

SICKNESS BETWEEN CHILDREN UNDER 5 YEARS OLD IN THE KYZYLORDA REGION ACCORDING TO MEDICAL EXAMINATION OF 2011

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With the implementation of state of the health care in the Republic of Kazakhstan in 2011 - 2015's "Salamatty Kazakhstan" and the Code of the Republic of Kazakhstan "About the people's health and the health care system" special attention is paid to provisions on mass preventive medical examinations of children by assistance of healthcare organizations and their availability

Medical examinations covered in 2011 73,752 children living in the Kyzylorda region. Among surveyed 48.3% represented by children who live in rural areas. Lower indicator on the share relative to the total number of examined is typical for the group aged under 1 year.

Thus, for children from urban areas indicator is 5.1%, and for residents of rural areas 7.3%. The number of newly diagnosed diseases allows to judge about the high efficiency of the medical examination, the total absolute number of which was 27,279, including 18,784 in urban areas and 8,495 in rural areas.

General patterns and characteristics of the health of children are tracked during the analyzing of the incidence of individual classes and groups of diseases, including the most common ones.

High rates of number of diseases in general and on specific types of disease, first detected during the medical examination, indicate significant deficiencies in the organization of the current medical care of the child population.

The prevalence of children under 5 and inclusive years of age, despite some fluctuations in certain age groups, are typical the high prevalence and proportion of disease of the blood and blood-forming organs, digestive, respiratory, nervous system, eye and its appendages. With the increase of age of the children the number of cases of diseases of the digestive system, including logs, mainly caries also increased many times. The prevalence of diagnosed diseases of the respiratory system, both in urban and in rural areas with increasing age of the examined children was not significantly changed, but in urban areas, number of them is higher. Diseases of the nervous system are among the most common and the leading share of disease in younger age groups. Significant omissions exist in the organization of eye care for children, especially in rural areas.

EPIDEMIOLOGICAL AND PREVENTIVE ASPECTS OF ALLERGIC DISEASES

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According to epidemiological studies of prevalence of allergic disease (AD) has increased in recent decades. Allergies incidence is increasing worldwide. Worldwide incidence of allergic diseases ranges from 15 to 40% now. According to the chairman of the European Association of allergic Paul Van Kauenberga 2015, half of Europe's population will suffer from allergies.

The most real for Kazakhstan frequency of allergic diseases is on average 25% (20 to 30%) depending on the environment, the climate, the development of production in certain areas of the country.

The problem of allergic diseases is one of the important in modern medicine at the steady increase in the incidence and the increasing severity, increasing combined forms, resistance to therapy. This raises the problem of forecasting, timely prevention, improved methods of treating allergic diseases in a number of important problems in modern medicine. The relevance of allergic disease is well-known even in highly developed countries.

The main factors contributing to the development of allergies are genetic predisposition and environmental factors: the growth of industrial production, the introduction into the life of new chemical compounds with allergenic properties, urbanization, emotional overload, "use of chemicals" and the genetic determination of food, increase the use of drugs, especially antibiotics, frequent viral infections and parasitic infestations, as well as environmental degradation. Environmental factors not only provoke allergies and asthma, but also aggravate their course.

The main principles of prevention of allergy and asthma represented in the project of the World Allergy Organization (WAO) and the World Health Organization (WHO).

Primary prevention involves the prevention of immunologic sensitization (i.e., suppression of antibody isotype IgE). Secondary prevention is aimed at preventing the development of allergies against formed immunological sensitization (and avoiding the progression of eczema or rhinoconjunctivitis in more severe pathology, namely - in bronchial asthma). Tertiary prevention is the treatment of allergic diseases and asthma.

Educational programs have an important place in the management of patients with allergies, asthma and anaphylaxis. By teaching patients to assess the severity of their condition, their own prevention and management of these diseases, we can more effectively manage their flow.

Basic principles of treatment of asthma and anaphylaxis should be explained to patients in special schools asthma and allergy schools.

Allergic diseases are not only a serious health problem; they create economic hardship for patients and society, as well as directly affect the quality of life.

The current strategy of treatment and prevention of allergies to improve the quality of life of patients, it requires, above all, the patient is given the most appropriate therapy and that can be achieved through highly professional doctors and adequate funding for health.

FINANCING OF DRUG SUPPLY AT OUTPATIENT CLINICS IN ALMATY

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In modern conditions of development of market relations in the Republic of Kazakhstan the health of every person, as part of the health of the population is becoming a factor that determines not only the usefulness of its existence, but also its capabilities' potential . Health

level of the people, in turn, determines the measure of economic, cultural and industrial development of the country.

Program of free and preferential drug supply has been operating in Kazakhstan since 2005. Thanks to this program citizens who held at the dispensary for the diseases were able to get medicines for free and preferential basis.

As part of the program "Salamatty - Kazakhstan" one of the priorities is improvement of ambulatory medicines. From 01.01.2012 medicines for dispensary patients on certain types of diseases are free, previously existed 2 types of drug supplying: soft (0.5) and free (1.0). Drug coverage of Kazakhs is carried out on hospital and outpatient levels.

We conducted a study of adult's drug supplying in outpatient clinics in Almaty. In the course of which there were three clinics selected : CC ## 2, 5, and 10. In these clinics we studied the financing of drug supply, and there were social study, in which we would like to know the level of satisfaction of the population participating in the drug provision of clinics.

Based on the results following conclusions were made:

1. Funding for drug provision is provided using three programs: from the national budget, the local budget and from targeted current transfers.

2. It cannot be clearly identified the factors that determine the need for a given level of funding, because as one of the criteria the number of the attached population receiving free drugs is not always decisive, as the number of drugs receiving by one patient varies from 1 to 4. But even with awareness about the amount of receiving free drugs, it is difficult to predict in the necessary funding, because the annual change in purchase prices for drugs is observing.

1. Conjectural forecast for the next period is made on the basis of the previous period, according to the number of attached population of nosology included in the list free medicine provision, etc.

2. Also it should be noted that in period from 2006 to 2012, funding of drug supply in the studied outpatient clinics in Almaty average increased by 2.6 times.

3. Since 2007, the categories of the population receiving drugs within SFDS had been divided into the programs. In the following programs were revised and were supplemented with new nosology.

FEATURES OF HEALTH IN THE KINGDOM OF SAUDI ARABIA

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After the establishment of April 30, 1994 of diplomatic relations between the Republic of Kazakhstan and the Kingdom of Saudi Arabia, Kazakhstan citizens given the opportunity to visit the holy cities - Mecca and Medina - for Hajj and Umrah. The relationship between two countries are developing in matters of trade, economic, cultural, and scientific and technical cooperation. Taking into account reached agreement between the Kingdom of Saudi Arabia and Kazakhstan on cooperation in the field of health and discuss ways of sharing experiences and achievements in the field of medicine, the aim of this article is the consecration of some of the historical and contemporary features of health care in the Kingdom of Saudi Arabia.

Currently, the Government of the Kingdom of Saudi Arabia pays great attention to the training of medical students and trainee doctors in prestigious universities of Western Europe, Britain and the United States. In this case the major part of cost of education covered by the

State. According to the WHO overall health care expenses per capita in the kingdom exceeds more than 2 times than similar costs in Kazakhstan.

Taking into account hot climate and deserted terrain in much of the country, special attention is paid to water desalination, as well as ensuring adults and children of food with high degree of vitamins and minerals for strengthening the immune system. Using modern methods of treatment in the past three decades has led to a doubling of life expectancy of children born with sickle cell anemia and thalassemia. Taking into account lack of medical personnel, medical institutions of the kingdom, regardless of ownership medical staff and staff from other countries are invited to work through a recruitment company. The highest inflow of skilled workers and workers is from the Philippines and India. Often doctors from Libya, Syria and Egypt are employed in the clinic of the Kingdom of Saudi Arabia. Taking into account the specifics of the benefits in employment, particularly narrow specialists are given to doctors and nurses female.

Regardless of specialty and medical staff positions at employment passes not only the specialty certification exam to determine the level of qualification, but passes mandatory one-or two-day course of basic resuscitation measures with the delivery of required exam BLS (Basic Life Support) for checking of standards for the organization of aid and first aid skills.

Heads of medical institutions seek to acquire and put into operation the modern equipment of famous manufacturers of medical equipment in Japan, Germany and the United States.

THE PROBLEMS OF EXPERTS' TRAINING FOR EVALUATION OF HEALTH ORGANIZATIONS

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The adoption of the Law "About basis of technical regulation" in 2004 allows make the further development of evaluation systems, including the health care system to a new level. One of the conditions of the creating standardized (effective and uniform) system of quality checks, as it is defined in state standards KMS ISO 10011 - 1, is the presence of minimum criteria to confirm the qualifications of expert auditors. State standard of the Kyrgyz Republic KMS ISO 10011-1:2002 gives the following definition of an expert: The expert-auditor (quality) - a specialist who has qualified to perform quality checks.

