Topic: **Public health economy. Methodology for calculating economic efficiency**

**Exercise 1**

Task 1.

Determine the total cost of medical care for 100 patients with coronary heart disease, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 300

to doctors specialists:

neurologist - 100

oculist - 58

Total visits - \_\_\_\_\_.

b) conducted research:

electrocardiogram - 100

total blood count - 100

total urine analysis - 100

Cholesterol - 100

Coagulogram - 100

Aminotransferases - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 205 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with coronary heart disease, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

**Task 2.**

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 2000 days, 2 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of coronary heart disease**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

**Task 3.**

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 876 400 rubles.
* in the third year – 763 250 rubles.

Make a written conclusion.

**Task 4.**

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 320000 rubl. |  |
| 3 year | 275310 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **Public health economy. Methodology for calculating economic efficiency**

**Exercise 2**

Task 1.

Determine the total cost of medical care for 100 patients with diabetes, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

endocrinologist - 900

neurologist - 150

ophthalmologist - 300

therapist - 50

surgeon - 50

Total visits - \_\_\_\_\_.

b) conducted research:

blood sugar - 900

urine sugar - 920

acetone in the urine - 100

glucosuric profile – 30

total blood count - 80

Aminotransferases - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 620 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1500 days, 2 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of diabetes**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 784 321 rubles.
* in the third year – 805 400 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 284310 rubl. |  |
| 3 year | 300820 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 3**

Task 1.

Determine the total cost of medical care for 100 patients with chronic pyelonephritis, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 300

to doctors specialists:

dentist - 100

nephrologist - 100

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 100

General urine analysis - 200

Urine analysis by Zimnitsky - 100

Blood urea - 200

Intravenous urography - 40

Ultrasound of the genitourinary system - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 220 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 300 days, 2 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of chronic pyelonephritis**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 724 300 rubles.
* in the third year – 698 250 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 280 420 rubl. |  |
| 3 year | 310 535 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 4**

Task 1.

Determine the total cost of medical care for 100 patients with chronic tonsillitis, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 100

to doctors specialists:

dentist - 100

otolaryngologist – 200

rheumatologist - 100

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 200

General urine analysis - 200

Electrocardiogram – 100

taking a smear for bacteriological seeding - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 250 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1000 days, 1 people out of 100 were first recognized as disabled group III.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of chronic tonsillitis**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 325 000 rubles.
* in the third year – 274 300 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 245 321 rubl. |  |
| 3 year | 198 429 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 5**

Task 1.

Determine the total cost of medical care for 100 patients with peptic ulcer of the duodenum, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 200

to doctors specialists:

dentist - 50

gastroenterologist – 50

surgeon - 50

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 100

General urine analysis - 100

the fecal occult blood test – 100

study of gastric juice – 50

fibrogastroscopy - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 190 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with peptic ulcer of the duodenum, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1000 days, 1 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of peptic ulcer of the duodenum**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 524 260 rubles.
* in the third year – 389 652 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 195 322 rubl. |  |
| 3 year | 170 684 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 6**

Task 1.

Determine the total cost of medical care for 100 patients with myocardial infarction, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 100

to doctors specialists:

ophthalmologist - 100

neuropathologist – 150

cardiologist - 200

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 100

General urine analysis - 100

Electrocardiogram – 300

ultrasound examination of the heart - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 650 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 3000 days, 5 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of myocardial infarction**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 1 547 135 rubles.
* in the third year – 1 045 620 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 384 372 rubl. |  |
| 3 year | 305 640 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 7**

Task 1.

Determine the total cost of medical care for 100 patients with asthma, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 250

to doctors specialists:

neurologist - 85

otolaryngologist – 100

pulmonologist - 100

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 150

General urine analysis - 150

Electrocardiogram – 80

biochemical blood test – 100

analysis of sputum – 250

chest radiography – 100

spirography - 85

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 700 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1400 days, 2 people out of 100 were first recognized as disabled group III.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of asthma**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 291 320 rubles.
* in the third year – 189 400 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 238 400 rubl. |  |
| 3 year | 204 382 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 8**

Task 1.

Determine the total cost of medical care for 100 patients with rheumatoid arthritis, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 800

to doctors specialists:

ophthalmologist - 100

otolaryngologist – 100

rheumatologist - 100

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 150

General urine analysis – 100

biochemical blood test – 150

Electrocardiogram – 80

radiography of the joints – 100

synovial fluid research - 80

radioisotope study of joints - 50

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 655 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1285 days, 3 people out of 100 were first recognized as disabled group III, 1 - as disabled group I.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of rheumatoid arthritis**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 637 420 rubles.
* in the third year – 564 302 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 291 300 rubl. |  |
| 3 year | 182 728 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 9**

Task 1.

Determine the total cost of medical care for 100 patients with chronic bronchitis, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 200

to doctors specialists:

pulmonologist - 200

otolaryngologist – 150

oncologist - 100

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 200

General urine analysis - 200

Electrocardiogram – 80

sputum analysis – 250

sputum analysis on the flora with definition of sensitivity to antibiotics – 250

chest radiography – 150

spirography - 200

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 350 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1300 days, 1 people out of 100 were first recognized as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of chronic bronchitis**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 424 674 rubles.
* in the third year – 282 341 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 221 304 rubl. |  |
| 3 year | 208 783 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 10**

Task 1.

