of extragenital pathology, its treatment, reaching the stage of stable remission, foliatoprevention.

Control of the work of obstetrical stations together with an obstetrician-gynecologist of district territorial medical establishment.

3. To be able to provide emergency assistance at delivery at home.

4. Diagnose the pathology of climacteric period, timely holding of therapeutic and preventive arrangements (prevention of cardiovascular disease, osteoporosis), if necessary, referral to a specialist.

5.3. Antenatal clinic

The basic structural and functional subdivision which is entrusted with the organization and rendering obstetric and gynecological care at the outpatient level is an antenatal. Antenatal clinic consultation is part of the health care department (polyclinic, maternity hospital, etc.) and it is under its administrative control. In some cases, antenatal clinic exists as an independent establishment and is subordinated to local health care authorities.

Organization of the antenatal clinic is based on the territorial and district principle. Territorial work of the antenatal clinic is determined by the appropriate medical health authority according to subordination.

The antenatal clinic is intended to provide all types of qualified outpatient obstetric and gynecological.

Medical and preventive work of the antenatal clinic is based on the principle of case monitoring of women which is aimed at the prevention and timely identification of pathological processes of the reproductive system.

The antenatal clinic work is organized and regulated in accordance with the current legislation, orders and instructions of higher authorities and officials.

The number of antenatal clinic staff is determined by the number of obstetrical and gynecological stations and is set by one rate of the obstetrician-gynecologist to 2000–2200 of female population.

The antenatal clinic reception provides prerecord for doctor's appointment for all the day of week by personal visit or by the phone call.

The district obstetrician-gynecologist spends the major part of his working time providing outpatient appointments, alternating morning appointments with evening appointments, providing home care to the women who can't visit doctor personally for health reasons (in average 0,5 of a working hour a day).

The district obstetrician-gynecologist has the following calculation of the normative load: 6 women for 1 hour reception, 8 — at preventive examinations, when working at home — 1.25 calls an hour.

The aim of the antenatal clinic is rendering of medical and preventive care, aimed at women's health improvement, prevention of maternal and perinatal morbidity and mortality. To achieve this objective following problems are solved in the antenatal clinic:

1) implementation of treatment and preventive measures aimed at the prevention of complications of pregnancy, childbirth, postpartum and gynecological diseases conducting prenatal protection of fetus;

2) conducting pregnant women case monitoring aimed at prevention of pregnancy complications, childbirth and postpartum;

3) organization and conduction of regular medical check-ups of women with gynecological pathology;

4) secondary prevention of neoplasms of the reproductive system;

5) consulting and rendering family planning services (providing work on contraception to prevent unplanned pregnancy);

6) introduction of modern methods of diagnosis, prevention and treatment of obstetric and gynecological pathology into practice;

7) ensuring of women with social and legal protection according to the legislation for the maternity and childhood protection;

8) conducting of hygiene education, formation of healthy lifestyle and health saving behavior of the population;

9) organization and providing of preventive examinations of women for early identification of pathology of the reproductive;

10) ensuring of continuity in the examination and treatment of pregnant women, puerpera, and gynecological patients with medical institutions that provide specialized care for these patients (medical genetics center (MGC), maternity hospital (department), adult and children polyclinics, station (department) of emergency medical care, TB, dermatovenerologic and oncological dispensaries and etc.)

The structure of antenatal clinic:

- registration office;
- district obstetrician and gynecologists rooms;
- room for family planning;
- psychoprophylactic preparation room for;
- physiotherapeutic room;
- manipulation room;
- rooms for therapeutist's, oncologist and gynecologist's, dentist's appointments;
- social and legal room;
- «young mother» room;
- Operating room for outpatient operations;
- clinical and diagnostic laboratory;
- diagnostic rooms;
- maintenance department rooms.

District obstetrician-gynecologist's divisions

I. ***Pregnant women medical examination***

1. Timely registration of pregnant women (before 12 weeks).

Primary appeal:

1.1. general and specialized history;

1.2. general and specialized obstetrical examination;

1.3. examination;

1.4. registration of personal card of a pregnant woman (form №111/a);

1.5. referrals to specialists (therapeutist, dentist, ophthalmologist, otolaryngologist, an endocrinologist). In the presence of extragenital pathology — to the specialist in disease profile.

2. Systematic examination of pregnant women's levels of health, examination, identification of an obstetric risk group and perinatal pathology include:

2.1. secondary visit of the obstetrician-gynecologist of antenatal clinic in 7–10 days (to have the results of tests and specialists' conclusions);

2.2. solution of the inclusion of pregnant woman in a particular risk group;

2.3. individual plan of conducting a pregnant woman (with Rh-blood — examination of her husband, identification of antibody titer);

2.4. conversation;

2.5. transfer to easy work;

2.6. prevention with the folic acid in the dose of 400 mg for the first week of;

2.7. laboratory examinations.

Schedule of visits to the obstetrician-gynecologist in the normal course of pregnancy:

before 20 weeks	once a month (all in all 4–5 times)
20–30 weeks	once in 2 weeks (5 times)
30–36 weeks	once a in 10 days (4 times)
More than 36 weeks	Once in a week (6 times)
	All in all 20visits

The list of necessary examinations and activities at the visit of obstetrician-gynecologist:

- general urine analysis;
- extensive blood test (platelets) at 22 and 34–36 weeks of pregnancy;
- toxoplasmosis analysis at 20 weeks of pregnancy;
- examination with mirrors, taking swabs to determine the level of purity and flora (16–18, 28–30, 32–34, 36–37 weeks);
- RW examination, virus hepatitis, HIV (28–30, 35–36 weeks);
- re-examination at the therapeutist at 28 weeks;
- registration of maternity leave from the 30^{th} week once for 126 calendar days (for women who permanently or primarily live, work, serve, study in the radioactive contaminated zone from the 27^{th} week for 146 calendar days);
- psychoprophylactic preparation to delivery, classes at school for mothers, recommendations for wearing the bandage;
- referral to the hospital for delivery at 40–41 weeks of pregnancy.

3. Paper work for pregnant women.

4. Studying the working conditions of pregnant women.

5. Determination of delivery date and timely provision of maternity leave.

6. Providing of timely and qualified treatment.

II. ***Supervision, improvement of health and regenerative treatment of puerpera***

1. Visiting of puerperal the obstetrician-gynecologist after discharge from the hospital:

- Acquaintance with hospital information on the process of delivery and result of it (exchange card);
- Studying the complaints, the nature of lactation;
- measurement of blood pressure on both hands;
- examination and palpation of the breast;
- palpation of the abdomen;
- examination of external genitals and nature of the lochia;
- vaginal examination by indications;
- advice on hygiene, breasts care, regimen of work and rest, nutrition and hygienic gymnastics.

2. Examination in 6–8 weeks after:

- examination and palpation of the breast;
- examination of neck of uterus with mirrors, taking swabs for flora and colpocytology examinations;
- bimanual vaginal examination;
- recommendations for contraception;
- Removal from the regular medical check-up.

3. During the next 2 years examinations every 6 months:

- Breasts examination;
- Examination with mirrors;
- bimanual vaginal examination;
- bacterioscopic examination of smears from the urethra, cervix and vagina;
- colpocytology.

III. ***Gynecological care***

- active identification of gynecological patients;
- organization and providing examinations and treatment of women with gynecological diseases;
- timely hospitalization of women who need hospital treatment;
- working capacity expertise with gynecologic diseases;
- clinical examination of gynecological patients;
- family planning work.

Record and report documentary of the antenatal clinic.

