

FINANCING OF HOSPITAL CARE BEFORE INTRODUCTION OF UNIFIED NATIONAL SYSTEM OF HEALTH CARE IN 2010 IN THE REPUBLIC OF KAZAKHSTAN

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WHO Resolution (2005) called countries to develop their health financing systems to ensure that all people have access to needed services without the risk of financial loss associated with paying for medical care. The resolution defined as universal coverage: access to essential health services, protection against financial risk; accessibility for everyone.

All member countries of WHO should have a national mechanism to monitor and develop the quality of health care, including ways to measure the effectiveness of treatment, degree of satisfaction of patients' needs and cost effectiveness.

We investigated the characteristics of hospital financing in 2009 in the Republic of Kazakhstan to implement the country's single-payer system. In our view, the study has a practical and theoretical interest.

Materials and methods of study: Content-analysis of legislative base in health care, database of Medinform Ltd.

Results and discussion: A priority in public health, as recognized by the international community is a prevention of chronic diseases that constitute the global burden of diseases, premature death at the PHC level, but in spite of this, according to the WHO database "Health for All" in 2000, spending on hospital care in Kazakhstan was 53.6% of total health expenditure.

All these factors are characterized the previous system of funding that was not as effective and objective, showing the following main shortcomings:

- The inequality of citizens in securing the constitutional right to receive guaranteed free medical care;
- Lack of choice of medical services, free choice of doctor and medical organizations;
- Lack of motivation for open competition between suppliers;
- There is no mechanism for geographical distribution (alignment) of health care resources;
- Presence of shady payments;
- It creates the conditions for "Fly" national funds abroad;
- No focus on results.

Thus, identification of key features and shortcomings of financing system of hospital care in 2009 have led to uneven distribution of funds for the provision of hospital care in the regions. It was a manifestation of violation of constitutional rights of patients to the right to receive medical assistance under GVFMC.

POTENTIAL YEARS OF LIFE LOST POSSIBILITIES OF APPLICATION THE PYLL RATE IN OECD COUNTRIES

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Background - The potential years of life lost (PYLL) rate describes the number of potential years of life lost due to premature death in a population. From a social point of view, this is equal to loss of human capital.

Methods - The rate is calculated on the basis of the difference between the age at death and the expected length of life, and it is determined by the cause of death according to the ICD-10. The

method reviews the time of death in relation to pre-defined life expectancy. The rate is age-standardized and expressed as a sum of all deaths per 100,000 person-years.

Results - There were differences in the PYLL rates of all causes of death in the OECD countries compared. The differences between regions in Canada and Finland were as large as the differences between the selected OECD countries. Although the population of a Finnish municipality is often small, the PYLL rates mainly turned out to be statistically reliable according to the 95 % confidence intervals for all causes of death.

Conclusions - The PYLL rate provides comparable information about the wellbeing of a population concerning all death causes. It provides supplementary information for planning and decision-making for health policies.

Internationally, different parameters describing mortality are used as indicators of health and measures for wellbeing (1,2) of a population or its part. In total mortality, all death causes of the population are taken into account. Death due to different illnesses can be reviewed by disease-based death rates. The potential years of life lost rate is used for reviewing the time of death in relation to life expectancy (1,3) set for different causes of death. What is new compared to earlier research studying mortality is that the PYLL rate takes into account not only the number of the dead but also the age of each deceased individual at the time of death. The PYLL rate is one of the most used wellbeing parameters in the world. It is used, for example, by the World Bank, OECD, WHO and EU when evaluating the wellbeing development of the population in different countries. In Canada, potential years of life lost have been monitored for 30 years yearly in provinces, territories and counties. In Finland, potential years of life lost have not been monitored with this international method before the year 2003 by municipality, sub-region or health care region (4). So far, almost half of the municipalities have been analyzed.

In international comparison, or when describing development in a long period of time, mortality can often provide more reliable information with better coverage than other indicators describing the population's living conditions and health. Mortality rates are usually counted by age groups with five-year age ranges. The total mortality rate of the population is thus the weighed average of the mortality of different age groups. Mortality rates are used as a basis also when counting the average expected life years of the population. Internationally, the mortality statistics can be considered among the most comparable, although the procedures of registering and classifying mortality rates differ in different countries.

The PYLL rate is very sensitive for indicating death at early years. For instance, one individual who has died at the age of 40 will give the rate the same numerical value as ten individuals died at 76.

Originally the Potential years of life lost rate was used in epidemiology, but later it has been used as a method in national economy. By combining information acquired from the PYLL-rate with information provided by other indicators, the results of health policies, wellbeing strategy or other previous measures in national economy can be reviewed. With monitoring the potential years of life lost in a long period of time, conclusions can be made on whether the wellbeing of a population is developing into a good or a bad direction. The loss of wellbeing in total social costs can be counted on certain diseases (such as cardiovascular diseases and diabetes, alcohol-related diseases, cancers, suicides, accidents and poisonings) by proportioning the potential years of life lost to the per capita yearly gross national product. The indicator offers a possibility to set the necessary measures in promoting wellbeing in order of importance.

The aim of our research was to describe the premature loss of mental capital of the population measured by the potential years of life lost rate in different countries, and to compare the situation in Canada and Finland, in Finnish towns and municipalities and regionally by sub-regions concerning all causes of death.

Data and methods

In the data, the rate calculation is based on the basic cause of death in the statistics on causes of death, classified since 1998 using the international classification of diseases by the World Health

Organization, ICD-10 (5). Basic causes of death have been classified in 28 classes in the research data. Before the ICD-10 classification, several previous versions of disease classification have been used, so in order to make available registered information comparable, certain causes of death had to be relocated between these preventable 28 classes (6). The cause of death classification has been made on the basis of time series classification used in the statistics on causes of death. Time series classification could not be used in cause of death classes 6, 10, 11, 16, 22, but they have been formed separately using the ICD-codes of each time in question. Table 1 presents the causes of death used.

For comparing different countries in the research, the data used was country-based information on potential years of life lost published by the OECD (1). For comparing the situation in Finland and Canada, we used data of potential years of life lost provided by the Statistics Finland and Statistics Canada.

Calculating the potential years of life lost rate

A potential year of life lost means that an individual dies younger than what his/her life expectancy is. The calculation of the PYLL rate is based on the following pattern (3, 7):

Basic Formula

$$PYLL_{it} = \sum (1 - a) * (d_{at} / p_{at}) * (p_a / p_n) * 100000 ,$$

In the pattern, l represents the population's life expectancy, which is 70 years; dat is the number of deaths in a certain age group in each municipality (i) during each year (t), pat is the number of population in an age group in a certain municipality. Pa is the number of standard population in a certain age group (OECD 1980) and Pn is the total of standard population (0-69 years of age). The municipality-based potential years of life lost rate is calculated according to the tax municipality of the deceased, regardless of the place of death.

Age grouping is done by division in five-year groups as in OECD countries, so that those under the age of one and those from 1-4 form their own classes. Potential years of life lost are calculated in OECD as a one-year sum and in Canada as a three-year total per 100,000 person years (8). Because the populations of municipalities are small, potential years of life lost in Finland are calculated using a five-year cumulative monitoring period. These were calculated from three different periods (e.g. 1983–87, 1991–95, 2000–04) proportioned to 100,000 person years. When the yearly cause of death statistics are final, the five-year periods are always counted with the latest figures. The rate is age-standardized using the direct method (7). In order to clarify the statistical reliability of trends for each municipality in the period of 20 years, a 95 % confidence interval was calculated for the PYLL rate for each municipality. The difference between calculating the confidence intervals of PYLL rates and only mortality rates is that in the before-mentioned, the potential years of life lost must be taken into account for each deceased individual. In practice, the weights for each potential year of life lost and each death are the same.

The calculation of the PYLL rate variance is based on the following pattern (7, 9):

Variance formula

$$VARofPYLL = \sum ((C * C) * (N * P * Q)) ,$$

and based on this, the confidence intervals are calculated as follows:

Confidence interval formula

$$95 \% \text{ conf. of PYLL} = (PYLL) + / - (1.96 * \sum (\text{var}(PYLL)) ,$$

In the PYLL rate variance calculation pattern, C represents the potential years of life lost/death (In Finland, the middle of the 70-year age group), N represents the age group's person-years in the monitoring period, P is the mortality rate of the age group in the monitoring period (age group deaths/ N), and Q is $1-P$. The pattern will be calculated by age groups and the results will be added together.

Results

International comparison on all causes of death shows that there are big differences between countries in prematurely lost life years. The best wellbeing is found in Sweden and the poorest in

South Africa (**figure 1**). During the years 2009 –2010, calculations made in Kazakhstan showed that the PYLL rates for Kazakhstans were as large (12,000 – 13,000) as those of the Canadian aboriginal populations (Indians and Inuites). The wellbeing development has improved in the last ten years (**figure 2**). In the beginning of the monitoring period, the wellbeing situation in Canada was better than in Finland. Now the wellbeing of the population of Canada measured with this indicator is only slightly better than that of Finland. When comparing Canada's (10) British Columbia province and Finland's demographically similarized areas, it appeared that in both countries, the differences between municipalities within the PYLL rates were as big as the differences between countries presented in our comparison. Although the PYLL rate for the whole population of Canada was slightly better than the corresponding figure for the Finnish population (figure 2), due to the selection of towns and the time difference of available Canadian data for each town compared to the Finnish data, the PYLL rates for the populations of the selected Canadian towns were poorer than those of the corresponding Finnish populations.