The most important condition for the successful examination procedure is the selection of experts in accordance with the specific of expert task. Expert practice experience shows that not every high-class specialist can meet the high requirements of the expert. The expert group, that have to be determined and approved by the Ministry of Health of the Kyrgyz Republic should consist of general manager, clinical specialists and consultants from the staff and non-experts. For example, for the Accreditation of Healthcare Organizations (HO) is formed group composed of at least three experts. The expert group may vary depending on the size and profile of the estimated HO, size and level of medical services.

The role of the expert group is to:

- participation in the development and revision of standards, assessment procedures;
- to expertise in the location of the object of examination;
- preparing a report for the Ministry of Health;
- providing technical support and advice during the ekspretizy;

- presentation and discussion of summary data obtained during the examination at the end of a visit to facility management of expertized object.

In conclusion it is necessary noted that modern conditions dictate for the expert having skills of working with computer software, in providing service is required by the customer review. In this case, the direct responsibility of the expert is to understand the meaning of the examination and the ability to give a correct analysis and interpretation of the results. Expert's performance assessment at the expert committee is the prerogative of the Supervisory Board of the Ministry of Health, accepting and approving the decision of the examination results.

MONITORING OF ACTIVITIES OF HEALTH ORGANIZATIONS OF TERTIARY LEVEL IN THE KYRGYZ REPUBLIC

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Evaluation process of the tertiary level health organizations (TL HO) remains one of the actual tasks at the present stage of development of health systems in many countries. This is connected primarily with the fact that the need for problem solving related to TL HO have been reflected in the National Health Reform Program "Den sooluk" for 2012-2016, that explicitly states that: "The health system must ensure adequate development of specialized and high-tech (cardiac surgery, transplantation, oncology, palliative care, radiology) services and improve access for the whole population" but on the other hand - due to the need in introducing into clinical practice of new high-tech methods of diagnosis, treatment and rehabilitation.

The aim of this comprehensive study is a monitoring of activity using volume data and quality of medical technology usage, analysis of the control, status of logistics and human resources at the TL HO.

Materials and methods. The object of study is a system of health care provision in the TL HO. The base of the study were HO of national level.

Complex study of organizational and medical activities of TL HO carried by using approved standards and criteria and was directed on the following areas:

- Researching of level and condition of management;
- Researching of level of human and logistical capacity;
- Investigation of the volume and quality of medical technology and level.

Conclusions. Thus, for the further development of the continuous improvement of the quality of medical care at TL HO following conditions are necessary:

In HO of this level must be increased volume and quality of medical care to the population through the rational using of high-tech equipment, advanced scientific achievements with involving highly qualified medical personnel. It is need to empower the TL HO in consultative and methodological support to the regions, in organizing mobile teams to provide practical assistance to the population and health care workers in remote regions. To continue the development and implementation of criteria and standards for accreditation of tertiary level institutions.

It is important to include the section "Planning and analysis of health care organizations" in the curricula of training courses for personnel managers of HO all levels taking into account

strategic and priority challenges facing health and with a focus on achievable results in the provision of medical services.

It is necessary to develop and put into practice management activities of HO strategic planning needs, distribution and use of human resources according to the level of health care and new methods and mechanisms to improve the quality of composition and qualifications of health care workers.

It should be revised and determined the list of high-tech (expensive) types of medical care, considering the current level and development of human resources and logistical capacity of HO of republic.

It is necessary to increase the efficiency of resources of Technical service fund (TSF) for a rational and continuous operation of medical equipment and medical products in of HO.

To continue the work for develop standards to assess the quality of work for of TL HO.

PROBLEMS OF THE PREVALENCE OF PSYCHOPATHOLOGY AMONG THE SOMATIC NETWORK PATIENTS IN THE OSH REGION OF THE KYRGYZ REPUBLIC

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Psychopathology frequency increases, noted in many countries throughout the world in recent years, happens not due to increased frequency of severe, acute, incurable psychosis. On the contrary, the manifestations of mental disorders have become softer, "unnoticed", and more tolerant to others. Among the various segments of the population, the number of "non-psychotic" disorders has increased. To achieve the objectives was made retrospective expert survey maps and outpatient medical records of 1181 patients in a family medicine center (FMC) in Osh and Kara-Suu, Nookat and Uzgen district of Osh region and 1187 patients of Osh city territorial hospitals and regional hospitals (RH) of the above areas. For the study were developed specific records (card of survey, the list of mental disorders and physical illnesses for registering) for the collection of material. Maps included: information about the patient (age, gender, social status, employment and marital status), the profile of department of the hospital in which the patient stays, information about mental and somatic state of the patient, and assessing the need for psychiatric treatment and counseling assistance. In the analysis of welfare and labor indicators of surveyed groups contingent attention was attracted by predominance of women, especially among patients of FMC (2.1 times more). Age in both groups (primary care and hospital sector) was almost the same (on average, 52.7 in FMC and 53.6 in the hospital).

As a result of analysis, the entire cohort of patients with mental disorders (clinic and hospital), depending on the family history of somatic disorders conventionally divided into 2 groups:

1. Group of patients with widespread physical diseases (in which was no significant difference).

2. A group of patients with a limited (relatively small) number of somatic disorders.

In the first group (limited prevalence of somatic disease) included patients with schizophrenia, reactive state, vascular lesions of the central nervous system, organic lesions of the central nervous system, alcohol and drug abuse, and by syndromes grouping patients with anxiety and phobic states, the phenomena of dementia syndromes of impaired consciousness and sleep disorders.

The second group included patients with mental disorders such as neurosis and neurotic disorders, internal diseases, depression and hysterical syndromes. Thus, the prevalence rates of psychiatric and psychogenic pathologies among patients with somatic profile in PHC and hospital sector of Osh region was quite large and varied, indicating a high degree of interconnectedness and interdependence of these pathologies. All of this requires an innovative approach to the organization of medical care of these patients.

TOPICAL ISSUES OF DEVELOPMENT OF INSTITUTIONAL MEDICINE IN THE RK: MEDICAL CARE ARRANGEMENTS IN THE SYSTEM OF INTERNAL AFFAIRS BODIES AT THE PRESENT STAGE

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The health of individual population of the RK is an integrative indicator of social policy and public health efficiency. The whole system of factors affects the health status of individual. One of the important factors – is a level and quality of medical care. For today, MIA Medical Service is getting increasingly active subject of state health care system. With implementation of UNHS, a new way of thinking, new management approaches, new specific management measures are required to be in this area of medical services as well. Modern adequate assessment of the status of medical provision for MIA employees and scientifically grounded forecasting of its development are very important in the period of dramatic social-economic reforms. For this reason, we need to pay attention to basic organizational moments for increase of competitiveness of institutional healthcare organization in present-day competitive business environment.

As a result, according to many literary sources, for providing quality health care to the attached contingent first need adequate funding and the development of specific programs. Medical Services MIA of Russia, as in the Republic of Kazakhstan, is part of a public health system.

However, the model of the health system in the Russian Federation is insured (mandatory and voluntary), and in our country, the health care system is one national. Features of the Russian Federation are in Models of Control: MIA of Russia develops and implements preventive, curative, spa, wellness and rehabilitation measures aimed at protecting and promoting the health (preventive of medical to social prevention) of employees and military, their families, federal officials, employees and retirees of MIA of Russia and FMS of Russia. In the U.S., under the current military medical system, each soldier is provided by the bulk package of health services. The main component of the U.S. military health care system is "Tricare" insurance program, which combines the resources of the military health care with civil health organizations, pharmacies and suppliers for providing access to quality health services, with maintaining the ability to conduct military operations.

Analysis and evaluation of the literature show that the issue of the scientific substantiation and the development of institutional of mechanisms for improving health providing of employees of the Interior, in the whole country, in particular, have not been developed. Therefore, the analysis and evaluation of the effectiveness of the management and organization methods in departmental health services in conditions of UNHS are relevant and timely.

RESULTS OF IMPLEMENTATION OF NATIONAL ANTITUBERCULOSIS PROGRAM IN KYZYLORDA REGION

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WHO Global Task Force on TB Impact Measurement has made recommendations to the measurement of progress in reducing the morbidity prevalence and mortality. This recommendation includes a systematic analysis of national surveillance data for incidence measuring, survey of prevalence of tuberculosis, and strengthening of system of vital statistics to measure TB deaths among other causes of death. Implementation of the recommendations of the WHO Task Force will help to improve the measurement of progress in the implementation of global targets set for the year 2015 - in the fight against tuberculosis in the following years.

Implementation of the National TB Program, based on the introduction of organizational health monitoring technologies and evaluation of TB control activities, facilitates the coordination and strategic planning of all components to improve the epidemiological situation of tuberculosis in Kazakhstan and support of the effective identification and treatment of tuberculosis patients, prevention of infection and treatment patients with multidrug resistance.