Statistical card for the registration of the final (defied) diagnosis
Outpatient medical card
Control card of regular medical check-up
Record book of home delivery
Record book of the conclusions of the medical advisory commission
Record book of medical certificate
Record book of the doctor of the polyclinic (outpatient clinic, dispensary, antenatal clinic)
Record book of outpatient operations
Sanatorium-and-spa card
Medical certificate in connection with domestic trauma, surgery abortion
Individual card of a pregnant woman, puerpera
Exchange card
Medical card of abortion
Medical certificate
Report of health care organizations
Report on medical care for pregnant women, parturient woman and puerpera

5.4. Analysis of the antenatal clinic work (characteristics)

1. Staffing of antenatal clinic with obstetrician-gynecologists:

$$\frac{\text{the number of employed medical positions of obstetrician-gynecologist}}{\text{number of the serviced female population by the end of the year}} \times 10000$$

2. Supply of outpatient obstetric:

number of medical visits per year

the average number of served female population

3. Characteristis of district approach:

the number of medical visits of

obstetrician-gynecologist by women of a particular district × 100

the number of medical visits of obstetrician-gynecologist

by women of a served area of the antenatal clinic

4. Completeness of coverage of preventive examinations of women:

Number of actually examined women × 100

Number of women to be examined according to the plan

5. The structure of hospitalized according to the examination groups:

Number of people of a particular group of regular medical check-up × 100

Number of hospitalized (healthy and sick)

6. The composition of hospitalized according to the disease:

number of patients with a particular

disease, under regular medical check-up ×100

number of hospitalized

7. Completeness of coverage of patients under regular medical check-up (by separate disease):

Number of patients with a particular

pathology, under regular medical check-up × 100

number of patients which are registered with a particular pathology

8. Timely taking patients under regular medical check-up:

Number of patients taken under regular

medical check-up in a reporting year with firstly identified disease × 100

Number of patients with a particular disease firstly identified in a reporting year

In analyzing the gynecological morbidity with temporary disability incidence rates for all gynecological diseases and separate forms are calculated:

— in cases

Number of disabilities × 100

average number of working women during the reporting period

— in days

number of disability days × 100

average number of working women during the reporting period

— average duration of one case of disability:

number of disability days

number of disability cases

For the analysis of antenatal clinic work for pregnant women the following characteristics are calculated:

1. Timely admission of pregnant women under the supervision of antenatal clinic:

a) early admission

$$\frac{\text{the number of women admitted under supervision with a pregnancy term before 12 weeks}}{\text{the number of pregnant women admitted under the supervision during the reporting year}} \times 100$$

b) late admission

$$\frac{\text{the number of women admitted under the supervision with a pregnancy term 28 weeks and more}}{\text{the number of pregnant women admitted under the supervision during the reporting year}} \times 100$$

2. Completeness and timeliness of examination of pregnant women:

a) percentage of women examined by therapeutist:

$$\frac{\text{number of pregnant women examined by therapeust (of those registered at the beginning of the year and under the supervision in the reporting year)}}{\text{number of women who completed a pregnancy in the reporting year}} \times 100$$

b) percentage of women examined by therapeust with the pregnancy term before 12 weeks:

$$\frac{\text{number of women examined by therapeust with the pregnancy term before 12 weeks}}{\text{number of women who completed a pregnancy in the reporting year}} \times 100$$

c) percentage of pregnant prepared for delivery psychoprophylactically:

$$\frac{\text{the number of women who passed psychoprophylactic preparation for the number of women who delivered during the reporting year}}{} \times 100$$

d) percentage of pregnant women examined with ultrasound:

$$\frac{\text{number of examined pregnant women}}{\text{number of women who completed a pregnancy in the reporting year}} \times 100$$

e) percentage of pregnant women examined in Medicogenetic Centre:

$$\frac{\text{number of pregnant women examined in Medicogenetic Centre}}{\text{number of women who completed a pregnancy in the reporting year}} \times 100$$

3. The frequency of pathological conditions during pregnancy:

a) **the frequency of extragenital pathology:**

number of pregnant women with
extragenital diseases (of heart, kidneys, etc.) × 100
number of women who completed a pregnancy in the reporting year

b) mortality rate in the antenatal clinic during pregnancy, delivery and postpartum period (42 days after delivery) — **indicator of maternal mortality:**

number of women died during pregnancy,
delivery, postpartum period (42 after delivery) × 100 000
number of born alive

4. The results of pregnancy:

a) percentage of urgent (timely delivery):

number of women who delivered at term (timely) × 100
number of women who delivered in the reporting year

b) percentage of premature delivery:

number of women who delivered prematurely × 100
number of women who delivered in the reporting year

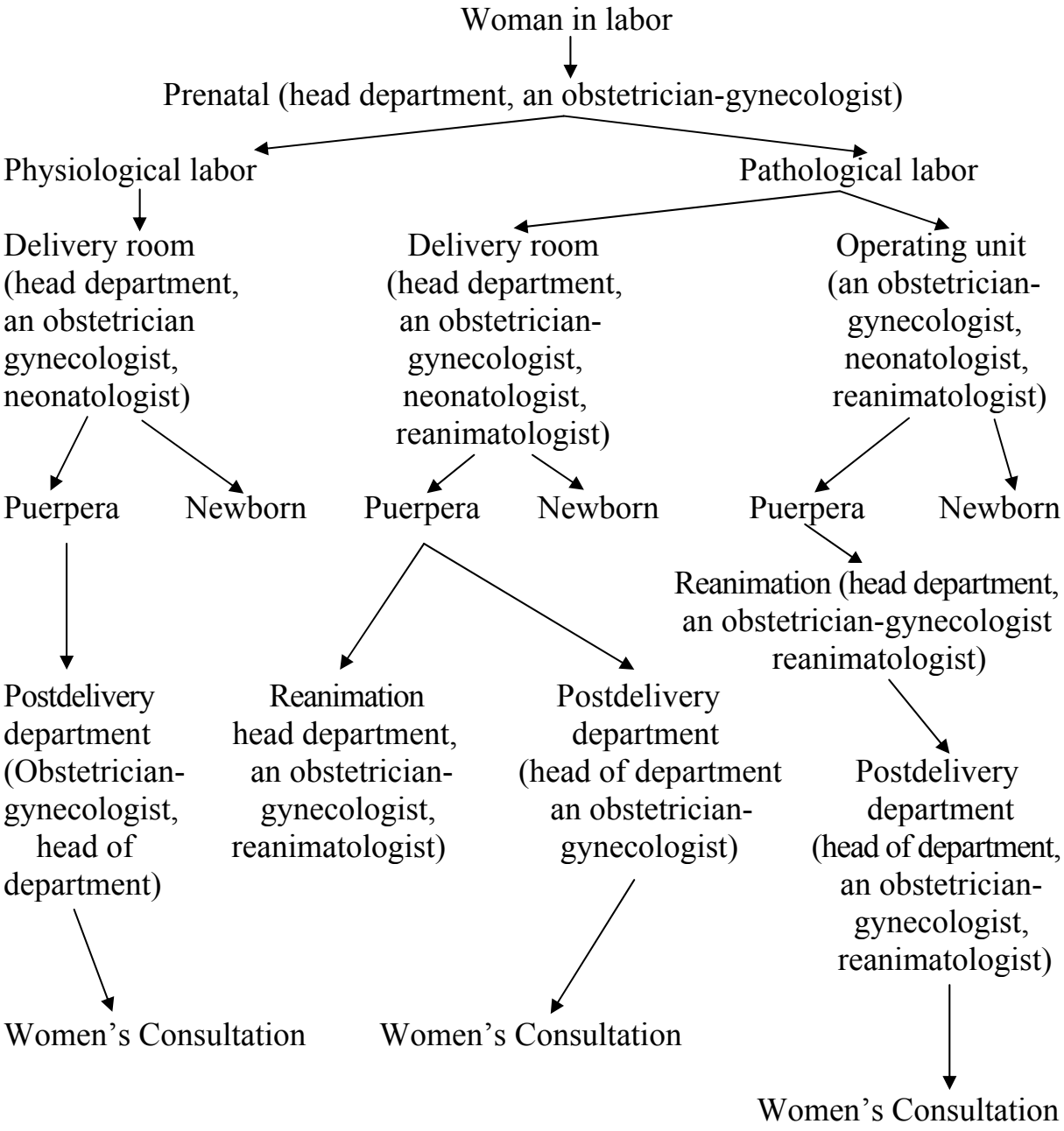
c) percentage of retarded birth:

number of women who delivered retardly × 100
number of women who delivered in the reporting year

d) the frequency of abortion:

number of abortions × 100
number of born alive and dead

5.5. Organization of hospital medical care in maternity health organization



5.6. Organization of maternity hospital work

On admission to the maternity hospital parturient woman or puerpera is sent to the receiving-observation unit to show a passport and the «exchange card».

The admission of women at the receiver and patients' examination unit is conducted by the doctor (in daytime by the department doctors and then by the doctors on duty) or an obstetrician who calls the doctor if necessary.

At the receiver and patients' examination unit it is reasonable to have one filter-room and 2 rooms for patients' examination.

One room for patients' examination is intended for the admission of women to the physiological obstetric department, another one to the observational department.

The doctor (or obstetrician) estimates general condition of the new patient studies the exchange card and finds out if she endured infectious, inflammatory disease before and during pregnancy, paying special attention to the diseases endured immediately before the admission to the maternity hospital. It turns out the presence of chronic inflammatory diseases, the duration of anhydrous interval.

As a result of capturing medical history, physical examination, studying the documentary of a woman in the filter-room it can be divided into 2 streams: with absolutely normal pregnancy are sent to the first obstetrical department and representing «epidemiological risk» to others are sent to the observational department.

In the rooms for patients' examination of physiological and observational departments physical examination of a women, her cleansing is provided, a set of sterile linen is given and urine and blood analysis is taken.

From the room for patients' examination accompanied by medical worker women proceeds to delivery unit or to department of pathology of pregnant women and, if indicated is transported on a trolley and accompanied by a doctor or an obstetrician.

In the prenatal ward woman spends the whole first period of delivery under the supervision of medical staff. At the end of the first period of delivery she is transferred to the maternity ward.

After delivery obstetrician shows the child mother paying attention to sex and the presence of congenital anomalies (if any). Obstetrician conducts secondary processing of umbilical cord, primary processing of cutaneous covering, weighing the child, length measurement of the body, chest and head. After diapering a child on his hands (over the blanket) bracelets are tied. Name, surname, patronymic, stories of delivery, the child's sex, weight, height, time and date of birth is mentioned on them.

Puerpera and newborn (if there's no contraindication) must remain in delivery unit under supervision up to 2 hours. In the normal course of postpartum women with a child is transferred to the postpartum unit on the trolley.

List of maternity hospital documentary.

The history of delivery
Exchange card maternity hospital, delivery unit of the hospital
The list of movement of patients and hospital bedspace
Statistical card of a discharged patient from hospital
The summary list of movement of patients and hospital bedspace within the hospital, unit or bed profile
Record book of surgeries in the hospital (separate for physiological and observational departments)
Refferal to pathologic and histologic investigation
Registration list of transfusion of transfusionable means
Record book of transfusion of transfusionable means
Record book of deliveries in the hospital (separate for physiological and observational departments)

Record book of accounting of procedures
Record book of X-ray studies
Temperature list
Registration book of medical certificates
Emergency notification about infectious disease, food, acute, occupational poisoning, unusual reaction on vaccination
History of development of newborn
Medical certificate of birth
Certificate of perinatal death
Regiastration book of analysis and results
Accounting book of admission of pregnant women, parturient women and puerperant (separate for physiological and observational departments
List the main indicators of the patient in resuscitation and intensive care unit

5.7. Analysis of the maternity hospital work

1. Hospital bed usage of the maternity hospital (department):
a) number of days of bed occupancy in a year:

$$\frac{\text{number of bed days actually spent by patient in hospital}}{\text{average annual number of beds}}$$

b) bed turnover (function):

$$\frac{\text{number of treated patients}}{\text{average annual number of beds}}$$

c) average stay a patient in hospital:

$$\frac{\text{number of bed days spent by patient}}{\text{number of treated patients}}$$

2. Complications during delivery:
a) frequency of bleeding:

$$\frac{\text{number of deliveries complicated by bleeding}}{\text{number of conducted deliveries}} \times 100$$

b) frequency of delivery traumatism:

$$\frac{\text{number of perineal ruptures (cervical rupture)}}{\text{number of conducted deliveries}} \times 100$$

$$\frac{\text{number of hysterorrhexis}}{\text{number of conducted deliveries}} \times 100$$

3. Operational benefits at deliveries:

$$\frac{\text{number of caesarean sections in the reporting year}}{\text{number of conducted deliveries}} \times 100$$

4. Postpartum morbidity:
a) frequency of purulent and septic complication of puerperant:
number of puerperant with complications of postpartum
metroendometritis (mastitis and etc.) ×100
number of conducted deliveries in the reporting year

5. The maternal mortality rate
(except died in accidents):
Number of women who died of pregnancy complications,
delivery and postpartum period ×100000
number of born alive

6. Perinatal mortality:
Number of stillborn + number of died
Newborn at the age of 0–6 days ×1000
Number of born alive +dead

6.1. Neonatal mortality:
number children who died before the age of 0–27 days ×1000
number of children born alive

6.2. Early neonatal mortality:
number children who died before the age of 0–6 days ×1000
number of born alive

7. Newborn morbidity:
a) full-term newborns:
number of cases of diseases among full-term newborns ×1000
number of full-term newborns born alive
b) premature newborns:
number of cases of diseases among premature newborns ×1000
number of premature newborns born alive

6. STATE SANITARY-EPIDEMIOLOGICAL SERVICE IN THE REPUBLIC OF BELARUS

6.1. The sources of origin

The sources of origin of sanitary-epidemiological service come from the first half of XX century, when in January of 1919 sanitary-epidemiological department of people's commissariat of health service was organized. The bases of sanitary-epidemiological service were founded. On the 29th October 1922 in

Gomel by the initiative of Konstantin Julianovich Kononovich, the leader of the deputy of the sanitary-epidemiological department of Gomel provincial department of health service the first in Belarus and the USSR sanitary-epidemiological station was created. In 1968 the Republic sanitary-epidemiological station was founded (currently it's Republican center of hygiene and epidemiology and public health). In the 90s sanitary-epidemiological stations were re-structured into the centers of hygiene and epidemiology (CHE). In 2005 the structure of CHE was optimized and unified at the separate levels. Some of district CHE were united with urban, the amount of zone CHE increased.

Sanitary-epidemiological service — these are special organs and institutions of the Ministry of health of the Republic of Belarus, activities of which is aimed at carrying out the functions of the state administrative sanitary supervision.

Sanitary-epidemiological wellbeing of the population — is the level of health of the population, when unfavorable influence of the environment on the human body is absent and favorable life conditions for people's life activities are created.