In Finland, the PYLL rates per municipality vary a lot both between big towns and smaller localities and in provinces between different subregions. The sample results show that the situation of wellbeing in some municipalities has developed propitiously, whereas in others, the development has been the opposite. Different development between localities shows, for example, that a change in social structure and development affect different municipalities and areas in different ways, despite the fact that removing regional differences has been a central principle in social policy.

Even though in some cases, due to the small population of a municipality, the cause of death statistics are statistically unreliable based on a 95 % confidence interval, it has in practice turned out that in any case, it is possible to interpret causes of premature death. Because only half of our country's municipalities have been analyzed and no systematical research analyzing the reasons for differences between municipalities has thus been initiated, no specific municipality-based results are presented herein.

Discussion

The development of the population's wellbeing has traditionally been studied using mortality statistics. Cause-of-death data has been acquired from the statistics on causes of death. The classification of causes of death has changed from 1987 ICD-8 to Disease classification 1987 and 1996 ICD-10. There have also been changes in municipality classification. Due to the consolidation of municipalities, the monitoring of individual municipalities can not be considered consistent without knowing the structure of population of each municipality and how it develops during the monitoring period. Internationally, the mortality statistics can be considered among the most comparable ones, although the procedures of registering and classifying causes of death differ in different countries. The reliability of cause-of-death data depends on the information available for the physician in writing the death certificate, whether the death certificate form is filled correctly, and how correct the basic cause of death classification of the statistic is and what coding procedures prevail. Special attention must be paid to diabetes-originated deaths, which are mainly caused by vascular events. This is why it is important to further develop reporting in different diagnosis groups to better support decision-making.

The measuring method uses life expectancy in OECD countries (OECD countries 70 years, Canada 75 years). The method does not take into account exceeding the set life expectancy. The small size of our municipalities causes statistical restrictions to the generalization of the parameters. The PYLL rates on all death causes per municipality have appeared to be mainly reliable both statistically and qualitatively, when using cumulative monitoring time and when calculating 95 % confidence intervals for acquired rates. In addition, it is necessary to combine both the amounts of the deceased and the potential years of life lost for each deceased individual. The fact that the 95 % confidence intervals for the PYLL rates are smaller in Canadian localities than in Finland can be caused by two factors: Either it is because the life expectancy value for Canadian population is set to a higher value, or because the age of the Finnish deceased is clearly lower than that of the Canadians.

On premature deaths, it has become clear that in some of the municipalities defined by the rate as having a poor situation, men died approximately five years earlier than in good situation

municipalities, and in poor situation municipalities, women died as many as ten years earlier than in the good situation municipalities. When over 200 municipalities or towns have been analyzed and the results have been gone through with local experts and elected officials, it has occurred that in many municipalities, correcting the poor PYLL rates mainly requires measures outside health care. In some municipalities, increasing social and health care costs would probably not help reduce premature deaths remarkably. It has also occurred, that instead of traditional life-style related risks (smoking and nutritional factors) modern phenomena like loneliness and alcohol abuse cause premature deaths increasingly. Poorly working health care can seldom be proved to be the only reason for a large number of premature deaths. It still seems to be much more common that in some areas patients do not seek treatment or follow treatment instructions well enough.

Table 1 - Diagnostic groups used in the Potential years of life lost (PYLL) rate

№	Diagnostic groups	Classification of diseases
1.	All causes of death	A00–R99, V01–Y89
2.	Infectious & parasitic diseases	A00–B99, J65
3.	Human Immunodeficiency Virus (HIV) disease	B20–B24
4.	Malignant neoplasms	C00–C97
5.	Malignant neoplasms of colon, rectum, rectosigmoid junction and anus	C18–C21
6.	Malignant neoplasm of trachea, bronchus, lung	C33–C34
7.	Malignant neoplasm of the female breast	C50
8.	Endocrine, nutritional and metabolic diseases and immunity disorders	E00–E90
9.	Diabetes mellitus	E10–E14
10.	Diseases of blood & blood forming organs	D50–D89
11.	Mental and behavioral disorders	F00, F02, F04–F09, F11–F99
12.	Dementia, Alzheimer’s disease	F01, F03, G30, R54
13.	Diseases of nervous system and sense organs	G00–G29, G31.0–G31.1, G31.8–G62.0, G62.2–G72.0, G72.2–H95
14.	Diseases of circulatory system	I00–I42.5, I42.7–I99
15.	Ischaemic heart disease	I20–I25
16.	Acute myocardial infarction, subsequent myocardial infarction	I21, I22
17.	Cerebrovascular diseases	I60–I69
18.	Diseases of respiratory system	J00–J64, J66–J99
19.	Influenza and pneumonia	J10–J18, J84.9
20.	Bronchitis, asthma and emphysema	J40–J47
21.	Diseases of the digestive system	K00–K29.1, K29.3–K67, K71–K85, K86.1–K93
22.	Chronic liver disease and cirrhosis	K73, K74, K76
23.	Alcohol-related diseases and alcoholic myopathy	F10, G31.2, G40.51, G62.1
24.	External causes of injury and poisoning	V01–X44, X46–Y89
25.	Motor vehicle accidents	V01–X44, X46–Y89
26.	Other transport accidents	V01–X44, X46–Y89
27.	Accidental falls	W00–W19
28.	Suicide and self-inflicted injury	X60–X84, Y87.0

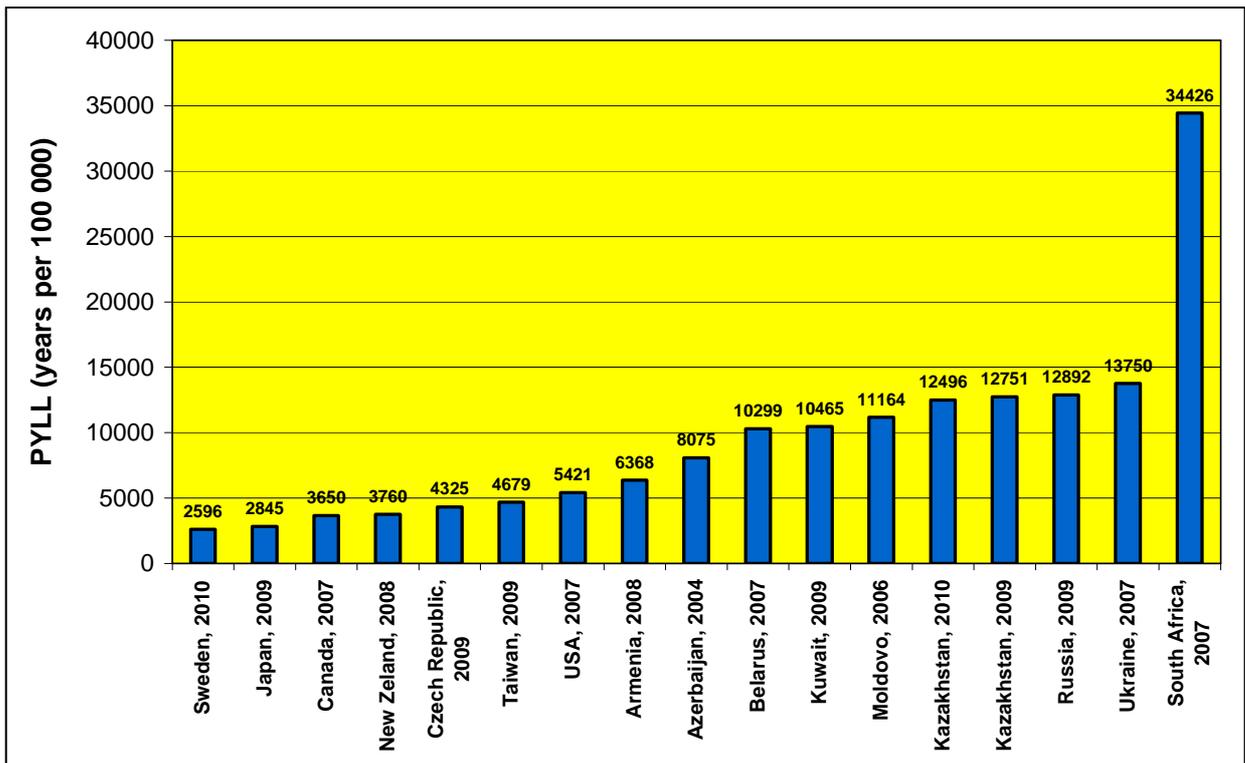


Figure 1 - Prematurely lost life years (PYLL) in international comparison by last available year