Since the implementation of the National TB program there is a significant improvement in epidemiological indicators, was seen stabilization of the main indicators of tuberculosis. Currently, the TB incidence rate is set at 86.8 and the death rate - 8.1 per 100 thousand population, the incidence of bacillary TB - 30.2 per 100 thousand population.

Regional TB program in the Kyzylorda region carries out its activity guided the Development Strategy of Kazakhstan until 2020, and the State Program of Health of the Republic of Kazakhstan "Salamatty Kazakhstan" for 2011-2015.

However, there is clearly expressed tendency to growth of tuberculosis with multidrug-resistant among contingent tuberculosis clinics, and among new TB patients, due to the expanded coverage of patients with DST.

At present, the epidemiological situation of tuberculosis in the Kyzylorda region remains difficult despite the stabilization in recent years.

To improve TB control activities in the Kyzylorda region, an important role belongs to the organization, aimed at the detection and treatment of tuberculosis patients, monitoring photofluorography examinations and individual record of the patients, which will allow to increase the amount and efficiency of preventive measures and improve the overall epidemiological situation related to tuberculosis.

SOCIAL FACTORS IN THE MOTHERS' DECISIONS TO REFUSE FROM IMMUNIZATION OF INFANTS

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High social, epidemiological and economic importances of infectious diseases determine their status as the most important criterion of health and sanitary and epidemiological welfare of the population. In connection with this vaccination has become a strategic area of preventive

medicine. However, in recent years, the cases of refusing of childbirth to vaccinate newborn have become frequent. It is known that vaccination against hepatitis B and tuberculosis (BCG) is carried out in the maternity hospital.

The purpose of the study is to determine the reasons for the refusal of parents to vaccinate babies and to establish parents' reasons for making such decision.

Research was performed in six maternity hospitals in Almaty. In this case, to examine the impact of social factors studied 5464 cards of birth and 424 pregnant women answered to questionnaire.

The results indicate that the current trend increasing the number of mothers failures vaccination of newborns. Routine vaccination coverage must be at least 95%. According to revealed data it has been made the forecast of upcoming coverage of routine immunization, which suggests about possible decrease in vaccination coverage of less than 95%. Forecast was calculated by linear regression. In studying the role social factors, it was established the correlation between the level of education ($r = 0.04$, $p = 0.003$) and ethnicity ($r = 0.05$, $p < 0.001$) of postpartum women with cases of non-vaccination. The religious factor also plays a role.

The reasons for non-vaccination are distrust of vaccines and fear of possible future complications, planning vaccination at a later date, the desire to consult with specialists.

The majority of pregnant feel inadequate their awareness of the safety and necessity of vaccination and the confidence of vaccination defined as incomplete. The main source of information about vaccinations for pregnant women are health professionals and the Internet resource. Promotion of vaccination, that carried out among mothers by workers of specialized health organizations, is insufficient.

Thus, the increase in the number of non-vaccination of newborns in Almaty had been established. Failure rate of vaccination in 2011 exceeds the degree of non-vaccination in 2009 more than two (2) times. In the next 10 years, according to forecasts, failure rate will increase by 3 times and will reach 6.75%. Among the social factors of non-vaccination the leading role is played ethnicity, education, and religion. As the reasons for refusal should be attributed the fear of possible future complications, planning vaccination at a later date, a desire to consult with experts, a distrust of the vaccine. Notes that 48% of respondents consider themselves insufficiently informed about the safety of vaccines and 41% about the vaccination process.

HEALTH CONDITION OF THE POPULATION OF SOME EAST KAZAKHSTAN REGION AREAS BY REGIONAL STATISTICAL DATA FOR THE PERIOD 2006-2010 YEAR

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The analysis of medical and demographic situation in the region is based on a comparative approach. In the research evidence to improve health and health play an important role medical statistics.

Besides the radiation risk factors, health status of the East Kazakhstan region is also influenced by non-radiation factors, which makes a quantitative and qualitative assessment of the overall damage to public health. A significant contribution to environmental pollution areas in the region is making, mining activities, and non-ferrous metallurgy. It was carried out an epidemiological analysis of the statistics of the East Kazakhstan Department of Health for the period 2006-2010. Received information on the prevalence of spontaneous diseases in the population living in the areas adjacent to the Semipalatinsk nuclear test site. As the materials of

study used the statistics of the regional health department for medical and demographic characteristics of Abay, Beskaragai, Borodulikha and Kokpektinsky areas of EKR. Studied parameters on Kokpektinsky area with comparative characterization of the results were used as controls, as one of the main factors of ecological trouble - radiation exposure for the area did not have a significant impact.

Evaluating the overall health status of the study area it is possible to ascertain the presence of a large temporal variability in most demographic and health indicators. As the most common form of cancer, lung cancer continues to be the first in cancer pathology report card grades (32.6 (2006) 37.8 (2010)). During the year, in addition to lung cancer has been a marked increase in the incidence of breast cancer, which was released 2 rank place. increased from 15.6 to 25.0. Malignant neoplasm of skin took 3 rank place. incidence was 23.5 compared to 21.2 (2006).

Especially worrying is the fact that rejuvenation of cancer and increase the rare forms, such as brain cancer in young thyroid cancer. Concern the incidence of breast cancer in young women, and a high percentage of infiltrative forms of particularly malignant course and poor prognosis for the patients' life.

For 5 years, from 2006 to 2010, in these areas there is an increase incidence of cardiovascular diseases: Abay district with at 4888.2 4248.5; Beskaragay district with 1137.7 to 4663.6; Boroduliha district with 766.3 for 1366.4; Kokpekti district to 2686.4 from 2053.0.

Thus, our analysis demonstrates the patterns and peculiarities of public health control areas of EKR that reveal quite strong excess (radiation exposure), which causes certain changes associated with multidirectional dynamics analyzed diseases increase over the period. The presented information is very important for the development of long-term programs for the rehabilitation of the people of Kazakhstan, who suffered from the activities of the Semipalatinsk test site.

CALCULATION OF INTERNAL DOSES OF THE POPULATION OF KAZAKHSTAN FORMED AS A RESULT OF EMERGENCY SITUATIONS OF UNDERGROUND NUCLEAR EXPLOSIONS AT THE SEMIPALATINSK NUCLEAR TEST SITE (1963-1989 YEARS.)

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Key words: radiation, exposure, the effective equivalent dose, reconstruction.

Feature of internal exposure is the uneven distribution of the absorbed dose in the body caused by selective accumulation of radionuclides in individual organs and tissues. In connection with this evaluation of equivalent doses of these organs and tissues, and the calculation of the effective dose of internal radiation require the application of special set of mathematical models that adequately describe the arrival process, the accumulation of radioactive products and the formation of equivalent doses. Analysis and retrospective assessment of chronology of nuclear and thermonuclear explosions SNTS (1949-1989 years.), effective equivalent exposure doses of the population as a result of atmospheric testing and emergency situations underground nuclear tests conducted on archival materials Institute of Radiation Medicine and Ecology, including the raw data on the dynamics of radioactivity of environmental objects, locally produced food, the study area EKR, mathematical models of reconstruction of external and internal exposure for the period 1956-1985 years. The average oral dose (1981-1985 years.) for the population of the study area was not significantly varied and ranged from 2.2 to 3.62 mSv / year. The average

annual dose from ingestion of a controlled population of strontium-90, with the meat was slightly lower than the milk and in the whole monitored area were 1.9 mSv / year. The highest doses of radiation detected at oral strontium -90 to bones.

It is necessary to note that oral doses of controlled populations are represented only on receipt of artificial radionuclide strontium-90. Thus total cumulative dose over 35 years ranged between 0,307-0,431 mSv, which is significantly lower than the maximum permissible dose. However, we consider that under discussed situation a threat of public exposure was carried by other artificial radionuclide registered in emergency situations of underground nuclear explosions. Calculated characteristics of the contribution of the most important radionuclides in the exposure of the population of the Earth, as a result of nuclear tests in the atmosphere show that the expected EED of radioactive strontium-90 is 120 mSv (3.2% contribution to the total dose). In our cases, the dose from ingestion of strontium-90 were 3.5 times higher. We consider that the annual internal radiation of controlled population of the study area (with a dose of 70 mSv of radiation from atmospheric testing) could have a negative effect on health.

MEDIATED EFFECTS OF PATHOLOGY OF THE RESPIRATORY SYSTEM ACCORDING TO DATA OF RADIATION-EXPOSED MORTALITY DYNAMICS OF THE EKR POPULATION

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In studying the functional properties of lymphocytes of inhabitants of the Altai region showed that proliferative activity of peripheral blood mononuclear cells is increased in population settlements in the wake of a nuclear explosion. Changes in the functional properties of immune-competent cells, along with changes in their subpopulation structure may underlie the formation of various immune-pathological syndromes among residents of areas on the trail of a nuclear explosion.