6.2. The main tasks of state sanitary-epidemiological service

1. The implementation of the state sanitary supervision of sanitary-epidemiological inspection on following the sanitary regulations, rules and hygienic standards by ministries, establishments, organizations and other management subjects, public associations, public officers and citizens not regarding their subordination and the types of property, also the control of the organization and performance of the events on preventing sickness among the population by them.

2. Preparation and submitting offers to corresponding bodies on coordination of efforts when developing state, regional and local programs on performing sanitary laws, rules, providing sanitary-epidemiological wellbeing of the population.

3. Coordination of work and active cooperation with other departmental organizations and citizens in the field of health protection of population and environmental protection, prophylactic of sickness by prevention, detection and suppression of violations of sanitary laws and rules.

4. Performance of social-hygienic monitoring of the quality of the environment and the health level of population.

5. The analyses of statistics data, characterizing the health level of population and the environment.

6.3. Bodies and institutions, carrying out the state sanitary supervision

Bodies and institutions that are carrying out the state sanitary supervision are the state institution «Centre for hygiene and epidemiology» of Directorate of Affairs of the President of the Republic of Belarus, the Ministry of health Of the Republic of Belarus, the state institution «the Republican centre of hygiene, epi-

demiology and public health», the regional centers of hygiene, epidemiology and public health (6), Minsk city, district CHE in the city of Minsk (9), city (4), district in rural areas (95), zonal CHE (22), as well as the centres of preventive disinfection (4) and Minsk city of the centre of disinfection and sterilization.

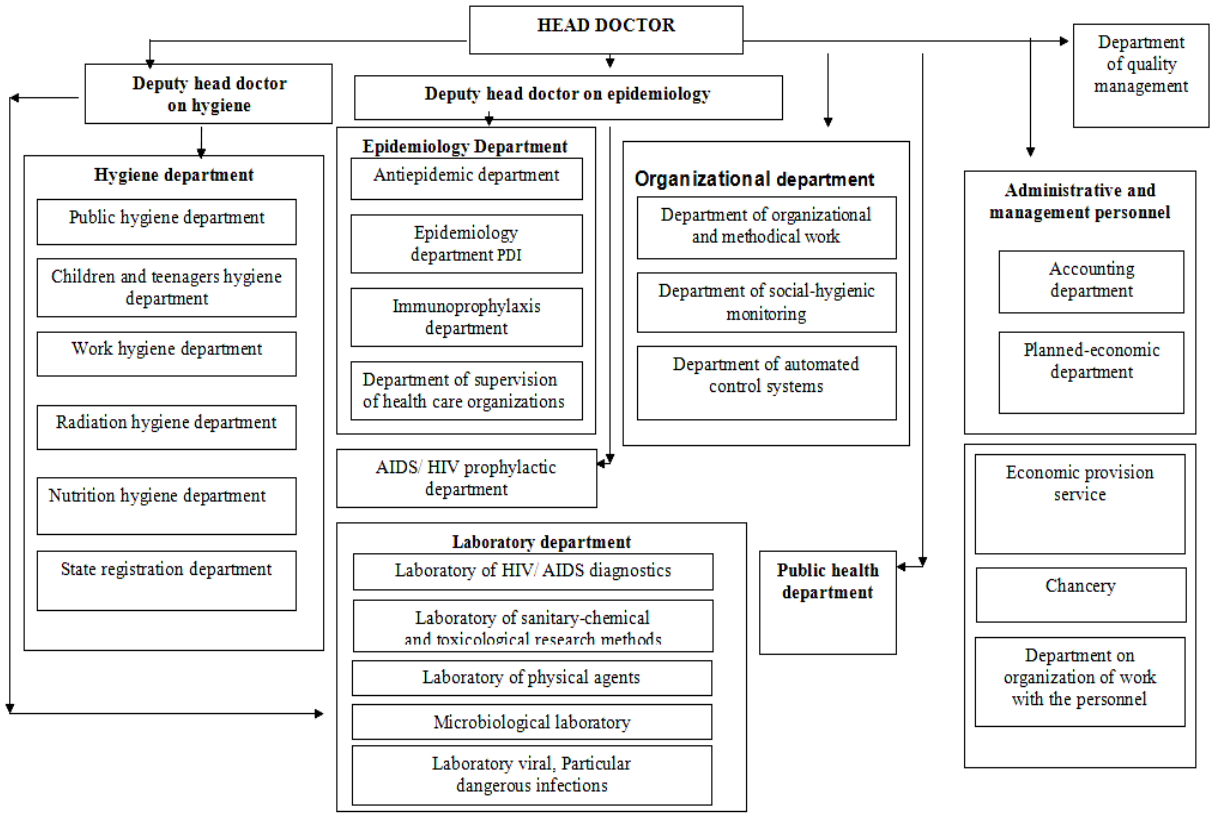
Construction of the sanitary service — in the administrative-territorial division. Zonal CHE are organized on the principle of the formation of zones of service, where there is a need for the centralization of laboratory works, attracting to the work of doctors zonal CHE in small territorial CHE.

The state sanitary supervision includes the holding of:

- state sanitary-and -hygienic examination;
- the state registration;
- the socio-hygienic monitoring;
- sanitary-anti-epidemic measures;

inspections of organizations and their separate units, with the account number of the payer, representative offices of foreign organizations-organisations, individual entrepreneurs, as well as physical persons carrying out private notarial, handicraft activities, activities in the sphere of agroecotourism, on the issues of compliance with the legislation in the field of sanitary-epidemiological welfare of the population.

6.4. The structure of center of hygiene and epidemiology and public health in region



6.5. Interaction of the center of hygiene epidemiology with medical prophylactic centers (mpc) and other organizations

CHE and PH control sanitary conditions, providing antiepidemic routine of work of every MPC (polyclinics, dispensaries, hospitals, MSP, outpatients clinics and etc). CHE and PH controls the performing of all the measures to detect infectious patients, their hospitalization, mass health examination, isolation, the completeness of prophylactic vaccination of population; it performs methodical management of the hospital and polyclinic personnel with the aim of providing opportune diagnostics of infectious people.

In every occasion of infectious disease, doctors send to CHE and PH immediate notice (form 058/y). CHE and PH makes epidemiologic examination of the nidus and organizes current and final disinfection.

In its antiepidemic activity doctors are related to infectious diseases room in polyclinics, which are organized in order to increase the quality of diagnostics and cure of infectious diseases, outpatient's follow up the reconvalescents and chronically ill patients.

6.6. The performance of social-hygienic monitoring

Social-hygienic monitoring — is a system of collection, analysis, assessment of the information on a condition of a life and health of the population depending on the quality of the human environment.

The aim of monitoring: to detect the levels of health risks and developing of the measures, directed at decrease, elimination and prevention of unhealthy impact of environmental factors on the health of population.

The tasks of social-hygienic monitoring*:*

- the organization of observation of the health level of population and the environment and the conditions of their life activities;
- receiving the necessary information to realize the aim of monitoring;
- identification of factors, having unhealthy influence on a human;
- forecasting the health level of population;
- explanation, developing and organization of the performance of programs on providing sanitary-epidemiological wellbeing and disease prophylactic;
- programmed and engineering technical support of monitoring;
- informing state bodies, juridical bodies and citizens about the results received during the monitoring;
- introducing of special data bases about the health level of population and their environment.

General scheme of performance of monitoring includes:

1. informative support of the monitoring system;
2. analyses and estimation of received information;
3. preparation of suggestions to make decisions, directed at providing sanitary-epidemiological wellbeing of population.