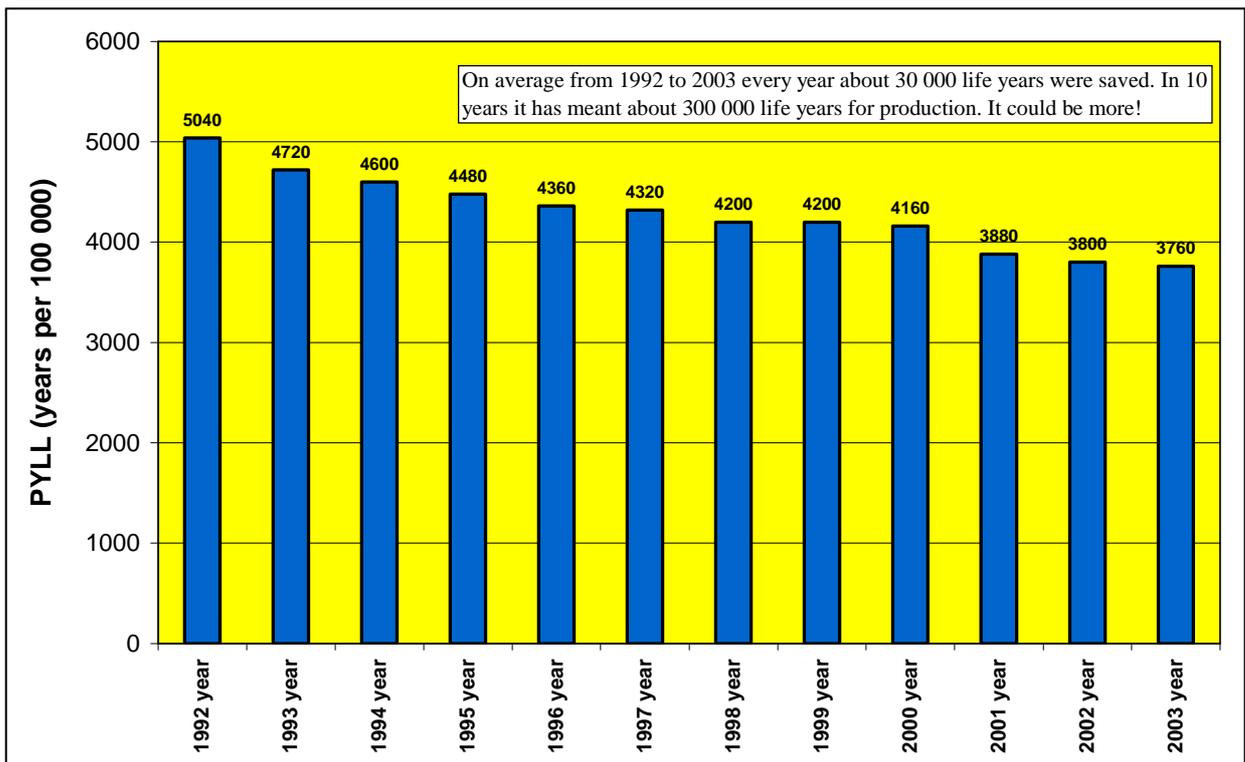


Figure 2 - Prematurely lost life years in Finland in 1992 - 2003

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METHODS OF ECONOMIC EVALUATION

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Introduction. Evaluation of health care programmes may be subdivided into evaluation of efficacy, effectiveness, efficiency and availability. The evaluation of efficiency is more commonly known as economic evaluation. Economic evaluation may be defined as “the comparative analysis of alternative courses of action in terms of both their costs and consequences” [1]. It is now a widely accepted tool for the appraisal of health care and this is reflected by the increasing number of research papers in this area in the medical literature. However, there remains, misunderstanding, particularly amongst clinicians, as to the purpose and ethics of this technique. Economic evaluation basically sets out to answer two main questions: first, is this health procedure worth doing compared with other things we could do with the same resources should be spent in this way, rather than in any way, rather than in any other way?

Economic evaluation in health care is most useful when certain other questions have already been answered and these include [1].

1. Can the health procedure/intervention work (the efficacy of the procedure)?
2. Does the procedure/intervention work (evaluation of effectiveness)?
3. Is it reaching those who need it (availability of the service)?

Economic evaluation is dependent on the quality of underlying medical evidence and, because of this, clinical trials are increasingly viewed as a natural vehicle for economic analysis [2] although some have argued against this on the grounds that care in clinical trials is so different to normal practice that the data cannot be extrapolated [3].

Why is Economic Evaluation Important?

As early as the seventeenth century, the British physician Richard Petty advocated greater social investment in medicine. This was based on his belief that the value of a saved human life far exceeded the cost [4]. Health care resources are limited by the total funds available, as well as through competition with other areas, such as housing and education. This raises the question of how to decide where the money should be allocated most appropriately. The establishment of a benchmark for an efficient level of health care provision is still to be found, and it must always be questioned whether the allocation of health care resources is efficient and equitable. It has been proposed that, faced with increased demands, but little increase in resources, the National Health Service has several options [5]:

1. to become more efficient so that more individuals can be treated with the same resources;

2. to extend means testing so that some people may be excluded from certain services due to their wealth;
3. to increase 'rationing' or to provide a smaller range of services.

The way forward remains unclear and allocation of health care resources is likely to remain a contentious issue.

However, there is no doubt that resources are scarce and choices have to be made regarding their use. The aim is to maximize health from available resources whilst paying due concern to issues of equity [6]. Allocation of funds is generally on two levels: planning and clinical [7]. For planning decisions, this involves deciding whether or not facilities should be provided at all and, if so, where they should be located. Clinical decisions are then made by practitioners on behalf of individual patients or groups of patients. Economic evaluation is important because without systematic analysis, it is not possible to identify the relevant alternatives. In addition, the assumed viewpoint is important. A programme that looks attractive from a patient's viewpoint may look decidedly unattractive from the government's budget. The use of beta-interferon in the treatment of multiple sclerosis is a good example of this. Forbes *et al.* (1999) found that the benefits of interferon beta-1b were very low relative to its cost and estimated that in order to treat sufficient patients to prevent one individual becoming wheelchair bound would cost over 1 million pounds.

It is difficult to determine who should be responsible for this 'rationing' of health care. Health care and government agencies must decide how to allocate their resources for a wide range of very different interventions. This involves making difficult value judgements regarding the importance of certain health states. A number of arguments have been proposed in terms of 'need' for and/or 'right' to health care and certain moral issues, as well as medical decisions, need to be considered. Some procedure, therefore, has to be established to allow the most appropriate allocation. This was the basis for the introduction of cost-utility analysis, which assigns a ratio of cost to benefit and promotes efficient use of resources in a manner that is considered consistent with justice. Data from such studies may be used to produce QALY (Quality Adjusted Life Years) 'league tables' in which interventions are ranked based on their cost per QALY. The suggestion then is that those procedures that produce the lowest cost per QALY (and, therefore, give better value for money) would appear to be most attractive for funding. However, their use must be treated with caution and they should not be used to replace

What Does Economic Evaluation Involve?

Economic evaluation deals with costs and benefits and only when this information is available can decisions be made regarding the combination of health care interventions which should be made available to maximize benefits from the available budget. The basics of economic evaluation involve identifying, measuring, valuing, and comparing the costs and benefits of alternatives being considered [1].

The measurement of costs is similar regardless of the type of analysis being undertaken. Resources consumed can be divided in a number of different ways. For example, Robinson (1993b) used the classification of direct (staff wages), indirect (for example, loss of income due to illness), and capital costs (investments in buildings), but costs may also be divided into those borne by the NHS (staff, hotel services, drugs), those borne by the patient and family (for example, travel), and costs to the rest of society (for example, health education).

The benefits of an intervention are usually health improvements, which can be measured in a number of ways including:

1. Health effects, for example, cases found, cases prevented, lives saved.
2. Economic benefits that can be measured in direct (savings in health care costs because the programme makes the person healthier), indirect (individuals are able to return to work), and intangible benefits (monetary value of the reduction in pain and suffering).
3. Value of the health improvement itself to the patient, family and society, regardless of the economic consequences.

However, the real cost of any health care intervention is the loss of health outcomes from other programmes that have been forfeited by putting the resources in question into the first programme, this is known as the ‘opportunity cost’[6]. Opportunity costs rest on the two principles of scarcity and choice. Scarcity means that societies do not have enough resources to meet all their citizens' desires. As a result of scarcity, choices have to be made as to which activities a society should undertake and which should not be undertaken. Opportunity cost is of major importance to the economist and the aim of economic evaluation of health care services is to ensure that the benefits of the programmes implemented are greater than the opportunity costs of such programmes.

Methods of Economic Evaluation

Drummond *et al.* (1987), Donaldson (1990), and Robinson (1993a–e) discussed four methods of economic evaluation:

1. cost-minimization;
2. cost-effectiveness;
3. cost-utility;
4. cost-benefit analyses.

Table 1 provides details of the four types of evaluation.