As the materials of study there were used the acts-certificates for reasons of death for persons of two main groups of research with different radiation doses and control group for the period 2007-2011.

The core group - 1350 acts-certificates the causes of death of persons exposed to a dose of 250 mSv formed as a result of atmospheric testing of nuclear weapons in the SNTS (Semipalatinsk nuclear testing site).

Comparison group - 956 acts-certificates of death cause for persons who arrived in controlled territory in 1965 and exposed to radiation from atmospheric testing in a dose of 75 mSv and additional irradiation at a dose of 0.432 mSv as a result of abnormal situations of underground nuclear explosions for the period 1965-2007 years.

Control group - 1429 acts certificates for reasons of death for persons who arrived in 1990 in the controlled areas near the SNTS.

The dynamics of mortality from acute, chronic infectious and inflammatory diseases of the respiratory system, virus and pneumococcal pneumonia, the main group research shows that rates of more than 2 times higher than those in the control group (average relative risk 2.35). In the control group the relative risks of mortality from these diseases ranged 1,26-1,5 (average relative risk 1.36).

Thus, the results confirmed the existence of certain problems in the immune status of persons of the main group and the comparison group. Moreover, the formation of post-radiation

secondary immunodeficiency the descendants born to exposed parents, the main group of persons, in theory and in practice, are more important confirmation, while among the comparison group, for that matter, there is considerable uncertainty.

ESTIMATE OF ANNUAL HEALTH DAMAGE OF RADIATION-EXPOSED POPULATIONS OF THE EAST KAZAKHSTAN REGION ON THE DYNAMICS OF MORTALITY DATA FOR THE PERIOD 2007-2011 YEARS

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Keywords: radiation, radiation dose, mortality, morbidity, risk

Analysis of the effects of the Semipalatinsk nuclear test site and other radio-ecological adverse situations has shown that only a clear distribution of radiation dose in radiation risk groups can provide a threshold of exposure to ionizing radiation in comparison to the large number of research groups.

For studying the health status of the population of the Altai Territory exposed to radiation as a result of nuclear tests at the Semipalatinsk test site it was established the register of persons, which included data on 39,179 subjects exposed to radioactive exposure in 1949. The largest contribution to the exposure of the population has made the nuclear test August 29, 1949. Due to the radioactive products of the explosion effective doses in some settlements of the Altai Territory exceeded 1 Sv. Retrospective of a register has restored life status 15,862 subjects. The register also includes a group of internal and external control of a total of 7514 people.

In this cohort conducted epidemiological research on the causes of death and disease prevalence. Analysis of causes of death among men of different age groups showed an increase in mortality risk in the different periods of time from exposure. The study found increases in mortality from cancer of various locations. It was found the linear dependence of mortality from malignant neoplasm. It was set at a high level of risk for the prevalence of diseases among the exposed population.

By the model of relative and attributable risk it was estimated by us annual cost to the health of the expected additional cases in the two main groups of studies with the established dose 250 mSv or more, and 75 mSv. The highest additional radiogenic deaths in the study group reported on CHD (coronary heart disease) - (59.0 cases), AH (arterial hypertension) - (51.5 cases), stroke (37.0 cases) and acute and chronic infectious-inflammatory disease (30.9 cases).

Thus, on the basis of our results, it was found that the total number of annual mortality in the main groups radiogenic additional cases per 100 000 were in the intervention group - 16.1% in the control group - 5.8%.

DYNAMICS OF MORTALITY FROM DISEASES OF THE GASTROINTESTINAL TRACT AMONG THE RADIATION-EXPOSED POPULATIONS OF EAST KAZAKHSTAN REGION IN THE LATE PERIOD AFTER THE EXPOSURE

Masalimov E.T., Muldagaliev T.Zh., Lipikhina A.V., Kenzhina L.B., Koshpesova G.K.

Keywords: radiation, radiation dose, mortality, risk group, disease.

At present there are known two global radiation-hygienic situations related to nuclear weapons tests and the Chernobyl nuclear power plant. These situations are combined by contamination of large areas of nuclear fission products that is cause of migration of separate radionuclide from environmental objects in locally grown food, which, in turn, creates the irradiation conditions of the gastrointestinal tract and the formation of post radiation disease.

In two representative study groups of persons exposed to radiation during the period of 1949-1962 years (dose to 250 mSv or more), as well as the period of 1963-1990 years (internal dose 75 mSv), studied mortality from diseases of the gastrointestinal tract (GIT). Relative risk from internal exposure were significantly higher than in the group with EED (effective equivalent dose) 250 mSv or more (1.55, 1.24, respectively).

Research results of domestic and foreign scientists on the analysis and evaluation of radiation-hygienic and medical and demographic consequences of the nuclear test site allowed fairly complete description of the short-and long-term effects of ionizing radiation among the population of Kazakhstan decreed.

In the structure of gastrointestinal diseases as causes of death, share of disease of the esophagus, stomach, duodenum 12 (average 35.5%), liver disease (mean 28.4%) and diseases of the gallbladder and bile passages (average 16.7%) were prevailed.

Thus, in recent years the concept of radiation-sensitive (critical) and radio resistance (non-critical) systems (or tissues) of the body vary significantly due to new data on the nature of the different responses to the action of ionizing radiation energy cells with low proliferative capacity (mainly it - parenchyma cells of organs) or even no dividing (cells of the nervous and muscular systems). One cannot ignore the fact that these events are taking place against the background of the progression of age-related changes, in other words, against the background of biological aging. Studies show that the integrated biological age of this group of victims ahead of that of people of similar age and sex of the calendar for 8-10 years. The number of diagnoses of patients ranged from 5 to 12 or more, that is, they are characterized polymorbidity. In recent years the idea of the radiation-sensitive (critical) and radio resistance (non-critical) systems (or tissues) of the body vary significantly due to new data on the nature of the different responses to the action of ionizing radiation energy cells with low proliferative capacity (mainly it - cells parenchyma organs) or general-dividing (cells of the nervous and muscular systems).

Thus, analyzed literature data on the studied subjects showed the presence of fairly pronounced effects of prolonged internal and external exposure at different doses against digestive individuals of different age groups.

PRACTICAL TIPS FOR JUNIOR RESEARCHERS



EASE Guidelines for Authors and Translators of Scientific Articles to be published in English (June 2011)

European Association of Science Editors
www.ease.org.uk

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To make international scientific communication more efficient, research articles and other scientific publications should be COMPLETE, CONCISE, and CLEAR. These generalized guidelines are intended to help authors, translators, and editors to achieve this aim.

First of all:

- Do not begin drafting the whole paper until you are sure that your findings are reasonably firm and complete (O'Connor 1991), allowing you to draw **sensible and reliable conclusions**.
- Before you start writing, preferably **choose the journal** to which you will submit your manuscript. Make sure that the journal's readership corresponds to your own target audience ([Chipperfield et al. 2010](#)). Get a copy of the journal's instructions to authors and plan the article to fit the journal's preferred format in terms of overall length, number of figures required/allowed, etc.

Manuscripts should be COMPLETE, i.e. no necessary information should be missing. Remember that **information is interpreted more easily if it is placed where readers expect to find it** ([Gopen & Swan 1990](#)). For example, the following information ought to be included in experimental research articles.

- **Title:** should be unambiguous, understandable to specialists in other fields, and must reflect the content of the article. Be specific, not general or vague (O'Connor 1991). If relevant, mention in the title the study period and location, the international scientific name of the studied organism or the experimental design (e.g. case study or randomized controlled trial). Information given in the title does not need to be repeated in the abstract (as they are always published jointly), although overlap is unavoidable.
- **List of authors**, i.e. all people who contributed substantially to study planning, data collection or interpretation of results **and** wrote or critically revised the manuscript **and** approved its final version ([ICMJE 2010](#)). The authors listed first should be those who did most. Names of authors must be supplemented with their **affiliations** (during the study) and the **present address** of an author for correspondence. E-mail addresses of all authors should be provided, so that they can be contacted easily.
- **Abstract:** briefly explain why you conducted the study (background), what question(s) you aimed to answer (objectives), how you performed the study (methods), what you found (results: major data, relationships), and your interpretation and main consequences of your findings (conclusions). The abstract must **reflect the content** of the article, as for most readers it will be the major source of information about your study. You must **use all keywords** within the abstract, to facilitate on-line searching for your article by those who may be interested in your results (many databases include only titles and abstracts). In a **research report**, the abstract should be **informative**, including actual results. Only in **reviews**, metaanalyses, and other wide-scope articles, should the abstract be **indicative**, i.e. listing the major topics discussed but not giving outcomes (CSE 2006). Do not refer in the abstract to tables or figures, as abstracts are also published separately. References to the literature are also not allowed unless they are absolutely necessary (but then you need to provide detailed information in brackets: author, title, year, etc.). Make sure that all the information given in the abstract also appears in the main body of the article. (*See Appendix: Abstracts*)
- **List of additional keywords** (if allowed by the editors): include all relevant scientific terms that are absent from the title and abstract. Keep the keywords specific. Add more general terms if your study has interdisciplinary significance (O'Connor 1991). In medical texts, use vocabulary found in the [MeSH Browser](#).
- **List of abbreviations** (if required by the editors): define all abbreviations used in the article, except those obvious to non-specialists.
- **Introduction:** explain why the study was needed and specify your **research objectives** or the question(s) you aimed to answer. Start from more general issues and gradually focus on your research question(s).
- **Methods:** describe in detail how the study was carried out (e.g. study area, data collection, criteria, origin of analysed material, sample size, number of measurements, age and sex of participants, equipment, data analysis, statistical tests, and software used). All factors that could have affected the

results need to be considered. If you cite a method described in a non- English or inaccessible publication, explain it in detail in your manuscript. Make sure that you comply with the ethical standards (e.g. [WMA 2008](#)) in respect of patient rights, animal testing, environmental protection, etc.