In the system of monitoring the following information is traced and analyzed:

- on the health level of population: sickness rate, physical development, disability;
- on demographic processes;
- on the conditions of children's, teenagers' and young people's upbringing and education;
- on the work conditions;
- on food products structure, the quality and safety of food raw materials and food products for life and man's health;
- on the level of hygiene upbringing and education of population;
- on the levels of atmospheric air pollution;
- on the quality of drinking water, the conditions of the sources of drinking water supply, water objects in the places of wateruse;
- on the conditions of lands;
- on the sources of bad physical influences (noise, vibration, ultrasound, electromagnetic waves and etc);
- on the sources of unhealthy impact on the environment, including impact on atmospheric air, surface and groundwater, land;
- on radiation situation;
- on social-economic rate of the development of the Republic of Belarus in general and of its political units.

6.7. The oranization of work of the specialists forming healthy lifestyle

The historical types of the establishments of the service of forming healthy lifestyle (SFHL):

1. Health education centers.
2. Health centers.
3. Centers of hygiene epidemiology and public health.

In 1918–1920 sanitary education in Belarus was developing in the conditions of civil war, devastation, hunger and high epidemiologic sickness rate.

The big step in organizational grounds of health education was the creation of Health education centers (HEC). The fist such center in our Republic was Gomel urban HEC named after N.I. Pirogov, opened in 1920. In 1921 Vitebsk HEC was opened named after N.A. Semashko and Minsk HCE. In 1949 HCE were opened in Brest and Grodno.

In 1989 to coordinate all the activity of different bodies, establishments and public organizations on hygienic education and upbringing of population, health education service was reorganized in the service of healthy lifestyle formation and health education centers were reorganized in Health centers (HC). Nowadays the departments of public health are structural subdivisions of centers of hygiene epidemiology and public health (CHE and PH).

The main tasks of the department:

1. To increase the level of hygienic culture and medical-social activity of population by the methods and means of hygienic education and upbringing.

2. To take part in developing the strategy and defining main directions of activity on formation of healthy lifestyle and prophylactic of the diseases.

The main directions of the activity:

- the development and realization of educational and prophylactic programs;
- leading a course of healthy lifestyle;
- work within long lasting aimed programs;
- organization and performance of prophylactic consulting on all the questions about health and prophylactic of the diseases;
- performance of sociologic researches;
- organizational work on performing state programs, directed at forming healthy lifestyle;
- providing practical, consulting and methodical help to health care establishments;
- providing medical and social help;
- organization and providing psychological trainings;
- organization and proving open information days, United health days, health actions;
- organization of function of health schools;
- individual consulting of population about health protection, prophylaxis of the diseases, forming hygienic skills;
- information support via mass media on health and healthy lifestyle;
- publishing activity and other.

Staff of the department:

- valeologist;
- valeoloist's assistant (tutor);
- psycologist;
- sociologist;
- editor.

6.8. Methods, ways and types of hygienic education and upbringing

The methods of hygienic upbringing:

1. Informational-receptive.

Is to tell students ready information, who learn it by conscious upbringing and memorizing.

2. Reproductive.

Is to organize presentation of possessed knowledge by the students.

3. Method of basic explanation.

Is when the specialist puts up scientific cognitive and practical tasks for student and make student try to find a solution to them.

4. Heuristic.

Is for the student to explain the logic of the process when trying to solve put up tasks and also to organize the solutions to the tasks by students themselves.

Means o hygienic upbringing:

- voice (oral) — speech on the radio, TV, phone, on the record and etc.;
- written (printed, handwritten or typed text materials) — leaflet, pamphlet, memo, recipe, automatic info service, electronic info service («Creeping line»);
- graphic — based on image, imaginary perception of things, processes, connected with health — poster, photo, card file, slide, slide film, application, a picture to paint, small size means (stickers, calendars, bookmarks, tissues);
- voice-graphic — a combination of voice means to give information about health with picturing things, processes of the same information — theatre, cinema, TV;
- actions, as means of hygienic upbringing. This is a complex of practical methods, connected to health (physical exercise, self-training, methods of taking care after the sick, making the first aid and etc);
- subject means — these are real (natural) subjects, which are related to health — things to take care after the sick, dishes, skin conditioners, conditioners of oral cavity and etc.

The types of hygienic upbringing:

- ***individual*** — individual conversation, consultation, instructing, phone consultation, private mail;
- ***group*** — communication of the specialist with the group. Graphic means, printed editions, computer technology, talk, round table group talk, discussion, health clubs, demonstration of video recordings, game, practical lesson, lesson on health protection, a course on hygiene are added;
- ***mass types*** — giving information to a big amount of people at once — lecture, forum, radio program, TV program, demonstrating of video films, theatrical performances, actions, health days, open information days.

7. TASKS FOR STUDENTS' SELF WORK

7.1. Topic: «Municipal polyclinic»

Task 1. There are 1 710 people in the served therapeutic district. During the reporting year 1 630 cases of diseases were registered totally, including 820 newly diagnosed diseases. At the end of reporting year there are 290 people registered in the dispensary, including 130 newly diagnosed patients.

Calculate rates of general and preliminary sickness rate, opportuneness of registering the sick in the dispensary.

Task 2. Among 53 000 of adult population, served by urban polyclinic, there are registered 5 386 arterial hypertension diseases, including 1 529 newly diagnosed diseases by the end of reporting year. This number of newly diagnosed includes 1 480 people registered in dispensary.

Define rates of general and preliminary arterial hypertension sickness rate, opportuneness of registering the sick in the dispensary.

Task 3. Population size of people of capable age is 65 000. During the reporting year there are 360 newly diagnosed disable people, including 25–I disability group, 250–II disability group, 85–III disability group. 3820 disabled were re-examined in medical rehabilitation expert committee, 3490 saved their disability.

Calculate rates of preliminary disability and full rehabilitation during the reporting year and also the structure of the newly diagnosed disable people.

Task 4. Population size of citizens was 492 100 people during the reporting year. During the reporting year there were paid 5 148 500 visits in polyclinic and at home.

Define:

1) the number of visits for 1 person;

2) actual number of visits for 1000 citizens.

Task 5. Population size of citizens was 492 100 people during the reporting year. During the reporting year there were paid 4 626 500 visits in polyclinic and 522 000 at home. From the whole number of visits 1 980 000 were paid with prophylactic motive.

Calculate the following rates for the reporting year:

1) the number of visits for 1 person;

2) relative density of home-visits;

3) relative density of prophylactic visits to polyclinic.

Task 6. During the reporting year 16 400 people in the polyclinic were to have prophylactic examination, the number of attached citizens to the polyclinic is 36 000. 15 200 were examined. In the result of examination 650 people were newly diagnosed, including 180 people registered in dispensary.

It's necessary to calculate:

1) completeness of coverage of medical examinations;

2) frequency rate of newly diagnosed diseases while medical examination;

3) opportuneness of registering the sick in the dispensary.

7.2. Topic: «Hospital»

Task 1. To the regional hospital in the current year came 4 536 patients. To the surgical department of them — 1 930 patients, to the cardiology — 1 658, to the gynaecological department — 948 patients. The average annual population of the city in the current year made 52 000.

It is necessary to calculate the hospitalization rate and structure of the hospitalized patients for separate classes of diseases.

Task 2. In the hospital during the current year there were 105 annual beds, there was discharged from hospital 3 450 patients, there was died — 64, by the patients there was spent in the hospital 31 395 bed-days. It is necessary to calculate the average annual bed occupation and hospital lethality rate for the current year.