Cost-benefit and cost-utility analysis both address the issue of outcome valuation and, therefore, shed more light on whether certain treatments are worthwhile. In contrast, cost-minimization and cost-effectiveness assume that the intervention is worthwhile. However, as mentioned earlier, it is important to realize that none of these analyses can be used to replace sensible judgements, but may be used as an adjunct to decision-making. Care is also called for when studying papers that claim to use a certain analysis. Zarnke *et al.* (1997) studied papers that claimed to use cost-benefit analysis. Of 95 papers that met the inclusion criteria, only 30 (32 per cent) met the definition of a cost-benefit analysis and the majority of the remaining papers were cost comparisons. Interpreting cost comparisons as if they were true cost-benefit analyses makes communication between health care researchers and policy makers very difficult, and may have detrimental consequences when resources are allocated.

Table 1 *Types of economic evaluation*

Type of analysis	
Cost-minimization analysis (CMA)	<p>Used when the outcomes of two procedures being compared are proven to be the same (for example, day stay or overnight stay treatment for removal of impacted third molars)</p> <p>The aim is usually to find the lowest cost programme</p> <p>May be included as a form of cost-effectiveness analysis</p>
Cost-effectiveness analysis (CEA)	<p>The most widely used method of economic analysis until the 1980s</p> <p>Answers the question ‘Given that it has been decided that this type of health care will be provided, what is the best way of doing so?’</p> <p>Used when the programmes may have differential success in outcome, as well as differential costs. The outcomes vary but can be expressed in common natural units such as ‘life years gained’ or ‘blood pressure reduction’ and cost-effectiveness is normally expressed as cost per unit effect</p> <p>A useful technique for comparing alternative programmes whose effects are measured in the same units but cannot be used to assess an isolated single programme and it is not possible to compare interventions which have several types of clinical effects. It was this disadvantage that lead to the development of cost-utility analysis (CUA)</p>
Cost-utility	Should be the method of choice when quality of life is either an important

analysis (CUA)	<p>outcome or the important outcome</p> <p>The ideal method when the intervention affects morbidity and mortality or when treatments have a wide range of different outcomes and a common unit is required</p> <p>Said to lie somewhere between cost-benefit and cost-effectiveness analysis</p> <p>‘Utility’ is a term used by health economists to refer to the subjective level of well-being that people experience in different health states</p> <p>Utility-based measures are usually expressed in terms of quality adjusted life years (QALYs) which are weighted utility values. Information from QALYs, along with costs, can be used to guide resource allocation.</p>
Cost-benefit analysis (CBA)	<p>One of the most comprehensive methods of economic evaluation which is available</p> <p>If the outcomes of two health programmes differ (for example, comparing hypertension screening with flu vaccination) then a common denominator must be established to allow comparisons of outcome. Cost-benefit aims to do this, usually in terms of money.</p> <p>It can look at one health care programme in isolation, although the alternative of doing nothing or continuing current practice is always implied (Donaldson, 1990).</p> <p>May take one of two approaches: the human capital approach or individuals' observed/stated preferences</p>

Economic evaluation studies require critical appraisal in the same way as any other research paper and certain key questions must be asked. For example, are the study questions clear and relevant and are the conclusions appropriate? In addition, it must be asked whether the underlying epidemiological data is of sufficiently good quality, and whether the assumptions made in estimates of benefits and costs are appropriate? If there is doubt over these issues then sensitivity analyses must be undertaken as a way of dealing with unreliable or missing data [6]. A further issue that must be taken into account is the fact that not all costs and benefits occur at the same time, for example, costs of prevention are incurred early to produce benefits later. Most economists agree that costs (and benefits) occurring at different times should be weighted differently. Allowance needs to be made for the differential timing of costs and consequences, so-called ‘time preference’, and this is achieved by ‘discounting’[8].

Conclusions

The number of papers describing economic evaluation in dentistry is increasing rapidly and such data is likely to be required in the future when resource allocation is considered. It is therefore of great importance that clinicians understand the basics of these techniques if they are to play a part in the decision-making process. The application of the principles of economic evaluation are necessary to design health services that produce the best health care for the community based on available resources.

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HYGIENIC AND SANITARY CONDITIONS AS A QUALITY INDICATOR OF HEALTH CARE

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Among the guarantees of human health provided by the Code of the Republic of Kazakhstan dated 18.09.09, № 193-IV «The health of the people and the health care system," a right to receive qualitative health care was highlighted (Article 87, paragraph 4). In this connection it is of interest to analyze the concept of quality in general and the quality of care in particular, including the aspect of the problem we studied patients' satisfaction with hygiene and living conditions in medical organizations.

The concept of quality of medical care includes such features as: timeliness, use of diagnostic, medical and pharmaceutical resources, maintaining the technology, patient satisfaction using the resources and technologies. In this context, particular attention is paid to set this type of activity standards and requirements. However, not adequately reflected the relevant provision of the requirements of sanitary and living conditions in medical organizations (MO), addressing the geographical accessibility of health care.

In addition, the concept of "patient satisfaction" should be broadened to include the satisfaction by the conditions of health care provision, bearing in mind the satisfaction by the sanitary and living conditions of stay at the medical organization.

Assessing the role of factors affecting the quality of care, we surveyed health care workers who put on the first place an adequate remuneration of medical staff ($51,9 \pm 2,37\%$ of respondents), second place - the professionalism of medical staff and use of high-tech diagnostics ($49,2 \pm 2,87\%$ and $49,2 \pm 2,38\%$), the third - the control over the quality of care ($42,2 \pm 2,35\%$), the fourth - supply of drugs and condition of material and technical base of health care facilities ($42,2 \pm 2,35$, and $34,3 \pm 2,26\%$), at last –sanitary conditions of MO ($28 \pm 2,13\%$). Significant differences between urban and rural respondents in general was not revealed excluding assessment of significance of such factors as "quality control of medical services" and "material-technical base of the organization", where respondents indicated that these parameters in urban medical institutions were significantly higher than in rural areas.

We think that quality of medical care is a multisided concept, and conditions created for patients and population at MO is one of the crucial criterion.

That was confirmed by our findings. A correlation was found between a level of assessment of quality of care provided to patients and the overall comfort of medical organizations, as

measured on Cheddok's scale from mild to moderate, and in some regions and factors - from moderate to severe for values of «r», reaching from 0.3 to 0.5.

The highest value of «r», resulting in all regions studied together and was equal to 0.5, characterized the relationship between the assessment of quality of care and the general level of comfort in hospital. According to such factors as "accomplishments of medical organization" and "status of bathrooms", «r» = 0,3. The relationship between quality of care, on the one hand, the organization and the amount of food, on the other hand, expressed the value of «r» = 0,2.

At outpatient clinics the highest value of «r» = 0,3 as a whole for all regions characterized relationship between quality of care and the general level of comfort. Less significant («r» = 0,2) were such factors as: the conditions for personal hygiene at the medical organization, the sanitary condition of dressing rooms, state of artificial lighting, accomplishment of the medical organization, adherence to cleaning and disinfection in MO.

In the absence of clear and unambiguous definition of quality of care its elements should be clearly identified. Analysis of the problem and obtained results of the study demonstrated that they should include sanitation and living conditions, compliant regulations and provide comfort for patients. This is evidenced by the perception of features and quality of care, which can be traced in the assessment of moderate and severe dependence on these conditions.

In this regard, considering the depth the issue of quality of care, we have formulated and proposed the following definition: Quality of care - a multifaceted concept that includes the level corresponding to the modern development of medical science, diagnostic and treatment practices, and resource support provided to meet modern requirements of sanitary and hygiene and living conditions.

On this basis, we believe it is appropriate to use indicators of sanitary and living conditions in medical organizations, including those based on survey data of patients, including criteria for assessing the quality of care taken by the Committee of Control on health care provision. And in developing of the questionnaires it is reasonable to use experience of the work.

Besides, the requirement about following to sanitary and epidemiological rules and norms and to guarantee patients by required sanitary and living conditions it is appropriate to introduce it in the section "General Regulations" developed and approved by the standards of diagnosis and treatment.

EVALUATION OF BRONCHOPULMONARY FUNCTION IN WORKERS WHO WORK ON ORE REDUCTION AND DRESSING

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Background. Comprehensive study of labour activity of workers of the largest mining company - Sokolov-Sarbai Mining Production Association in conditions of introduction of modern technologies and health impact assessment of occupational hazards to their health are important issues of hygiene science.

Purpose: evaluation of bronchopulmonary function of external respiration among operators on control of technological equipment at the Sokolov-Sarbai Mining Production Association.

Research materials and methods. For physiological studies were selected 128 operators on control of technological equipment involved in the processes of ore reduction and dressing (crane operators, operators of conveyor, feeder machine operators, operators of mill). The control group consisted of employees of administrative personnel.