- **Results:** present the new results of your study (published data should not be included in this section). All tables and figures must be mentioned in the main body of the article, and numbered in the order in which they appear in the text. Make sure that the statistical analysis is appropriate (e.g. [Lang 2004](#)). Do not fabricate or distort any data, and do not exclude any important data; similarly, do not manipulate images to make a false impression on readers. Such data manipulations may constitute scientific fraud (see [COPE flowcharts](#)).
- **Discussion:** answer your research questions (stated at the end of the introduction) and compare your new results with published data, as objectively as possible. Discuss their limitations and highlight your main findings. Consider any findings that run contrary to your point of view. To support your position, use **only methodologically sound evidence** ([ORI 2009](#)). At the end of the discussion or in a separate section, emphasize your major conclusions and the practical significance of your study.
- **Acknowledgements:** mention all people who contributed substantially to the study but cannot be regarded as co-authors, and acknowledge all sources of funding. The recommended form is: “This work was supported by the Medical Research Council [grant number xxxx]”. If no specific funding was provided, use the following sentence: “This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.” ([RIN 2008](#)). If relevant, disclose to the editors any other conflicts of interest, e.g. financial or personal links with the manufacturer or with an organization that has an interest in the submitted manuscript ([Goozner et al. 2009](#)). If you reproduce previously published materials (e.g. figures), ask the copyright owners for permission and mention them in the captions or in the acknowledgements. If you were helped by a language professional (e.g. author’s editor or translator), a statistician, data collectors, etc., you should acknowledge their assistance for the sake of transparency ([ICMJE 2010](#), [Graf et al. 2009](#)). It must be clear that they are not responsible for the final version of the article. You must ensure you have the consent of all the people named in this section. (*See Appendix:Ethics*)
- **References:** make sure that you have provided sources for all information extracted from other publications. In the list of references, include all data necessary to find them in a library or in the Internet. For non-English publications, give the **original title** (transliterated according to English rules if necessary), wherever possible followed by its translation into English in square brackets ([CSE 2006](#)). Avoid citing inaccessible data. Do not include unpublished data in the list of references – if you must mention them, describe their source in the main body of the article, and obtain permission from the producer of the data to cite them.
- A **different article structure** may be more suitable for theoretical publications, review articles, case studies, etc.
- Some publications include also an abstract or a longer **summary in another language**. This is very useful in many fields of research.
- Remember to comply with the journal’s **instructions to authors** in respect of abstract length, style of references, etc. Write **CONCISELY** to save the time of referees and readers.
- **Do not include information that is not relevant to your research question(s)** stated in the introduction. The **number of cited works should not be excessive** – do not give many similar examples.
- **Do not copy** substantial parts of your previous publications and do not submit the same manuscript to more than one journal at a time. Otherwise, you may be responsible for **redundant publication** (see [COPE flowcharts](#)). This does not apply to preliminary publications, such as conference abstracts ([O’Connor 1991](#)). Moreover, **secondary publications** are acceptable if intended for a completely different group of readers (e.g. in another language or for specialists and the general public) and you have received approval from the editors of both journals ([ICMJE 2010](#)). A reference to the primary publication must then be given in a footnote on the title page of the secondary publication.
- Information given in one section preferably **should not be repeated** in other sections. Obvious exceptions include the abstract, the figure legends and the concluding paragraph.

- Consider whether all tables and figures are necessary. Data presented in tables should not be repeated in figures (or vice versa). Long lists of data should not be repeated in the text.
- Captions to tables and figures must be **informative but not very long**. If similar data are presented in several tables or several figures, then the format of their captions should also be similar.
- Preferably **delete obvious statements** (e.g. “Forests are very important ecosystems.”) and other redundant fragments (e.g. “It is well known that...”).
- If a **long scientific term** is frequently repeated, define its abbreviation at first use in the main body of the article, and later apply it consistently.
- Express your doubts if necessary but **avoid excessive hedging** (e.g. write “are potential” rather than “may possibly be potential”). However, **do not overgeneralize** your conclusions.
- Unless required otherwise by the editors, **use numerals for all numbers**, i.e. also for one-digit whole numbers, **except for zero, one** (if without units), **and other cases where misunderstanding is possible**, e.g. at the beginning of a sentence or before abbreviations containing numbers (CSE 2006). Write CLEARLY to facilitate understanding – make the text readable.

Scientific content

- **Clearly distinguish your original data and ideas** from those of other people and from your earlier publications – provide citations whenever relevant. **Preferably summarize or paraphrase** text from other sources. This applies also to translations. When copying text literally (e.g. a whole sentence or longer text), put it in inverted commas (e.g. [ORI 2009](#), [Kerans & de Jager 2010](#)). Otherwise you could commit **plagiarism** (see [COPE flowcharts](#)) or self-plagiarism.
- Make sure that you are using **proper English scientific terms**, preferably on the basis of texts written by native English speakers. Literal translations are often wrong (e.g. so-called *false friends* or non-existent words invented by translators). If in doubt, **check the definition** in an English dictionary, as many words are used incorrectly (e.g. *trimester* with reference to animal pregnancy, see [Baranyióv6 1998](#)). You can also search for a word or phrase in Wikipedia, for example; then compare the results in your native language and in English, and see if the meaning of putative equivalents is truly the same. However, Wikipedia is not always a reliable source of information.
- If a word is used mostly in translations and only rarely in English-speaking countries, consider replacing it with a commonly known English term with a similar meaning (e.g. *plant community* instead of *phytocoenosis*). If a scientific term has no synonym in English, then define it precisely and suggest an acceptable English translation.
- **Define every uncommon or ambiguous scientific term** at first use. You can list its synonyms, if there are any (to aid in searching), but later employ only one of them consistently (to prevent confusion). Formal nomenclature established by scientific organizations should be preferred.
- **Avoid unclear statements**, which require the reader to guess what you meant. (*See Appendix: Ambiguity*)
- When reporting percentages, make clear **what you regard as 100%**. When writing about correlations, relationships, etc., make clear which values you are comparing with which.
- **Systeme International (SI) units and Celsius degrees** are generally preferred. If necessary, abbreviate litre as L (CSE 2006), to avoid confusion with the number 1.
- Unlike many other languages, English has a **decimal point** (not comma). In numbers exceeding 4 digits to the right or left of the decimal point, use **thin spaces** (not commas) between groups of 3 digits in either direction from the decimal point (CSE 2006).
- To denote centuries, months, etc., **do not use capital Roman numerals**, as they are rare in English. Because of difference between British and American date notation (see below), preferably denote months as whole words or their first 3 letters.
- If lesser known **geographic names** are translated, the original name should also be mentioned if possible, e.g. “in the Kampinos Forest (Puszcza Kampinowska)”. Some additional information about location, climate, etc., may also be useful for readers.
- Remember that the text will be **read mainly by foreigners**, who may be unaware of the specific conditions, classifications or concepts that are widely known in your country; therefore, addition of some explanations may be necessary ([Ufnalska 2008](#)). For example, the common weed *Erigeron*

annuus is called *Stenactis annua* in some countries, so in English texts the internationally approved name should be used, while its synonym(s) should be added in brackets.