Task 3. During the current year in the surgical department with 60 hospital beds there was treated 2 450 patients, 2 410 of them was discharged and 40 died, there was spent by the patients 18 900 bed-days. During the same period there was performed 1 900 operations, after which died 32 patients, and at 63 patients there were observed postoperative complications. To calculate and estimate the indices: the average annual bed occupation rate, the average duration of patient's stay in the department, the bed turnover, lethality and frequency of postoperative complications in the hospital surgical department.

Task 4. During the year in the hospital therapeutic department were treated 415 patients came in a state of different severity degree:

Severity of the state	The number of patients	Died from them
Very serious	190	25
Serious	110	15
Moderate	90	8
Mild	25	-
Total	415	48

It is required to determine the lethality, the structure of the treated and died on the severity of the state.

Task 5. The average annual number of beds in the hospital — 550, from them there are 350 beds of therapeutic specialization, and 200 beds — of surgical specialization. During the year there came 9 800 patients, there were discharged 9 760, there were died 40. The patients spent at the hospital 161 200 bed-days. From the total number of came to hospital there were hospitalized to the cardiology department 1 520 patients, to therapeutic department — 2 800, to the neurological department — 980, to the surgical department — 2 600, to the maternity department — 1 900 women in childbirth. To calculate and estimate the indices of hospital activity (the average bed occupation rate, the average duration of the patient's stay in the department, the bed turnover, the hospital lethality, the structure of hospitalized patients).

Task 6. On the average annual 420 beds during the year there came 8 000 patients, from them of therapeutic section 5 300 persons and 2 700 of surgical section, there were discharged 7970, there were died 30. All patients who quitted the hospital spent 10 400 bed-days. To calculate and evaluate the indices of hospital activity (the average bed occupation rate, the average duration of the patient's stay in the department, the bed turnover, the hospital lethality).

Task 7. At the service area of the central district hospital reside 60 000 people. During the current year the hospital departments activity describe the next indices:

The department name	Received patients	Died patients
Therapeutic	14 700	41
Surgical	2 100	15
Infectious	1 720	3
Total	18 520	59

To determine the frequency of hospitalization in different departments, the hospital lethality on the departments, the structure of the hospitalized patients on the sections of departments. To draw conclusions.

Task 8. In the current year of the surgical department of the central regional hospital there were discharged 1 337 and died 10 patients, from them 750 patients were operated on, there were died 4 operated patients, 13 patients had complications after operation.

To determine the levels:

1) surgical activity;
2) lethality in the surgical department;
3) postoperative lethality;
4) the frequency of postoperative complications.

Task 9. In the neurosurgical department of city hospital during the current year there were functioned 60 average annual beds. During this period the department received 1 476 patients, there were discharged 1 472 patients, 4 patients died. Patients spent 19 239 bed-days. There were operated on 952 patients. To calculate and estimate (the average bed occupation rate, the average duration of the patient's stay in the department, the bed turnover, the hospital lethality, the surgical activity in the department).

Task 10. To the city hospital which has average annual 450 beds, in the current year there were hospitalized 10 930 patients, there were discharged 10 866 patients, there were died 64 patients, there were spent 137 520 bed-days. The average annual number of the city population in the current year was 62 000 people.

To identify and estimate:

1) the average number of bed occupation days per year;
2) the average duration of hospital stay;
3) the bed turnover;
4) the average downtime beds;
5) the hospital lethality;
6) the rate of hospitalization.

Task 11. In the therapeutic and prophylactic institutions of the Republic of Belarus at the end of 2006 there were 54 143 staff posts of doctors, from them there were employed 51 316. The number of doctors individuals was 41 043. The population of the Republic of Belarus at the end of 2006 was made 9 714 200 people.

To calculate the staffing, the doing 2 jobs at a time coefficient and the provision with doctors in the Republic of Belarus.

7.3. Topic: «Organization of emergency medical aid»

Task 1. In the city with population of 89 thousand 35 861 persons applied for medical aid at the EMA station during a year. 12 583 from them were by urgent calls, 2 632 were to be transported, and 20 646 were by emergency calls. The numbers of visits by emergency calls is — 14 321.

At EMA station during reporting year there were 129 organic assignments, occupied positions — 122, individuals — 92.

To count the level of appealability, the structure of appealability, completeness index, combined job index and opportuneness of visits.

Task 2. During the reporting year there were 112 123 calls to the central substation of Minsk. 4 613 from them were ineffective calls, 1 556 cases were refused, because of baselessness. The number of visits performed since the moment of call in less than 4 minutes was 20 306, after 15 minutes — 6 846.

At the substation during the reporting year there were 130 organic assignments, occupied positions — 123, individuals — 98.

To count specific density of ineffective visits, refusals in visits, opportuneness of visits, completeness index, combined job index.

Task 3. During the calendar year 36800 people appealed for medical aid at EMA station in Moldechno with population of 95 thousand. 12 583 of them were for urgent medical aid (accidents — 3701, sudden diseases and conditions — 8876, giving birth and pregnancy pathologies — 6); calls for transportation of sick people — 2 646, emergency medical aid — 20 632. The number of visits by special indications, performed in less than 4 minutes — 25 913.

At EMA station during the reporting year there were 129 organic assignments, occupied positions — 122, individuals — 92.

To count the level of appealability, the structure of appealability, completeness index, combined job index and opportuneness of visits.

Task 4. During the calendar year 38 800 people appealed for medical aid at EMA station in Lida with population of 99 thousand.

The amount of ineffective calls was 933, 6 cases were refused, because of baselessness. The number of visits by special indications, performed in less than 4 minutes — 25 913, after 15 minutes — 45 26.

At EMA station during the reporting year there were 129 organic assignments, occupied positions — 122, individuals — 92.

To count specific density of ineffective visits, refusals in visits, opportuneness of visits, completeness index, combined job index.

7.4. Topic: «Rendering of obstetric-gynecologic care for women»

Task 1. The antenatal clinic serves micro-district with the population of 50 thousand. Number of obstetrician-gynecologist is 12. Under their supervision there are 850 pregnant women among registered before 3 month of pregnancy

750 people, examined by therapeutist — 650 people. Number of visits of antenatal clinic by pregnant women is 12 500. In the current year 810 pregnancies ended with deliveries including mistakes in terms of 98 people, preterm deliveries of 32 people. Calculate all possible indicators.

Task 2. Calculate and evaluate the indicators of district and timeliness of pregnant women registration if it is known that during the year there were registered 350 pregnant women in antenatal clinic among which 240 women admitted under the supervision of before 12 weeks of pregnancy and 72 women — after 28 weeks of pregnancy. During the year, the district obstetrician-gynecologists held 8 600 appoinments among which 6 300 of appointments were made to the obstetrician-gynecologist of their district.

Task 3. In the district served by the antenatal clinic lives 50 thousand people. In 2004 there were registered 55 thousand of visits, admitted under the supervision 28000 of pregnant women (among the admitted were 1600 pregnant women with the term before 3 months, 80 people from 3 to 7 months). 1 900 of pregnant women delivered and made 21 000 visits during the reporting year. 57 women who delivered had a mistake in determination of term. 19 women who delivered had complication like bleeding. Evaluate indicators of antenatal clinic work.

Task 4. In a maternity hospital in 2004 were made 6 774 surgeries, including 101 surgeries upon female reproductive organs, 104 caesarean sections, 3 984 abortions, 2 endometrectomies. 6 536 of operated patients, among then 2 people died. Evaluate indicators of antenatal clinic work.

Task 5. 46 obstetrician-gynecologists work in the antenatal clinic. During the year they held 112 137 appointments, 547 people were served at home. 574 women are registered at regular medical examination by the end of the reporting year, all in all there are 1 528 gynecological diseases registered during the year among them 726 with the primary diagnosis. Evaluate indicators of antenatal clinic work.