Determine the total cost of medical care for 100 patients with chronic atrophic gastritis with secretory insufficiency, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 300

to doctors specialists:

dentist - 200

gastroenterologist – 150

oncologist - 45

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 200

General urine analysis - 150

the fecal occult blood test – 80

study of gastric juice – 150

fibrogastroscopy - 100

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 295 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with diabetes, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 900 days, 1 people out of 100 were first recognized as disabled group III.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of chronic atrophic gastritis with secretory insufficiency**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 375 200 rubles.
* in the third year – 225 301 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 158 371 rubl. |  |
| 3 year | 100 928 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 11**

Task 1.

Determine the total cost of medical care for 100 patients with hypertension 2 degrees, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 900

to doctors specialists:

neurologist - 100

ophthalmologist – 100

nephrologist - 55

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 100

General urine analysis - 150

Electrocardiogram – 250

zimnitsky urine test – 200

blood urea – 180

prothrombin – 150

ultrasound of the heart - 80

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 800 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with hypertension 2 degrees, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1900 days, 2 people out of 100 were first recognized as disabled group III, 2 people as disabled group II.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of hypertension 2 degrees**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 693 765 rubles.
* in the third year – 400 243 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 391 200 rubl. |  |
| 3 year | 298 875 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 12**

Task 1.

Determine the total cost of medical care for 100 patients with hypertension 1 degrees, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 850

to doctors specialists:

neurologist - 65

ophthalmologist – 100

nephrologist - 30

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 150

General urine analysis - 200

Electrocardiogram – 300

zimnitsky urine test – 200

blood urea – 150

prothrombin – 200

ultrasound of the heart - 50

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 500 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with hypertension 1 degrees, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 1880 days, 2 people out of 100 were first recognized as disabled group III.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of hypertension 1 degrees**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 775 300 rubles.
* in the third year – 582 235 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 289 365 rubl. |  |
| 3 year | 228 141 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.

Topic: **PUBLIC HEALTH ECONOMY. METHODOLOGY FOR CALCULATING ECONOMIC EFFICIENCY**

**Exercise 13**

Task 1.

Determine the total cost of medical care for 100 patients with chronic non-specific colitis, consisting under dispensary supervision for 3 years, if you know the amount of medical care provided to them in 1 year of dispensary supervision.

**Patient-polyclinic:**

a) is made public:

to the therapist - 200

to doctors specialists:

dentist -180

gastroenterologist – 200

proctologist – 50

oncologist - 50

Total visits - \_\_\_\_\_.

b) conducted research:

total blood count - 200

General urine analysis - 150

the fecal occult blood test – 100

the study of gastric juice – 150

sigmoidoscopy – 50

the study on a dysbacteriosis - 80

Total research \_\_\_\_\_\_\_.

**Stationary:** Patients of the study group spent 355 bed-days in the hospital.

The obtained data on the cost of each type of medical and preventive care provided should be entered in table 1 and the structure indicators should be calculated.

Table 1

**The cost of medical care for patients with chronic non-specific colitis, consisting under dispensary supervision**

|  |  |  |
| --- | --- | --- |
| The cost of outpatient care | The cost of inpatient treatment | The total cost of medical care |
| Abs. | % to the end | Abs. | % to the end | Abs. | % to the end |
|  |  |  |  |  |  |

Write the output.

Task 2.

Determine the total economic damage due to the incidence of the same group of patients, if it is known that in the first year of dispensary observation the number of days of temporary disability was 795 days, 1 people out of 100 were first recognized as disabled group III.

The obtained data should be entered in table 2 and the indicators of the structure of the total economic damage by types of costs and losses should be calculated.

Table 2

**General economic damage due to the incidence of chronic non-specific colitis**

|  |  |
| --- | --- |
| Total cost of medical care | Economic damage due to |
| With temporary disability | With disabilities | Total |
| Including the payment of benefits | Loss of value of undelivered products | Total | Including the payment of benefits | Loss of value of undelivered products | Total |
| abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end | abs. | % to the end |
|  |  |  |  |  |  |  |  |  |  |  |  |

Make a written conclusion.

Task 3.

Determine the amount of prevented economic damage for all 3 years of dispensary observation of this group of patients, if it is known that the total economic damage was:

* in the first year of dispensary observation - (*data of task 2*);
* in the second year – 178 900 rubles.
* in the third year – 89 731 rubles.

Make a written conclusion.

Task 4.

To determine the criterion of economic efficiency of dispensary monitoring of this group of patients, if the following data are known, presented in table 3.

Table 3

|  |  |  |  |
| --- | --- | --- | --- |
| Years of observation | Total cost of medical care (costs) | Prevented economic damage (received effect) | criterion of economic efficiency (ratio of costs and received effect) |
| 1 year | *data of task 1* |  |  |
| 2 year | 121 320 rubl. |  |
| 3 year | 97 812 rubl. |  |
| Total |  |  |

Make a written conclusion.

**Application.**

1. The cost of 1 medical visit to any doctor is on average 93 rubl. 39 kop. This price includes the costs associated with visiting patients at home.
2. The cost of 1 clinical diagnostic study, including physiotherapy, is 66 rubl. 42 kop.
3. The cost of staying for 1 day in a hospital is 314 rubl. 99 kop.
4. The amount of temporary disability benefit is 65 rubl. 84 kop.
5. The value of national income produced by one employee per year is 96 000 rubl.
6. The value of national income produced by one employee per day is 320 rubl.
7. The amount of pension for persons with disabilities is: for the second group – 19 800 rubl., for the third group – 14 600 rubl.