Text structure

- **Sentences generally should not be very long. Their structure should be relatively simple**, with the subject located close to its verb (Gopen & Swan 1990). For example, avoid abstract nouns and write “X was measured...” instead of “Measurements of X were carried out...”. (See Appendix: *Simplicity*) Do not overuse passive constructions (e.g. Norris 2011). When translating, modify sentence structure if necessary to convey the message correctly or more clearly (Burrough-Boenisch 2003).
- **The text should be cohesive, logically organized**, and thus easy to follow. (See Appendix: *Cohesion*)
- Each paragraph preferably should start with a topic sentence, and the next sentences fully develop the topic.
- In contrast to some other languages, English allows parallel constructions, as they facilitate understanding. For example, when comparing similar data, you can write “It was high in A, medium in B, and low in C”, rather than “It was high in A, medium for B, and low in the case of C”.
- **Make figures and tables easily understandable** without reference to the main body of the article. Omit data that are not informative (e.g. delete a column if it contains the same values in all rows – you can write about it in a footnote instead). Apply abbreviations only if necessary for consistency or if there is not enough room for whole words. In captions or footnotes, define all abbreviations and symbols that are not obvious (e.g. error bars may denote standard deviation, standard error or confidence intervals). **Remember to use decimal points** (not decimal commas) and **provide axis labels and units** wherever needed.
- Consider using **text-tables** when presenting a small set of data (Kozak 2009). (See Appendix: *Text-tables*)
- In long lists (of abbreviations, etc.), preferably separate individual items by **semicolons (;)**, which are intermediate between commas and full stops.

Language matters

- Wherever scientific terms are not necessary, preferably use **commonly known words**. However, avoid colloquial and idiomatic expressions, as well as phrasal verbs, (e.g. *find out*, *pay off*), which are often difficult to understand by non-native speakers of English (Geercken 2006).
- **Define abbreviations** when they first appear in the main body of the article (if they may be unclear to readers). **Do not use too many different abbreviations**, as the text would be hard to understand. Do not abbreviate terms that are used only rarely in your manuscript. **Avoid abbreviations in the abstract**.
- In general, use the **past tense** when describing how you performed your study and what you found or what other researchers did. Preferably use the **present tense** in general statements and interpretations (e.g. statistical significance, conclusions) or when writing about the content of your article, especially tables and figures (Day & Gastel 2006).
- **Do not write about yourself “the author(s)”**, as this is ambiguous. Instead, write “we” or “I” if necessary, or use expressions like “in this study”, “our results” or “in our opinion” (e.g. Hartley 2010, Norris 2011). Note that you should write “this study” only if you mean your new results. If you mean a publication mentioned in a previous sentence, write “that study”. If you mean authors of a cited publication, write “those authors”.
- Remember that in scientific texts the word “**which**” should be used in non-defining clauses, while “**that**” in defining clauses (i.e. meaning “only those that”).
- When using **equivocal words**, make sure that their meaning is obvious from the text context. Check if all **verbs agree in number with their subjects** and if the **references for all pronouns are clear** (this is crucial in translated texts). Note that some nouns have **irregular plurals**. (See Appendix: *Plurals*)

- Read the text aloud to check punctuation. All **intonation breaks** necessary for proper understanding should be denoted with commas or other punctuation marks (e.g. note the difference between “no more data are needed” and “no, more data are needed”).
- Be **consistent in spelling**. Follow either British or American rules for spelling and date notation (e.g. “21 Sep 2009” in British, or “Sep 21, 2009” in American English; *see Appendix: Spelling*). Check whether the target journal uses American or British spelling, and then use that setting on your word and grammar check.
- Ask a thoughtful colleague to read the whole text, in order to see if there are any ambiguous fragments. CONTRIBUTORS TO THE GUIDELINES (in chronological order): Sylwia Ufnalska, Paola De Castro, Liz Wager, Carol Norris, James Hartley, Françoise Salager-Meyer, Marcin Kozak, Ed Hull, Mary Ellen Kerans, Angela Turner, Will Hughes, Peter Hovenkamp, Thomas Babor, Eric Lichtfouse, Richard Hurley, Mercè Piqueras, Maria Persson, Elisabetta Poltronieri, Suzanne Lapstun, Mare-Anne Laane, David Vaux, Arjan Polderman, Ana Marusic, Elisabeth Heseltine, Joy Burrough-Boenisch, Eva Baranyiová

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Appendix: Abstracts

Key elements of abstracts

Researchers are quite often in a “box” of technical details – the “important” things they focus on day in and day out. As a result, they frequently lose sight of 4 items essential for any readable, credible, and relevant IMRaD1 article: the point of the research, the research question, its answer, and the consequences of the study. To help researchers to get out of the box, I ask them to include 6 key elements in their article and in their abstract. I describe briefly the elements below and illustrate them with a fictitious abstract.

Key element 1 (BACKGROUND): the point of the research – why should we care about the study? This is usually a statement of the BIG problem that the research helps to solve and the strategy for helping to solve it. It prepares the reader to understand the specific research question.

Key element 2 (OBJECTIVES): the specific research question – the basis of credible science. To be clear, complete and concise, research questions are stated in terms of relationships between the variables that were investigated. Such specific research questions tie the story together – they focus on credible science.

Key element 3 (METHODS): a description of the methods used to collect data and determine the relationships between the variables.

Key element 4 (RESULTS): the major findings – not only data, but the RELATIONSHIPS found that lead to the answer. These are historical facts and, therefore, reported in past tense.

Key element 5 (CONCLUSIONS): the answers to the research questions – the authors’ INTERPRETATION of the factual findings. An answer to a research question is in the present tense – it reports the authors’ belief of how the world IS. Of course, in a pilot study such as the example below, the authors cannot yet present definitive answers, which they indicate by using the words “suggest” and “may”.

1 IMRaD stands for Introduction, Methods, Results, and Discussion.

Key element 6 (final CONCLUSIONS): the consequences of the answers – the value of the work. This element relates directly back to the big problem: how the study helps to solve the problem, and it also points to the next step in research. To save words in an abstract, we can combine several of the elements in a sentence. Here is a fictitious example. I have indicated the beginning of each key element with [.]

Predicting malaria epidemics in Ethiopia

Abstract [1] Most deaths from malaria could be prevented if malaria epidemics could be predicted in local areas, allowing medical facilities to be mobilized early. Epidemics are known to be related to meteorological factors, but their correlations with subsequent malaria epidemics have never been determined. [2, 3] In a retrospective study, we collected meteorological and epidemic data for 10 local areas in Ethiopia, covering the years 1963-2006. Using Poisson regression, we found that [4, 5] factors AAA, BBB, and CCC correlated significantly ($P < 0.05$) with subsequent epidemics in all 10 areas, and our model has a predictive power of about 30%. [6] We conclude that meteorological factors can be used to predict malaria epidemics. The predictive power of our model needs to be improved, and it needs to be validated in other areas. (126 words)

This understandable and concise abstract forms the “skeleton” for the entire article. A final comment: This example is based on an actual research project and, at first, the author was in a “box” full of the mathematics, statistics, and computer algorithms of his predicting model. This was reflected in his first version of the abstract, where the word “malaria” never appeared.

Written by Ed Hull, edhull@home.nl (for more information, see Bless & Hull 2008)

Appendix: Ambiguity

Empty words and sentences Many English words are empty – they do not add information but require the reader to fill in information or context to be understood. The reader is forced to supply his or her own interpretation, which could be different from what you, the writer, mean.

Empty words seem to give information and uncritical readers do not notice them – that is why they work so well for marketing texts. However, empty words do not belong in articles reporting scientific research. Empty words require the reader to supply the meaning – very dangerous. Concise and clear communication requires words that convey specific meaning.

Examples

It is important that patients take their medicine.

- Note that to a physician the meaning is probably entirely different than to the sales manager of a pharmaceutical company. “Important” is one of our best-loved, but empty, words – it fits every situation.

The patient was treated for XXX.

- “Treated” is empty; we do not know what was done. One reader could assume that the patient was given a certain medicine, while another reader could assume that the patient was given a different medicine. Perhaps the patient was operated on, or sent to Switzerland for a rest cure.

The patient reacted well to the medicine.

- “Reacted well” gives us a positive piece of information, but otherwise it is empty; we do not know how the patient reacted.

The patient’s blood pressure was low.

- We interpret “high/low blood pressure” to mean “higher/lower than normal”, but we, the readers, have to supply that reference standard. A more concise statement is: *The patient’s blood pressure was 90/60.*

Empty words and phrases not only require the reader to supply the meaning, they also contribute to a wordy blah-blah text. In scientific articles they destroy credibility. Here are some examples.

It has been found that the secondary effects of this drug include...

- Better: *The secondary effects of this drug include...(ref).* Or, if these are your new results: *Our results show that the secondary effects of this drug include...*

We performed a retrospective evaluation study on XXX.

- “Performed a study” is a much overused and rather empty phrase. Better: *We retrospectively evaluated XXX.*

More examples that require the reader to supply information if it is not evident from the context:

- *quality*
- *good/bad*
- *high/low*
- *large/small*
- *long/short*
- *proper/properly* (e.g. “...a proper question on the questionnaire...”)
- *As soon as possible...*

Written by Ed Hull, edhull@home.nl

Appendix: Cohesion

Cohesion – the glue

The word “cohesion” means “unity”, “consistency”, and “solidity”. Building cohesion into your text makes life easier for your readers – they will be much more likely to read the text. Cohesion “glues” your text together, focusing the readers’ attention on your main message and thereby adding credibility to your work.