Results of study: indicators of bronchopulmonary function among workers revealed that spirometric and pneumotahometric indicators were gradations of normal values. Results of analysis of functioning indicators of bronchopulmonary system among workers revealed that

indicators of maximal pulmonary ventilation varied from 132.4 l to 164.2 l., that indicates on functioning of pulmonary system of workers on ore reduction and dressing unit as a reply on fulfillment of production assignments witnessing about relevant carrying capacity of bronchopulmonary system

Visible increase of respiratory minute volume in the compared groups was explained by enlargement of respiration rate (non-economic regiment of functioning of respiratory system). Thus results of study of respiration rate and respiratory minute volume among workers revealed that during dynamic of shift they were changed due to their compensatory adaptation.

Conclusions: Summarizing data of the physiological studies of the functioning of the main systems of organism among workers during the work shift must be emphasized that the functional changes in respiratory system were to some extent, compensatory-adaptive nature in response to the execution of production tasks.

EVALUATION OF CARDIO-VASCULAR FUNCTION IN WORKERS WHO WORK ON ORE REDUCTION AND DRESSING

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Background. The main industrial factors in the mines, that have an adverse impact on health of the workers are polymetallic dust of complex chemical composition, containing various toxic metal, dangerous gases, industrial noise, vibration and unfavorable climate.

Purpose: evaluation of cardio-vascular system among workers of mining industry.

Research materials and methods. Physiologic studies were conducted in 255 workers of leading professional groups:

1 – sub-group: 128 operators on technologic equipment, who take part in ore reduction and dressing (crane operators, operators of conveyors, operators of feeders, operators of mills).

2 – sub-group: 127 workers of leading specialties who work on ore reduction and dressing (breakers, screen men, fuelers) according to the common methodic with taking to account time studies. The control group was presented by administrative personnel.

Results of study. In general, growth of cardio-dynamic indicators suggests that occupational stress significantly contributes to the restructuring of the cardiovascular system, the process proceeds with an activation of redox and metabolic reactions in the body that is manifested in terms of energy supply sub-system (increase of heart rate, minute blood volume, peripheral vascular resistance).

Dynamic observation indicates a strengthening in the management of cardiac rhythm in the direction of activation of sympathetic system and amplification in the circuit of more central parts of organism. The degree of adaptive response of the body among workers demonstrated that the excitation is expressed by sympathetic nervous system in response to the production load.

Conclusions: The results of the analysis of changes in the functional indicators of the workers who are employed in the area of ore reduction and dressing in the dynamics of shift shows marked decrease in reserve capacity and regulate of energy saving systems, which in turn affects the overall performance of the work. The data show a decrease in the compensatory-adaptive reactions, which may result in a risk of production-related disorders in health among workers engaged in ore reduction and dressing.

ANALYSIS OF WORK OF PORTAL FOR BUREAU OF THERAPEUTIC PATIENTS HOSPITALIZATION IN ILI DISTRICT OF ALMATY OBLAST

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On December 25, 2009 they issued an order # 492 "About creation of the National and Regional bureaus of hospitalization." In accordance with that order starting from July 1, 2010, Kazakhstan has introduced National Portal of hospitalization, which became a part of the national health system. The portal was developed by the Republican State Enterprise with the right of economic transaction "National Information and Analytical Center" of the Ministry of Health of the Republic of Kazakhstan. Bureau of hospitalization became a mediator between an outpatient clinic and hospital. Portal of Bureau for hospitalization implements its two primary principles: providing a free choice of medical organization for patients and accessibility of health services during a planned hospitalization.

As a result of implemented work we received a precise structure of interaction between hospitals, outpatient clinics, and patients that could be observed at the same web source www.bg.eisz.kz.

In our own experience we found that the portal allows people quickly resolve registration issues, quickly process a direction of planned hospitalization, thereby enhancing the quality of medical services in planned hospitalization for the patient's free choice.

Implementation and use of the web resource eliminates any discussions about corruption and changes in waiting lists of hospitalized people. Any citizen of Kazakhstan can view current waiting lists and information about free beds for three days in hospitals of the country. The portal provides a guarantee of non-disclosure of confidential patient data. Least of the time that the order of hospitalization installed strictly in the order queue, as shown in the waiting list on the portal. The patient finds himself (herself) in the list by a unique code known only to him (her) and his (her) physicians.

Comparative analysis for the period of eight months in 2010-2011 demonstrated that the majority of patients choose Ili Central District Hospital of Almaty oblast. We consider it as an indicator of positive work of the portal and its successful introduction to the work of Ili Central District Hospital.

The personnel of the hospital continue activities based of wonderful traditions and examples of true service to medicine, love of work, and selfless work for welfare of patients.

ANALYSIS OF OCCUPATIONAL ACCIDENTS AMONG MEDICAL WORKERS APPEALED TO KOSTANAI OBLAST CENTRE FOR AIDS PREVENTION AND CONTROL

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Prevalence of HIV infection meets the global epidemic. The rapid growth of HIV-infected people in the world and in Kazakhstan increases a risk of occupational infection with human immunodeficiency virus among health workers. The HIV epidemic is an additional factor, which creates undue burden for health care. The most common mode of HIV transmission in the world are heterosexual contacts. In Kazakhstan, the most frequent way of HIV transmission is injecting drug use with syringes. We cannot exclude also cases of HIV transmission to persons performing their duties. Universal precautions should primarily related to prevention of HIV transmission through

blood. The current epidemiological situation of HIV infection in the Kostanai region remains tense. A changing of the leading ways of transmission varies the ratio of HIV-infected males and females, observed different rates of HIV infection by age and social characteristics of different groups of population. According to the report on 01.08.2011, the total number of people infected with HIV in the country was 1170 cases, the rate per 100 thousand population was 7.1. In 2010, the number of visits due to accidents was 18, including 11 medical workers; during 8 months of 2011 - 15, including 13 medical specialists. Over the entire period of observation 48 medical workers (18 physicians and 30 nurses) appealed to the Kostanai Regional Centre for Disease Prevention and Control of AIDS. The distribution of accidents among health workers according to the risk of infection included: 27% (13) had high risk of HIV infection, therefore they were referred to post-contact prophylaxis with antiretroviral drugs, and minimal risk had 73% (35) of appealed medical workers. Thus, in cases of emergency, risk of HIV infection of medical workers during performance of their professional duties is growing. To the present moment there is no reported cases of occupational infection among health workers.

1. It is necessary to invest to the budget on infrastructure, human resources, equipment and materials for adequate health care provision and effective protection of health workers..

2. Permanent trainings on the workplaces of health care organizations to provide prevention and control of occupational risk factors related to HIV

3. Organizational measure to prevent HIV infection at the workplace should be directed to:

- ✓ Development of changes in legislative base;
- ✓ Development of human resources for health care system;
- ✓ Training of medical staff;

- Creation of safe conditions at the workplace.

ASSESSMENT OF MONITORING ON HEALTH OF POPULATION AND ORGANIZATION OF TREATMENT AND PREVENTION IN ALMATY OBLAST

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Introduction. Conducted excessive optimization of the infrastructure of health care in the end of the last century resulted that many rural settlements have remained without health services. Strengthening of the investment policy in development of health care and increase of financing is observing last period of time.

Materials and methods. Statistical reports of health department of Almaty oblast. Comparative assessment of prevalence of non-communicable diseases in administrative territories of Almaty oblast.

Results. Study of dynamics of prevalence of non-communicable diseases in Almaty oblast in 2000-2008 showed that in 2000 this rate in average in the Republic of Kazakhstan was 474.2 per 100,000, and in the oblast – 436.3 per 100,000, that was lower on 7.9% than republican rate. Study of changes in preventive check-ups of population in Almaty oblast demonstrated that in 2000 they examined 3420740 of people, in 2002 this rate increased on 2.4%. In 2008 they covered by preventive check-ups 3744040, or on 1.6% more than in 2006. Also they showed that among treated people (80%) there were 84% of children, adolescents – 74% and adults – 82%.

Conclusion. Thus, resulted of conducted studies showed that dynamics in level and structure of incidence affects quality of treatment of rural population in Almaty oblast. The used methodological tool permits systematically and logically study processes its development. Important, that such kind of the analysis and assessment became an integral part of monitoring system on health of population and organization of treatment and prevention.

REGISTRATION OF NOSOCOMIAL INFECTIONS AT MATERNAL HOSPITALS IN ALMATY CITY

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Nosocomial infections (NI) are one of the most important and sharp issues that remain relevant in public health of the country due to the high incidence, significant damage to human health, including newborn babies and postpartum women. In Almaty, the last three years there was a tendency in reduction of nosocomial infections, yearly 51-33 cases officially registered that is in rates is 0.1-0.2 (comparing with average Republican rate which is 0,18-0,21).

Monitoring of disease showed that 94% of nosocomial infections took place due to purulent septic infection (PSI). In recent years, maternal houses have a leading role in the registration of PSI - 68%, then - surgical facilities (27%), dental clinics or cabinets (16%). Laboratory-confirmed cases of PSI in 25-30% were due to the absence of microbiological laboratories at the major hospitals and treatment of patients occurred after discharge from hospital. Over the past three years in infants number of PSI cases decreased by 2.6 times, the rate was 0.2 per 1000.