8. TEST CONTROL

8.1. Topic: «Municipal polyclinic»

1. Outpatient' polyclinic institutions include:
Answer variants:
a) urban hospital;
b) urban polyclinic;
c) children's polyclinic;
d) maternity hospital.

2. A district doctor of the polyclinic is:
Answer variants:
a) general practice doctor;

b) physician;
c) cardiologist.

3. Principle of organization of work in urban polyclinic:
Answer variants:
a) district approach method;
b) shift-working arrangement;
c) public medical examination.

4. Tell the special features of organization of medicoprophylactic aid to citizens:
Answer variants:
a) district — territorial principle;
b) prophylactic orientation;
c) serving people in polyclinic and at home;
d) participating of population in health-improving programs.

5. The power of polyclinic is measured:
Answer variants:
a) by the numbers of visits in a shift;
b) by the population size of served people;
c) by the number of therapeutic districts.

6. The main subdivisions of urban polyclinic:
Answer variants:
a) special departments (rooms) and auxiliary diagnostic subdivisions;
b) reception;
c) hospital reception;
d) prophylactic department, medical rehabilitation department;
e) medical statistics and registry office.

7. Tasks of urban polyclinic:
Answer variants:
a) render qualified specialized medical aid;
b) medical and hygiene education of population;
c) providing case follow up after different contingent;
d) providing medical and social (medical expert) expertise.

8. The main tasks of reception:
Answer variants:
a) prerecord to the doctor and calling the doctor in;
b) emergency medical aid to population;
c) keeping and saving medical documentation;

d) the regulation of the flow of people applied to polyclinic;
e) reference and information support.

9. Prerecord to doctor in polyclinic is done by:

Answer variants:

a) giving out a letter;
b) self-registration;
c) record into patient's medical card.

10. Public medical examination is:

Answer variants:

a) principle of organization of work in polyclinic;
b) method of active case follow up;
c) maintaining the continuity between polyclinic and hospital.

11. Name patients' observation groups:

Answer variants:

a) healthy;
b) people having functional and some morphological deviations, lower resistance to diseases;
c) sick people with compensated, subcompensated and decompensated flow of disease;
d) disabled.

12. Prophylactic department of polyclinic includes:

Answer variants:

a) room for patients' examination;
b) anamnestic room;
c) developing of healthy lifestyle office;
d) fluorography room;
e) all listed-above.

13. Registration documents in polyclinic are:

Answer variants:

a) card of tests of patient's follow up;
b) medical outpatient' card;
c) registry of reception of pregnant women, parturient woman, puerperal;
d) list of patients' progress and of hospital stock;
e) register of visits;
f) book of records of calling the doctor in.

14. Emergency notice about an infectious disease (form 058/y) goes to:

Answer variants:

a) specialized dispensary;
b) regional hospital;
c) Center of hygiene and epidemiology and public health.

15. A Letter to a doctor serves to record the number of:
Answer variants:
a) diseases;
b) cases of polyclinic service;
c) visits.

16. Registry of diseases in polyclinic is performed on the basis of:
Answer variants:
a) statistics letter;
b) a letter to a doctor;
c) emergency notice;
d) statistic card of discharged patient from hospital.

17. The main reporting form of urban polyclinic is:
Possible answers:
a) the form of state statistics reporting 1-organization;
b) report on hospital activity (form № 14);
c) the form of state statistics reporting 1-sickness rate.

8.2. Topic: «Hospital»

1. The main functions of the hospital are:
Answer variants:
a) restorative;
b) training;
c) research;
d) prophylactic.

2. On the organizing system the hospital institutions differ:
Answer variants:
a) combined with the clinic;
b) not combined with a polyclinic;
c) combined with the Center of hygiene, epidemiology and public health.

3. The structural units of the city hospital are:
Answer variants:
a) the control;
b) the hospital;
c) the maintenance part.

4. The basic structural unit of a hospital is:
Answer variants:
a) the department;
b) staff lounge;
c) the ward.

5. The structure of the main department must include:

Answer variants:

a) wards for the sick;
b) procedural;
c) dining room;
d) doctor's lounge;
e) roentgenologic room.

6. The tasks of the attending medical station doctor of the municipal hospital:

Answer variants:

a) the doctor's round, the examination of patients;
b) the prescription of treatment and diagnostic study;
c) the control of the implementation of paramedical personnel of the made prescriptions;
d) the maintenance of medical documentation;
e) the determining of the cost of the in-patient treatment.

7. The primary hospital medical documents are:

Answer variants:

a) the registry of patients receiving and refusals in hospitalization;
b) the tally sheet of the patients motion and hospital stock;
c) the statistical coupon for the recording the final diagnoses;
d) the control card of check-up;
e) the statistical card of the patient quitted the hospital;
f) the medical history.

8. The main current documents reflecting the activity of medical institutions of various types are:

Answer variants:

a) «the report about the medical prophylactic organization activity», the form number 1;
b) the eventual result model;
c) the statistical coupon for recording of the final diagnoses.

9. The content of the eventual result model:

Answer variants:

a) the indices of effectiveness;
b) the indices of defects;
c) the forecast level (planned values);
d) the estimation scale in points.

10. The coefficient of the result achieving should be:

Answer variants:

a) 0,5 and below;
b) 0,2;
c) 1,0 and above.

8.3. Topic: «The organization of medical service for rural population»

1. The peculiarities of rendering medical help to rural population:
Answer variants:
a) Periodicity, field forms of work;
b) combining of medical and prophylactic and sanity and antiepidemic measures;
c) development of general practitioner practice;
d) development of in-patient department substituting technologies.

2. The organization of medical help for rural population is presented by:
Answer variants:
a) two stages;
b) three stages;
c) one stage.

3. Where is medical help for the rural population on the first stage?
Answer variants:
a) in rural local hospital;
b) in republic hospital;
c) in regional hospital.

4. Where is medical help for the rural population on the third stage?
Answer variants:
a) in rural local hospital;
b) in rural medical out-patient clinic;
c) in regional hospital.

5. The first-aid and obstetrical stations — is:
Answer variants:
a) outpatient and polyclinic agency;
b) central district hospital;
c) a territory with living population which is rendered by the doctors of its local medical organization.

6. Rural local hospital category I designed for:
Answer variants:
a) 50–75 beds;
b) 35–50 beds;
c) 75–100 beds;
d) 25–35 beds.

7. Rural local hospital category III designed for:
Answer variants:
a) 50–75 beds;
b) 30–35 beds;

c) 75–100 beds;
d) 25–30 beds.

8. Central district hospital category I designed for:
Answer variants:
a) 600–800 beds;
b) 400 – 600 beds;
c) 125 – 250 beds;
d) 250 – 400 beds.

9. Central district hospital category III designed for:
Answer variants:
a) 600–800 beds;
b) 400–600 beds;
c) 125–250 beds;
d) 250–400 beds.

10. Emergency aid in the rural area at first-aid and obstetrical station, rural local hospital, rural medical outpatient clinic units emergency aid is rendered by medical staff:
Answer variants:
a) all the time;
b) in the first 2 hours;
c) in the first 12 hours;

8.4. Topic: « State sanitary-epidemiological service in the republic of Belarus. Centre of hygiene, epidemiology and public health: structure, operation, maintenance work. Organization of specialists on healthy lifestyle»

1. State sanitary-epidemiological service is:
Answer variants:
a) departmental team, leading the work on formation of a healthy way of life of the population
b) authority, the activities of which is aimed at the provision of sanitary-epidemiological wellbeing of the population;
c) special organs and institutions of the Ministry of health of the Republic of Belarus, activities of which is aimed at carrying out the functions of the state administrative sanitary supervision;

2. Sanitary — epidemiological wellbeing of population is:
Answer variants:
a) the level of health of the population, when unfavorable influence of the environment on the human body is absent and favorable life conditions for people's life activities are created;

b) the process of interconnection between life conditions and personality measures;

c) introduction of prophylactic medicine into practical activity of health care.