Think of your text as a motorcycle chain made up of separate links, where each sentence is one link. A pile of unconnected links is worthless – it will never drive your motorcycle. Similarly, a pile of unconnected sentences is worthless – it will never drive your message home.

To build a cohesive text, you have to connect your sentences together to make longer segments we call paragraphs. A cohesive paragraph clearly focuses on its topic. You then need to connect each paragraph with the previous paragraph, thereby linking the paragraph topics. Linking paragraphs results in building cohesive sections of your article, where each section focuses on its main topic. Then, link the sections to each other and, finally, connect the end of your article to the beginning, closing the loop – now the chain will drive our motorcycle. Let’s look at linking techniques.

Basic guidelines for building a cohesive story:

1. Link each sentence to the previous sentence.
2. Link each paragraph to the previous paragraph.
3. Link each section to the previous section.
4. Link the end to the beginning.

Linking techniques

Whether you want to link sentences, paragraphs, sections or the beginning to the end, use 2 basic linking techniques:

- Use linking words and phrases, such as: *however, although, those, since then...*

An example: *Our research results conflict with those of Smith and Jones. To resolve those differences we measured...*

- Repeat key words and phrases – do not use synonyms. In scientific writing, repetition sharpens the focus. Repetition especially helps the reader to connect ideas that are physically separated in your text. For example: *Other investigators have shown that microbial activity can cause immobilization of labial soil phosphorus. Our results suggest that, indeed, microbial activity immobilizes the labial soil phosphorus.*

The example below illustrates how to link your answer to your research question, thus linking the Discussion with the Introduction.

In the Introduction, the research hypothesis is stated. For example: *The decremental theory of aging led us to hypothesize that older workers in “speed” jobs perform less well and have more absences and more accidents than other workers have.*

In the Discussion, the answer is linked to the hypothesis: *Our findings do not support the hypothesis that older workers in speed jobs perform less well and have more absences and more accidents than other workers have. The older workers generally earned more, were absent less often, and had fewer accidents than younger workers had. Furthermore, we found no significant difference between... Written by Ed Hull, edhull@home.nl*

Appendix: Ethics

Examples of author's ethical declarations

Obligatory declarations applying to all manuscripts are printed in bold.

Originality or acceptable secondary publication

- No part of this manuscript (MS) has been published, except for an abstract/summary published in.....
- This MS was published in but in another language (i.e.), so it could be an acceptable secondary publication in English if editors of both publications agree to it.
- **No part of this MS is currently being considered for publication elsewhere.**
- **In this MS, original data are clearly distinguished from published data. All information extracted from other publications is provided with citations. It has been paraphrased or (if cited literally, e.g. a whole sentence or paragraph) placed in inverted commas.**

Authorship

- **All people listed as authors of this MS meet the authorship criteria, i.e. they contributed substantially to study planning, data collection or interpretation of results *and* wrote or critically revised the MS *and* approved its final version.**
- **All people listed as authors of this MS are aware of it and have agreed to be listed.**
- **No person who meets the authorship criteria has been omitted.**

Ethical experimentation and interpretation

- The study reported in this MS involved human participants and it meets the ethical principles of the Declaration of Helsinki (WMA 2008).
- The study reported in this MS meets other ethical principles, namely.....
- **I and all the other authors of this MS did our best to avoid errors in experimental design, data presentation, interpretation, etc. However, if we discover any error in the MS (before or after publication), we will alert the editor promptly.**
- **None of our data presented in this MS has been fabricated or distorted, and no valid data have been excluded.**
- **Results of this study have been interpreted objectively. Any findings that run contrary to our point of view are discussed in the MS.**

Acknowledgements

- **All sources of funding for the study reported in this MS are stated.**
- **All people who are not listed as authors but contributed substantially to the study reported in this MS or assisted in its writing (e.g. language professionals) are mentioned in the acknowledgements.**
- **All people named in the acknowledgements have agreed to this. However, they are not responsible for the final version of this MS.**
- Consent has been obtained from the author(s) of unpublished data cited in the MS.
- Copyright owners of previously published figures or tables have agreed to their inclusion in this MS.

Conflict of interest

- **All authors of this study have signed a conflict of interest statement and disclosed any financial or personal links with people or organizations that have a financial interest in the submitted manuscript².**

Date:.....
 Signature:.....

Compiled by Sylwia Ufnalska, sylwia.ufnalska@gmail.com

Appendix: Plurals

Examples of irregular plural nouns deriving from Latin or Greek Singular Plural

Singular	Plural	Examples
-a	-ae rarely -ata	<i>alga – algae, larva – larvae</i> <i>stoma – stomata</i>
-ex	-ices	<i>index– indices (or indexes*)</i> <i>apex – apices (or apexes*)</i>
-ies	-ies	<i>species, series, facies</i>
-is	-es	<i>axis – axes, hypothesis – hypotheses</i>
-ix	-ices	<i>appendix – appendices (or appendixes*)</i> <i>matrix – matrices (or matrixes*)</i>
-on	-a	<i>phenomenon – phenomena, criterion – criteria</i>
-um	-a	<i>datum – data, bacterium – bacteria</i>
-us	-i rarely -uses or -era	<i>locus – loci, fungus – fungi (or funguses*)</i> <i>sinus – sinuses</i> <i>genus – genera</i>

* Acceptable anglicized plurals that are also listed in dictionaries.

It must be remembered that some nouns used in everyday English also have irregular plural forms (e.g. *woman – women, foot – feet, tooth – teeth, mouse – mice, leaf – leaves, life – lives, tomato – tomatoes*) or have no plural form (e.g. *equipment, information, news*). For more examples, see CSE (2006). If in doubt, consult a dictionary.

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Appendix: Simplicity

Examples of expressions that can be simplified or deleted (∅)

Long or (sometimes) wrong	Better choice (often)
<i>accounted for by the fact that</i>	<i>because</i>
<i>as can be seen from Figure 1, substance Z reduces twitching</i>	<i>substance Z reduces twitching (Fig. 1)</i>
<i>at the present moment</i>	<i>now</i>
<i>bright yellow in colour</i>	<i>bright yellow</i>

<i>conducted inoculation experiments on</i>	<i>inoculated</i>
<i>considerable amount of</i>	<i>much</i>
<i>despite the fact that</i>	<i>although</i>
<i>due to the fact that</i>	<i>because</i>
<i>for the reason that</i>	<i>because</i>
<i>if conditions are such that</i>	<i>if</i>
<i>in a considerable number of cases</i>	<i>often</i>
<i>in view of the fact that</i>	<i>because</i>
<i>it is of interest to note that</i>	∅
<i>it may, however, be noted that</i>	<i>but</i>
<i>large numbers of</i>	<i>many</i>
<i>lazy in character</i>	<i>lazy</i>
<i>methodology</i>	<i>methods</i>
<i>owing to the fact that</i>	<i>because</i>
<i>oval in shape</i>	<i>oval</i>
<i>prior to</i>	<i>before</i>
<i>taken into consideration</i>	<i>considered</i>
<i>terminate</i>	<i>end</i>
<i>the test in question</i>	<i>this test</i>
<i>there can be little doubt that this is</i>	<i>this is probably</i>
<i>to an extent equal to that of X</i>	<i>as much as X</i>
<i>utilize</i>	<i>use</i>
<i>whether or not</i>	<i>whether</i>

Based on O'Connor (1991)

Appendix: Spelling

Examples of differences between British and American spelling

British English	American English
- <i>ae</i> . g. <i>aetiology, anaemia, haematology</i>	- <i>ee</i> . g. <i>etiology, anemia, hematology</i>
- <i>ce</i> in nouns, - <i>se</i> in verbs e.g. <i>defence, licence/license, practice/practise</i>	- <i>se</i> in nouns and verbs e.g. <i>defense, license</i> (but <i>practice</i> as both noun and verb)
- <i>isation</i> or - <i>ization</i> * e.g. <i>organisation/organization</i>	- <i>ization</i> e.g. <i>organization</i>
- <i>ise</i> or - <i>ize</i> * e.g. <i>organise/organize</i>	- <i>ize</i> e.g. <i>organize</i>
- <i>lled, -lling, -llor, etc.</i> e.g. <i>labelled, travelling, councillor</i> (but <i>fulfil, skilful</i>)	- <i>led, -ling, -lor, etc.</i> e.g. <i>labeled, traveling, councilor</i> (but <i>fulfill, skillful</i>)
- <i>oe</i> . g. <i>diarrhoea, oedema, oestrogen</i>	- <i>ee</i> . g. <i>diarrhea, edema, estrogen</i>
- <i>ogue</i> e.g. <i>analogue, catalogue</i>	- <i>og</i> or - <i>ogue</i> e.g. <i>analog/analogue, catalog/catalogue</i>

<i>-our</i> e.g. <i>colour, behaviour, favour</i>	<i>-or</i> e.g. <i>color, behavior, favor</i>
<i>-re</i> e.g. <i>centre, fibre, metre, litre</i> (but <i>meter</i> for a measuring instrument)	<i>-er</i> e.g. <i>center, fiber, meter, liter</i>
<i>-yse</i> e.g. <i>analyse, dialyse</i>	<i>-yze</i> e.g. <i>analyze, dialyze</i>
<i>acknowledgement</i>	<i>acknowledgment</i>
<i>aluminium</i>	<i>aluminum</i> or <i>aluminium**</i>
<i>grey</i>	<i>gray</i>
<i>mould</i>	<i>mold</i>
<i>programme</i> (general) or <i>program</i> (computer)	<i>program</i>
<i>sulphur</i> or <i>sulfur**</i>	<i>sulfur</i>

* One ending should be used consistently.