The main nosological form of PSI among infants are skin infections, conjunctivitis, diseases of the navel. High level of skin diseases in newborns is associated with failure to comply with the rules of neonatal care. It is therefore necessary to take effective measures to develop effective anti-epidemic measures, clear execution of algorithms, especially algorithms of hand washing in all maternal hospitals and wards of the city. Given that at the present time in hospitals caring for children and mothers, need to include into educational plans training of skills to provide safe maternal care of the newborn.

Conclusions:

The following statements have an important role in prevention of nosocomial infections spread:

- Optimization of epidemiological surveillance;
- Improvement of lab diagnostics and monitoring of nosocomial infections;
- Enhancement of effectiveness of disinfection and sterilization;
- Development of strategy and tactics to use antibiotics and chemical drugs;
- Rationalization of main principles of hospital hygiene;
- Optimization of principles to prevent nosocomial infections among medical staff and etc.
- Improvement of training on epidemiological activities at medical organizations.

ANALYSIS OF ACTIVITIES OF CENTRAL DISTRICT OUTPATIENT CLINICS IN SARYMKER VILLAGE OF ZHAMBYL OBLAST

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In the State Programme for the Development of Health of Kazakhstan "Salamatty Kazakhstan" for 2011-2015 approved by the Decree of the President of the Republic of Kazakhstan from 29.11.2010 # 1113 one of the directions is improvement of management and financing of health care in the Unified National Health System. As part of this area should be solved the following objectives:

1. Development of effective system of health care based on priority development of socially-oriented primary health care;
2. Improvement of health management;
3. Enhancement of mechanisms of financing in health care;
4. Assurance of high quality and accessibility of health care.

We conducted evaluation of work of Central District Outpatient Clinics of mixed type in Sarymker village of Zhambyl oblast during last three years (2008-2010). During observed years we noticed tendency of growth of catchments area: from 44,866 in 2008 to 48,663 человек in 2010.

The analysis of spends of Central District Outpatient Clinics of mixed type in Sarymker village of Zhambyl oblast during three years demonstrated noticed tendency in increasing of "salary" and "medicines" in the expense items. Payroll costs increased from 58.2% in 2008 to 70.1% in 2010. The tendency of increased spending on medicines is caused by increasing of population and achieved 9,8% in 2010.

Thus conducted analysis revealed necessity to improve supply by main means the Central District Outpatient Clinics of mixed type in Sarymker village of Zhambyl oblast in the frameworks of implementation of the State Programme for the Development of Health of Kazakhstan "Salamatty Kazakhstan" for 2011-2015 to provide development of socially-oriented primary health care.

SWOT-ANALYSIS AS A TOOL TO IDENTIFY RISKS DURING CHANGES OF ECONOMIC MANAGEMENT OF THE OUTPATIENT CLINICS

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Competent and qualitative strategic analysis can help an organization of any level to get a realistic assessment of resources and opportunities in relation to the current economic and financial condition of both the enterprise and the external competitive environment in which business operates.

One of the most common and effective methods of strategic planning is SWOT-analysis helping to identify strengths (the characteristics of the enterprise, distinguishes it from competitors) and the weaknesses (weakness or lack of development in comparison with competitors, which may eliminate or improve) the parties enterprises, analysis of opportunities for the expansion areas and business segments, and the threats from the environment. The term "possibility" refers to conditions that provide all the participants of this market opportunity to expand its business, as a "threat" - not only the activities of competitors in the same market segment, but also the conditions that reduce the overall attractiveness of this segment for all market participants.

The final step of the SWOT-analysis is statement formulation of the main strategic directions with regard to their importance. Strategic opportunities and threats that require concentration of all resources necessary for their implementation and the corresponding threat, requiring careful attention and constant monitoring are the highest priority part. They must be kept under review the company's management.

Capabilities, allowing ranking as the release of the required resources and threats that require monitoring receive medium priority. Control of senior and middle managers, investment of their own, or available resources. Opportunities or threats to the current order is given the lowest priority. They are under the control of line management, use their own sources of funding (if possible). Obtained results become a base for development of company's strategy, its mission and objectives.

Conclusions:

1. The transition to the status of enterprise on the right of economic management is a relatively risky process for Kostanai city outpatient clinics.
2. But changes in economic management give new possibilities for further development, which is very necessary to improve the quality of medical services and, ultimately, to improve public's health.
3. These risks in majority cases have a manageable character.

BIRTH RATE OF CHILDREN IN ALMATY AND KZYLORDA OBLASTS

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Introduction. Studies of demographic problems, both in global and regional scale indicate a certain similarity in many aspects of population's evolution. The most objective criteria, bearing capacious information about the state of public health are fertility, mortality and life expectancy.

Materials and methods of study. Routine statistical reports of the departments of health care in Almaty and Kzylorda oblasts, comparative assessment of indicators reflected number infants who were born alive.

Results of study. In this case, the analysis of fertility was examined in the study regions, Almaty and Kzylorda oblasts over time in 10 years (2001-2010) - 26.9 per 1,000. The index number of live births in Kzylorda oblast shows that, overall, this number increased to 40.1%. The data for individual regions revealed that the greatest increase in the number of live births was observed in Kzylorda - by 56.1%, Karmakchinsky district - by 79.5%, Shielskiy - by 38.2% and in the Aral district- 33.6% .

Study of rates of live births in Almaty oblast revealed that the region had a small upward trend (11.5%). Among all administrative and territorial units the greatest increase of the rate was observed in Balkhash (at 58.8%), Enbekshikazakh (at 61.0%) Karasai (by 79.3%), Raimbek (at 86.1%) districts, as well as in Taldykorgan (at 88.4%), and a decrease - in Eskeldy (at 69.0%) and Kokuksu (53.8%) districts. In this steady growth could be observed within 5 years in the Aksu area, and the highest rate of live births in the Almaty region was noted in 2010 in Taldykorgan (22.8 per 1,000).

Conclusion. The analysis of the demographic characteristics in the Republic of Kazakhstan has shown that over 10 years in the studied oblasts of the country can be traced a steady increase in the number of births. Thus, the rate of live births in the Kzylorda oblast increased by 40.1% and in Almaty - by 25.1%. At the same time in administrative districts, the largest increase in the number of live births was observed in the Kzylorda oblast: in Kzylorda - by 56.1%, Karmakchinsky - by 79.5%, Shielskiy - by 38.2% and in Aral - 33.6% districts, and in the Almaty oblast: in Balkhash (at 58.8%), Enbekshikazakh (at 61.0%) Karasai (by 79.3%), Raimbek (at 86.1%) districts, and in Taldykorgan (by 88.4%).

Thus, studies have shown that during the studied years the dynamics of demographic processes in the studied oblasts was ambiguous. It is established that during 2001-2006, fertility in general, by districts in the regions has declined steadily. The main contribution to support the birth rate contributed as rural and urban.

DYNAMICS OF CHILD POPULATION AGED 0-5 YEARS IN ALMATY AND KZYLORDA OBLASTS

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Introduction. The necessity to study the demographic processes caused not only by socio-economic and environmental challenges faced by people in many regions of the world, but is caused by the fact that the developed world today entered into a historically new phase of its demographic development - a phase of stabilization and aging of the population size.

Materials and methods of study. Statistical reporting of health department of Almaty and Kzylorda oblasts, a comparative evaluation of indicators of children aged 0 to 5 years during 10 years.

Results of study. Dynamics of the number of children aged from 0 to 5 years was studied in Almaty and Kzylorda oblasts during 10 years (2001-2010).

Thus, the study of the dynamics of the number of children aged 0 to 5 years in Kzylorda oblast showed that in the whole region during the study period the number of children of this age has increased by 25.1%. In the eight regions of increase of this indicator was noted in 7 of them with the greatest growth in Aral district by 21.2% and Zhanakorgan district - 22.1%, and in Kzylorda - by 53.9%. Decrease was recorded in Zhalagash district - 5.1%. It should be noted that from 2005 to present, in Kzylorda oblast there was a tendency in growth of observed contingent of the population. In this case, the greatest growth increased in the number of children in oblast was detected in 2008 (11.5%).

Study of children aged 0-5 years in Almaty oblast during 10 years demonstrated total increase on 70.5% (or from 113338 to 193244 children). The increase was noted in all the administrative-territorial units of the oblast and the highest rate or an increase of 2 or more times established in Zhambyl, Ili, Karasai, Talgar districts, as well as in Erkin village and Kapshagay town. The smallest drop was recorded in Raimbek - by 10.1%, Sarkand - by 10.2% and Uighur districts - 13.7%.

Conclusion. During the study period, the number of children aged 0 to 5 years have seen an increase in Kzylorda oblast - 25.1% and in Almaty - by 70.5%. It is noted that the largest growth rate in the Kzylorda oblast was found in only in Kzylorda (53.9%). Whereas, in the Almaty oblast number of children was increased in 2 or more times established in Zhambyl, Ili, Karasai, Talgar districts, as well as in Erkin village and Kapshagay town. Past data will allow further in-depth analysis of children from 0 to 5 years with chronic disabling diseases in the studied regions.