3. Which departments are in Regional CHE and PH:

Answer variants:

a) statistics department, department ООИ; administrative and management personnel;

b) public health department, hygiene department, epidemiology department, laboratory department, HIV/AIDS prophylactic department, organizational department;

c) epidemiology department, statistics department, department ООИ; administrative and management personnel

4. Which department reports to assistant Head doctor of epidemiology:

Answer variants:

a) antiepidemiologic;

b) communal hygiene department;

c) PDI epidemiological department;

d) radiation hygiene department;

e) immunoprophylaxis department.

5. Social-hygienic monitoring is:

Answer variants:

a) a system of collection, analysis, assessment of the information on a condition of a life and health of the population depending on the quality of the human environment;

b) increasing the level of hygienic culture;

c) detecting of environmental factors with unhealthy influence on population and the conditions of life activities.

6. The main tasks of public health department are:

Answer variants:

a) system analyses of data;

b) defining new directions of activities on developing healthy lifestyle and prophylactic of diseases;

c) increasing the level of hygienic culture and medical and social activity of population and methods of hygienic education and upbringing;

d) estimation and forecasting of health level of population.

7. Main directions of activities of public health department are:

Answer variants:

a) organization and performance of prophylactic consulting on health and prophylactic of diseases;

b) organization and performance of open information days, united health days, health actions;

c) organization of work of health schools.

8. Staff specialists of public health department are:

Answer variants:

a) valeologist, valeologist's assistant, psychologist, sociologist, editor;

b) valeologist's assistant, psychologist, sociologist, dietician, pediatrician;

c) psychologist, sociologist, dietician, pediatrician.

9. Main methods of hygienic education are:

Answer variants:

a) informational-receptive, statistical, heuristic;

b) informational-receptive, reproductive, method of basic explanation, heuristic;

c) reproductive, method of basic explanation, heuristic.

10. Means of hygienic education are:

Answer variants:

a) voice, written, graphic, subject means, graphic-voice, actions, as means of hygienic education;

b) written;

c) graphic-voice.

Supplement 1

«Municipal polyclinic»

1. Primary sickness rate **=** the number of newly registered diseases in current calendar year / average annual population size × 100 000.

2. General sickness rate **=** the number of all primary applications on the diseases (newly diagnosed diseases in current year and which existed before) / average annual population size × 100 000.

3. ***Opportuneness in registering sick people in polyclinic*** **=** number of sick registered in medical prophylactic list within / the number of newly diagnosed people × 100.

4. ***Percent of disabled people among the population*** **=** the number of disabled , registered in dispensary for the beginning of the year / population size for the beginning of the year × 100.

5. Primary disability rate of population **=** the number of newly diagnosed disabled of a certain age / average annual population od the same age × 10000.

6. Structure of primary disability **=** the number of newly diagnosed people in the result of certain nosological form of the disease / the number of newly diagnosed people in the result of all nosological forms of diseases × 100.

7. Full recovery rate of the disabled people **=** the number of people whose disability was removed / the number of re-examined people × 100.

8. The number of visits for one citizen = the number of outpatient polyclinic visits during a year / average annual population size.

9. Relative density of home-visits = the number of doctor's visits to patients' home / general number of visits × 100.

10. Relative density of prophylactic visits to polyclinic **=** the number of prophylactic visits / general number of visits × 100.

11. **Completeness coverage with public medical prophylactic examination** = number of actually examined people / the number of people who have to do planned examination × 100.

12. The frequency of revealed diseases = the number of diseases, revealed as the result of examination / the number of examined people × 100.

Supplement 2

«Hospital»

1. Hospitalization rate of the population:
All patients' received × 1000
Average annual population size

2. The average duration of the patient's stay:
The number bed-days spent by patients
The number of the treated patients
The number of patients treated = (discharged + died)

3. The turnover of the bed:
The number of treated patients
The average annual number of hospital beds

4. Hospital lethality:
The number of patients who died in the hospital × 100 %
The number of patients treated

5. The postoperative lethality:
The number of patients who died after operations × 100
The number of operated patients

6. The frequency of postoperative complications:
The number of operations at which there were observed complications × 100
The total number of operations

7. The surgical activity:
The number of operated patients in the department
from among the quitted (discharged+ died) × 100
number of treated patients

8. The staffing of medical posts:
The number of occupied posts of doctors × 100
The number of staff doctors posts

9. The coefficient of doing 2 jobs at a time doctors:
The number of occupied posts of doctors × 100
The number of individuals of doctors

10. The provision of the population with doctors:
The number of doctors × 10 000
The population size

LITERATURE

The basic literature

1. *Вальчук, Э. А.* Основы организационно-методической работы и статистического анализа в учреждениях здравоохранения / Э. А. Вальчук, Н. И. Гулицкая, Ф. П. Царук. — Минск: БЕЛМАПО, 2003.

2. Анализ медицинских данных государственного статистического наблюдения / В. М.Дорофеев [и др.]. — 2-е изд. доп. и испр. — СПб.: Медицинская пресса, 2003. — 176 с.

3. Общественное здоровье и здравоохранение / под ред. В. А. Миняева, Н. И. Вишнякова. — М., 2003. — 520 с.

4. Примерная организационная структура городской амбулаторно-поликлинической организации. Методические рекомендации / А. К. Цыбин [и др.]. — Минск: БЕЛЦМТ, 2004. — 223 с.

5. Порядок и показания к госпитализации в дневные стационары амбулаторно-поликлинических организаций здравоохранения (инструкция по применению) / А. К. Цыбин [и др.]. — Минск: МЗ РБ, БЕЛЦМТ, 2003.

6. *Лисицын, Ю. П.* Общественное здоровье и здравоохранение: учебник / Ю. П. Лисицын. — М.: ГЭОТАР-Медиа, 2010. — 507 с.

Additional literature

1. Методика определения функции врачебной должности. Утверждена Министром здравоохранения Республики Беларусь 13.12.2007.

2. О внесении дополнений и изменений в постановление Совета Министров Республики Беларусь от 30 мая 2003 года № 724 «О мерах по внедрению системы государственных социальных стандартов по обслуживанию населения республики»: постановление Совета Министров Республики Беларусь, 23.02.2011 № 227.

3. О среднереспубликанских нормативах объемов медицинской помощи, предоставляемой гражданам государственными организациями здравоохранения системы Министерства здравоохранения Республики Беларусь за счет средств бюджета на 2007 год: приказ Министра здравоохранения Республики Беларусь, 11.01.2007 № 15.

4. Об организации диспансерного наблюдения взрослого населения Республики Беларусь: постановление Министерства здравоохранения Республики Беларусь, 12.10.2007 № 92.

5. Постановление Министерства здравоохранения Республики

6. Беларусь № 110 от 12 октября 2009 г. «Об утверждении Инструкции о порядке организации деятельности службы скорой (неотложной) медицинской помощи».

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Соболева Людмила Григорьевна
Шаршакова Тамара Михайловна
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И ЗДРАВООХРАНЕНИЕ
(на английском языке)**

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