** Recommended by the International Union of Pure and Applied Chemistry and the Royal Society of Chemistry. For more examples, see CSE (2006). If in doubt, consult a dictionary. Obviously, American and British English slightly differ not only in spelling but also in word use, grammar, punctuation, etc. However, those differences are outside the scope of this document.

Compiled by Sylwia Ufnalska, sylwia.ufnalska@gmail.com

Appendix: Text-tables

Text tables – effective tools for presentation of small data sets

Arranging statistical information in a classic table and referring to it elsewhere means that readers do not access the information as immediately as they would when reading about it within the sentence. They have to find the table in the document (which may be on another page), at a cost of losing some time. This slightly decreases the strength of the information. Quicker access to the information can be achieved within a sentence, but this is not an effective structure if more than 2 numbers are to be compared.

In such situations, a “text-table” appears to be ideal for communicating information to the reader quickly and comprehensibly (Tufté 2001). The text-table is a simple table with no graphic elements, such as grid lines, rules, shading or boxes. The text-table is embedded within a sentence, so no reference to it is needed. Keeping the power of tabular arrangements, text-tables immediately convey the message. Look at the following examples.

Original sentence:

Iron concentration means (\pm standard deviation) were as follows: 11.2 \pm 0.3 mg/dm³ in sample A, 12.3 \pm 0.2 mg/dm³ in sample B, and 11.4 \pm 0.9 mg/dm³ in sample C.

Modified:

Iron concentration means (\pm standard deviation, in mg/dm³) were as follows:

sample B 12.3 \pm 0.2

sample C 11.4 \pm 0.9

sample A 11.2 \pm 0.3

Original sentence (do Carmo et al. 2001):

“Prior to rotavirus vaccine introduction, there was a trend of declining diarrhea-related mortality among children younger than 1 y (relative reduction [RR] = 0.87/y; 95% CI 0.83-0.94; 1 to < 2 y of

age (RR = 0.96/y; 95% CI 0.91-1.02; $p = 0.23$) and 2 to 4 y of age (RR = 0.93/y; 95% CI 0.87-1.00; $p = 0.06$).”

Modified:

Prior to rotavirus vaccine introduction, there was a trend of declining diarrhea-related mortality among children in all age groups (RR stands for relative reduction per year):

< 1 y RR = 0.87 (95% CI 0.83-0.94; $p < 0.001$)

1 to < 2 y RR = 0.96 (95% CI 0.91-1.02; $p = 0.23$)

2 to 4 y RR = 0.93 (95% CI 0.87-1.00; $p = 0.06$)

Some rules for arranging text-tables

1. The larger a text-table is, the less power it has.
2. The sentence that precedes the text-table acts as a heading that introduces the information the text-table represents, and usually ends with a colon. Text-tables should have neither headings nor footnotes.
3. Indentation of text-tables should fit the document's layout.
4. Occasional changes in font (such as italics, bold, a different typeface) may be used, but with caution. They can, however, put some emphasis on the tabular part.
5. Do not use too many text-tables in one document or on one page.
6. In addition to the above rules, apply rules for formatting regular tables. For example, numbers should be given in 2-3 effective digits; ordering rows by size and their correct alignment will facilitate reading and comparison of values; space between columns should be neither too wide nor too narrow. *Written by Marcin Kozak, nyggus@gmail.com (for more information, see Kozak 2009)*

About EASE

Background information about EASE and the EASE Guidelines

The European Association of Science Editors (EASE) was formed in May 1982 at Pau, France, from the European Life Science Editors' Association (ELSE) and the European Association of Earth Science Editors (Editerra). Thus in 2012 we celebrate the 30th anniversary of our Association. EASE is affiliated to the International Union of Biological Sciences (IUBS), the International Union of Geological Sciences (IUGS), the International Organization for Standardization (ISO), and is represented on committees of the British Standards Institution. Through its affiliation to IUBS and IUGS, our Association is also affiliated to the International Council for Science (ICSU) and is thereby in formal associate relations with UNESCO. EASE cooperates with the International Society for Addiction Journal Editors (ISAJE), International Association of Veterinary Editors (IAVE), International Society of Managing and Technical Editors (ISMTE), the Council of Science Editors (CSE), and the Association of Earth Science Editors (AESE) in North America. Our other links include the African Association of Science Editors (AASE), the Association of Learned and Professional Society Publishers (ALPSP), the European Medical Writers Association (EMWA), the Finnish Association of Science Editors and Journalists (FASEJ), Mediterranean Editors and Translators (MET), the Society of English-Native-Speaking Editors (Netherlands) (SENSE), and the Society for Editors and Proofreaders (SfEP). We have major conferences every 3 years. The last one, entitled *Editing in the Digital World*, was held in Tallinn in June 2012. EASE also organizes occasional seminars, courses, and other events between the conferences. Since 1986, we publish a journal, now entitled *European Science Editing*. It is distributed to all members 4 times a year. It covers all aspects of editing and includes original articles and meeting reports, announces new developments and forthcoming events, reviews books, software and online resources, and highlights

publications of interest to members. To facilitate the exchange of ideas between members, we also use an electronic EASE Forum, the EASE Journal Blog, and our website (www.ease.org.uk). In 2007, we issued the *EASE statement on inappropriate use of impact factors*. Its major objective was to recommend that “journal impact factors are used only – and cautiously – for measuring and comparing the influence of entire journals, but not for the assessment of single papers, and certainly not for the assessment of researchers or research programmes either directly or as a surrogate”. In 2010, we published *EASE Guidelines for Authors and Translators of Scientific Articles*. Our goal was to make international scientific communication more efficient and help prevent scientific misconduct. This document is a set of generalized editorial recommendations concerning scientific articles to be published in English. We believe that if authors and translators follow these recommendations before submission, their manuscripts will be more likely to be accepted for publication. Moreover, the editorial process will probably be faster, so authors, translators, reviewers and editors will then save time. *EASE Guidelines* are a result of long discussions on the EASE Forum and during our 2009 conference in Pisa, followed by consultations within the Council. The document is updated annually and is already available in 20 languages: Arabic, Bangla, Bosnian, Chinese, Croatian, Czech, English, Estonian, French, Hungarian, Italian, Japanese, Korean, Persian, Polish, Portuguese (Brazilian), Romanian, Russian, Spanish, and Turkish.. The English original and its translations can be freely downloaded as PDFs from our website. We invite volunteers to translate the document into other languages. Many institutions promote *EASE Guidelines* (e.g. see the European Commission Research & Innovation website), and many articles about this document have been published. Scientific journals also help in its popularization, by adding at the beginning of their instructions for authors a formula like: Before submission, follow *EASE Guidelines for Authors and Translators*, freely available at www.ease.org.uk/publications/author-guidelines in many languages. Adherence should increase the chances of acceptance of submitted manuscripts. This year we launch the *EASE Toolkit for Authors*, freely available on our website. The *Toolkit* supplements *EASE Guidelines* and includes more detailed recommendations and resources on scientific writing and publishing for less experienced researchers. Besides, EASE participates in the sTANDEM project (www.standem.eu), which concerns standardized tests of professional English for healthcare professionals worldwide. Our Association also supports the global campaign Healthcare Information For All by 2015 (www.hifa2015.org).

For more information about our Association, member’s benefits, and major conferences, see the next page and our website.

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2012 Tallinn, Estonia (30th Anniversary)

2009 Pisa, Italy

2006 Krakow, Poland

2003 Bath, UK

2003 Halifax, Nova Scotia, Canada (joint meeting with AESE)

2000 Tours, France

1998 Washington, DC, USA (joint meeting with CBE and AESE)

1997 Helsinki, Finland

1994 Budapest, Hungary

1991 Oxford, UK

1989 Ottawa, Canada (joint meeting with CBE and AESE)

1988 Basel, Switzerland

1985 Holmenkollen, Norway

1984 Cambridge, UK

1982 Pau, France