ANALYSIS OF EPIDEMIOLOGICAL SITUATION IN KZYLORDA OBLAST

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According to official data for the last five years in the Republic of Kazakhstan has undergone substantial stabilization of TB epidemiology. So, after a peak incidence in 2002, when the rate was 165.1 per 100 thousand population, TB service stopped the growth of the disease.

During the period of 2005-2009 the TB incidence decreased by 28.5% or 105.3 per 100 thousand population, halved the incidence of children and 20.9 per 100 thousand population. Declines in mortality from tuberculosis by 38% - from 38 in 2005 to 100 000 of population to 12 people in 2009. Vaccination coverage of newborns reached 97.8%, re-vaccination - 90.2%.

The purpose of the study was assessment of main epidemiological TB indicators in Kyzylorda oblast.

Subjects of study – district, city, and oblast TB dispensaries of Kyzylorda oblast.

Materials and methods of study: Analytical evaluation of TB service of Kyzylorda oblast on the base of statistics and database of medical organizations, official reports such as “Health of population and activities of health care organizations”, and also head physiatrists of the districts, city and oblast. The analysis was conducted for three years in dynamics (2008-2010).

Results and discussion: TB care to the population of Kyzylorda region is provided by a network of outpatient and inpatient TB organizations with number of beds in 1085. For the treatment of child and adolescent population the regional TB clinic has 80 beds, and there are 2 sanatorium boarding school for 600 places in Kyzylorda and in the Aral district and 15 children special kindergartens with 1545 places.

Conclusion: Thus, in Kyzylorda oblast over the past three years were observed improvements in the organization of TB control activities. In this comparative analysis of TB incidence among different groups of populations showed a decrease in 2008-2010, TB incidence rate among adult population at 30.3%, among children - 4.8% and adolescents - 13.7%; the overall rate of mortality from tuberculosis during the study period decreased by 44.1%.

To further reduction of the morbidity and mortality from tuberculosis in the oblast there were done the following main activities: information about the situation on TB prevalence and transmission, the main symptoms and prevention of tuberculosis, the need for prompt diagnosis and treatment, using all the ways of presenting information in including the media, the integration of TB control in the learning process at the secondary schools, vocational and higher education; promotion of healthy lifestyles; inculcate sanitation and hygiene practices to help prevent the spread of TB in the target groups and risk groups (families of TB patients, smokers, alcoholics, drug addicts, persons in custody); inculcate skills of physical activity, good nutrition to improve the body's defenses.

About psychological correction among patients with psoriasis

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At the present stage of medicine's development we observe considerably increased interest to the issue of psycho-correction for skin diseases, including psoriasis, explaining by high rates of dermatitis accompanied by psychopathology. Psoriasis is one of the most common skin diseases with a prolonged, chronic course, absence of radical therapies and puts a stamp of "incurable" diseases that affects quality of life of patients. Such a pessimistic assessment of the overall state of the problem underlies the continuing relevance of research in the field of pathogenesis and therapy of psoriasis. That is why many researchers in recent years pay more attention to the study of psychosomatic components of psoriasis.

It is established that the development of psoriasis special importance belongs to psychogenic factors. In a recent study has shown that personality (constitutional) anxiety in patients with psoriasis, higher reactive (situational), i.e. exacerbation of somatic pathology in the perception of certain stimuli only activate the individual stable predisposition to anxiety of the subject. We can assume that in psoriasis the neurophysiological mechanisms of anxiety play a significant role.

Psychodermatological disorders are traditionally divided into 2 groups: 1. Mental disorders, masked by skin manifestations. 2. Skin diseases, manifest or worsening due to psychogenic and situational factors and/or accompanied by mental reactions to cosmetic adverse effects of skin disease process. There is evidence that the program of cognitive-behavioral therapy helping patients with psoriasis to cope with the psychological discomfort, stress, depression and social phobia are generated by a disease may be a useful adjunct to traditional treatments for psoriasis, as a lower level of stress and anxiety and reduces the number of exacerbations in patients with psoriasis.

Significant contribution to the development of psoriasis have psychogenies arising on the mechanism of the key experiences: failure of in public life or performance (reduction of family income, dismissal, etc. - 47.7% of cases), family and interpersonal conflicts, often leading to divorce, change of address, etc. (58.7%). Psychogenic effects of psoriasis, leading to the manifestation or exacerbation of dermatosis, observed in 25-60% of patients. This suggests that in all cases, the implementation of psychogenic effects is just one of the links in the central mechanisms of the pathogenesis of classical dermatoses.

THE RESULTS OF A RETROSPECTIVE CLINICAL AND ECONOMIC STUDIES ON "COST MINIMIZATION" IN DURING HOSPITAL TREATMENT OF CHILDREN WITH UPPER RESPIRATORY TRACT DISEASE COMPLICATED BY CANDIDIASIS

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This piece of work presents results of a retrospective clinical and economic studies on "cost minimization" in during hospital treatment of children with upper respiratory tract disease complicated by candidiasis.

Hospitalization rates were calculated based on the standards for diagnosis and treatment (SDT), and listings of our analysis of health care institutions. As a basis was taken in price list of 2007 for medical care of Health Administration office of Almaty. Costs associated with the studied type of treatment (inpatient care) were based on the actual number of days of treatment. The cost of drugs was calculated based on average daily dosages. The sources of costs were identified from medical records and categorized as follows: the cost of laboratory studies, the cost of instrumental methods, the cost of expert advice, the cost of treating complications, the cost of bed-days and length of hospital stay. The main conclusion of this study is that early detection, diagnosis and treatment at PHC level can not only reduce the number of events (at the moment - mycosis respiratory tract), it is also economically feasible.

ENVIRONMENTAL AND HYGIENIC ASPECTS OF PRODUCTION OF REFINED COPPER AT THE KAZZINK LTD.

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In this paper we consider an investment project for construction in Ust-Kamenogorsk copper-smelter and electrolysis plant with production of 70 thousand tons of refined copper per year. The project aims to withdraw from raw orientation in copper production and promises to become innovative with focus on the important task as a creation of refined copper production from its own processing of copper concentrates and industrial products. The paper presents hygienic evaluation of the benefits of the project, allowing to reach a high level of compliance with environmental and sanitary requirements. Given the urgency of the problem for the region, further, more detailed study of the environment, public health, with subsequent correction tools for planning and financing of ecological, environmental policy - a system of environmental management.

Proposed project has following advantages:

1. implementation process of linking with the metallurgical processes of copper, lead and zinc processing plants with a co-operative produced industrial products (in a lead factory will process lead dust and lead-copper plant cakes zinc smelter by zinc smelter - lead plant for the copper plant - copper-bearing lead plant and middlings etc.);
2. use of high technologies and high-tech equipment autogenous smelting;
3. extraction of copper, gold and silver from the copper concentrate and get them in the form of commodity metals with high added value;
4. organization of production next redistribution - of refined copper cathodes;
5. waiver on imported raw materials of lead, forced recycling is related to the need to increase the lead content in the batch process, which is due to the low level processing of gold concentrates on a lead factory;
6. increase the complexity of the use of raw materials through the organization of production of a new kind of commodity products - refined copper cathodes;
7. exception of sulfur dioxide emissions into the atmosphere during processing of copper sulphide concentrates and, accordingly, a significant reduction in the content of sulfur compounds in the workplace;
8. decrease in use of expensive and scarce fuel - coke.

Thus, the implementation of environmental, sanitary and technical measures provided for start of the reconstruction at the copper and lead plant, makes possible to find quick solution of air pollution problem in Ust-Kamenogorsk, by a significant reduction in pollutant emissions.

INDIVIDUAL PROTECTIVE FACILITIES DURING A WORK WITH EPOXY AND POLYURETHANE RESINS

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Epoxy and polyurethane resins widely used in various industries: shipbuilding, aerospace, automotive, rail, industrial and civil construction, thermal insulation in the coal mines, radio and radio-electronics, coating processes, works on sealing, etc. It is composed of highly dangerous to the health component. This risk increases with the use of solvents that are added to reduce viscosity and other purposes.

Toxicity of epoxy and polyurethane resins is caused not only by the resin, but also some curing agents, in particular amides, anhydrides of polybasic organic acids. Impact of polyurethane resin has a strong irritant action to the mucous membranes of the eyes, upper respiratory tract, skin contact. There may be pains in the eyes, watery eyes, coughing, headaches, irritability, itching, catarrh of the upper respiratory tract. Epoxy mixtures have an irritating and general toxic effects, as well as the property of the allergen.

The need for respiratory protection depends on the method of processing (with a spray coating method and no showers), as well as the presence of solvents in the coating. In the absence of solvent protection is not required, but if present it is expedient to use a filter of A class, which provides sufficient protection against organic vapors.

Particular attention should be paid to the protection of hands, as they are most often damaged by components of the epoxy resins.

Polyurethane coatings are causing particular harm to health if inhaled. They are irritating to eyes, respiratory system and skin, as all are classified as sensitizing isocyanates means free because of the presence of reactive groups.

Eye protection should be used eyeglasses, skin - oily protective creams, respiratory - conventional filters in the absence of spraying and combined with the spray method of coating applied.

When working on spraying epoxy resins for the preparation of batches of components in the formulation, workers should use personal respiratory protection (mask grade "A" with an aerosol filter respirator RU-60M, etc.) and skin of the hands (rubber gloves, protective pastes and ointments, "Yalot" EDI-1, "Mikolan", casein paste, etc.). When working on the deposition of tar in sealed containers to use the hose tubes with forced air supply (DPA-5, auto-m /p "ACM", and etc.). Admission to the performance of work with epoxy and polyurethane resins made only after consulting working with health regulations and requirements, toxic properties of substances released, ways of their effects on the body and briefing on safety.

HYGIENIC ASSESSMENT OF AIR POLLUTION BY EXHAUSTS IN UST-KAMENOGORSK

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The state of the surface layer of the air basin in Ust-Kamenogorsk is significantly affected by traffic, which accounts for 30% of total emissions. The degree of gas contamination of air in the city of Ust-Kamenogorsk, motor vehicle emissions is in complex dependence of numerous factors relating to both the source and planning situations, traffic management, weather conditions, etc.

Hygienic assessment of air on highways and in the adjacent residential area could be given only on the basis of extensive field studies to determine the content of the atmosphere in Ust-Kamenogorsk, the main components of exhaust gases: carbon monoxide, nitrogen dioxide, hydrocarbons, formaldehyde, acrolein, lead (in the case the use of leaded gasoline). Vehicle exhaust is a complex mixture, which comprises around 200 components.

It should be noted that the composition of exhaust gases is greatly influenced by the specifics of motor vehicles in urban environments. The features of operation of the vehicle in the city are relatively low speed and frequent changes in direction and speed of movement, accompanied by repeated braking and acceleration, short-distance traffic, causing engines work primarily on the transient thermal conditions. These conditions are aggravated vehicle significantly with increasing traffic density. The share of emissions into the atmosphere, Ust-Kamenogorsk, because of the vehicles currently stands at 30% of total emissions.

During 2001 - 2010 there was a decrease in correlation between formaldehyde and diseases of the skin and subcutaneous tissue at the same time observed a correlation between increased levels of air pollution of sulfur dioxide and diseases of the skin and subcutaneous tissue, formaldehyde, and respiratory diseases, nitrogen dioxide and respiratory diseases, nitrogen dioxide and diseases of the endocrine system, sulfur dioxide and diseases of the endocrine system.

For development of health surveillance and population indicators of environmental pollution, according to a letter from Eastern-Kazakhstan Department of Committee on State Sanitarian Epidemiological Surveillance # 03-01/2530 dated on 20.05.04 and Order of Ust-Kamnogorsk Administrative Office on State Sanitarian Epidemiological Surveillance # 64 dated on 25.05.04 "About organization of appealability to Ust-Kamenogorsk medical institutions", is conducted work to study appealability of the population, including children and adults to the medical institution of the city during adverse weather conditions. As objects for Sanitary and Epidemiological monitoring 13 medical institutions were identified in Ust-Kamenogorsk, and on 8 groups of nosologies: cancer, respiratory diseases, gastro-intestinal diseases, urinary diseases, blood diseases, cardio-vascular diseases, diseases of endocrine system, skin diseases.

PREVENTION OF CARDIO-VASCULAR DISEASES

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The most basic risk factor for heart - high blood pressure. If the pressure remains high for a long time, the damage for may be irreparable. Hypertension in some cases can be treated with medicines, but it is important to adjust your lifestyle for the need to bring pressure to normal, health, and do find time for exercise.

The next enemy of healthy heart - high blood cholesterol levels. If you still smoke - quit. Even if you smoke a little, 3-4 cigarettes per day do this, you will not be easy. Substances contained in nicotine, destroying the blood vessels and impair the lungs. This leads to many diseases: asthma, dizzy spells, heart attack, emphysema, and other equally serious diseases.

If you can not go to the gym or in fitness - club, you can just get away from home, this is a good way to remove the excess calories. You can do point-in fitness. Do not use the elevator, up the stairs. During the ascent you can do the following exercise: bend at the knee, leg, lift it up, squatting on the other foot.

Eat a healthy diet. If you can - take a multivitamin. To determine which multivitamin use, the first time to buy a small amount of multivitamins to make sure that they fit you.

Avoid stressful situations. For example, to avoid harmful stress, or hated the work, you can simply change it. Just change your attitude to life is not necessarily always be the first. Sometimes it is useful to simply go with the flow of life. If you reduce the load of stress on your life, review their habits, getting rid of all harmful, you will achieve great success on the road to a healthy heart and healthy lifestyle.

A risk of early coronary heart disease is influenced by many circumstances, which are divided into two groups. The first group includes factors for which the person is unable to influence. They are included: male sex, heredity and aging. The second group of factors which can influence, and which vary depending on lifestyle. They are: increased blood levels of cholesterol and triglycerides, smoking, hypertension, obesity, stress, low physical activity. Also physical exercises have a significant impact on the reduction of body weight to normal, and slow development of diabetes. Physical education classes to help with withdrawal of depression, reduce stress, reduce anxiety.

ALLERGY: IS IT POSSIBLE TO PREVENT?

G.A. Baitumenova, G.A. Medenova

The term “allergy” is well known to every citizen of Kazakhstan. The reason is that during last twenty years the number of patients with allergy dramatically increased.

Present time the percent of people who ever experienced allergic reaction varies from 20 to 50%. During check-up of people with different purposes of visits revealing of allergy is occasional, mostly patient suffer from allergic rhinitis (1st place or 30%), then atopic dermatitis (14%), food allergy (7.7%), asthma – 5.

Our centre of allergology is working under supervision of Oblast Department of Health care in close collaboration with Almaty city Department of health care for exchange by opinions, consultations , diagnostic equipment.

For early detection of patients with allergies there were opened special cabinets for such group of patients at the district outpatient clinics, for screening purposes and for urgent care for people who live in rural area. All examinations, diagnostic tests and treatment are in accordance to the recommendation of the World Health Organization (WHO) and international projects related to

allergies. This document is the first on management of patients with allergy, atopic dermatitis, asthma which are based on the similar pathogenesis and treatment using sensitizing against IgE.

Correct diagnostics is a crucial moment, e.g. to patients with rhinitis to avoid further complications such as asthma. There are several documents developed by different organization such as World Program against allergy (GLORIA), GINA, and ARIA. The main principles are based on immune sensitizing (eczema, rhinitis, asthma) to prevent further complications.

One of the important issues in the Programme is education of patients with allergies. That is an important moment because many patients with allergies face with economic difficulties and effective treatment of diseases helps people to solve their economical difficulties caused by costs for medicines, and day-offs due to sickness.

Correct modern treatment of allergies and prevention improves quality of life of people with allergies. Existence of qualified specialists, sufficient financing could be helpful in provision of relevant care to patients with allergies.

RESPONSE TO THE MESSAGE OF THE PRESIDENT OF THE REPUBLIC OF KAZAKHSTAN N.A. NAZARBAYEV "BUILD THE FUTURE TOGETHER!"

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On January 28th of 2011 Kazakhstan President N.A. Nazarbayev delivered a message to the people "Build the future together!". In his message the President said that Kazakhstan celebrates 20th Anniversary of Independence. By presidential decree in 2011 declared the Year -20 years of independence, and the motto of the anniversary year of "20 years of peace and creation." In Kazakhstan, established basic values such as, freedom, unity, stability and prosperity.

The main purpose of the Message is to create conditions enabling citizens of Kazakhstan to live long, healthy and creative life. The letter containing the results and plans across all industries and sectors. During the years of independence, health care funding has increased significantly from 1.9% of GDP 3.2% in 2010. Now for the first time across the country carried out the operation on the most complex medical directions. To 150 telemedicine centers associated with the leading foreign clinics. And including in our center professionals in the form of consultations, allergy patients on Skype mode Internet On-Line from different regions of the country.

By 2013, Kazakhstan will be completed by the introduction of the Unified National Health System. The task of greatly improving the quality of prevention and customary medical health surveillance of target populations. Particular emphasis will be placed on expanding access to health care for rural residents. In order to aid allergy center works in close collaboration with regional health departments. In agreement with the Almaty Department of Health National Center of Allergy specialists regularly travel to the regions to provide specialist advice. In this case, a visiting medical team is equipped with a set of portable laboratory and diagnostic equipment.

In Kazakhstan, the last year successfully launched a new social project - two specialized diagnostic and treatment trains. The number of mobile medical complexes - autoclinics - is scheduled to increase to 50 units. Future plans include the creation of health-saving-route points. Office of emergency medical care will be equipped with mobile multi-disciplinary and airmobile hospital.

During the period of the state program, marked increase in the birth rate of 25% reduction in mortality by 11%, is expected to increase natural population growth rate of 1.7. By 2015, the country planned to build 350 outpatient clinics, medical stations and clinics. As a result of these tasks by 2015, life expectancy of Kazakhstan is expected to increase up to 70 years, and by 2020, up to 72 years or more.