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HEALTH SYSTEMS IN TRANSITION KAZAKHSTAN

Maksut Kulzhanov, Bernd Rechel

Health status

Trends in life expectancy in Kazakhstan are broadly similar to those observed in the Commonwealth of Independent States, although life expectancy in Kazakhstan has remained below the CIS average and the decline in life expectancy after 1991 was steeper (Figure 2). The dissolution of the Soviet Union was followed by a dramatic decline in life expectancy. In Kazakhstan, life expectancy dropped from 68.81 in 1990 to 64.4 in 1996, and has since increased again to 65.89 in 2005 (WHO 2007a). However, despite the economic recovery, this still fell almost three years short of its 1990 level and was 13.74 years lower than average life expectancy in the EU-15, which was recorded at 79.63 years in 2004 (WHO 2007a).

Kazakhstan has one of the world's largest gender gaps in life expectancy (IRIN 2007a). In 2005, according to official statistics, males could expect to live 60.4 years, while official female life expectancy was 71.73 years (WHO 2007a).

Male life expectancy also experienced a much steeper fall than female life expectancy in the first half of the 1990s, from 63.9 years in 1990 to 58.93 years in 1996 (WHO 2007a). The largest proportionate increases in mortality have occurred among males of working age. Between 1987 and 1995, mortality rates more than doubled for men aged 30-44 and rose by more than 75% for men aged 45-54 (Becker and Urzhumova 2005). There are also substantial regional variations in life expectancy. The most prosperous areas (Almaty city and the capital Astana) have a substantial advantage in terms of life expectancy over other, more depressed areas of the country (Becker and Urzhumova 2005).

It should however be noted that actual life expectancy may be even lower than recorded in official statistics. The reason for this lies in the underreporting of infant mortality, which will be described in more detail below. Estimates that take this factor into account point to an actual life expectancy of 61 years in 2003, 4 years less than official statistics indicate (Rechel, Shapo et al. 2005).

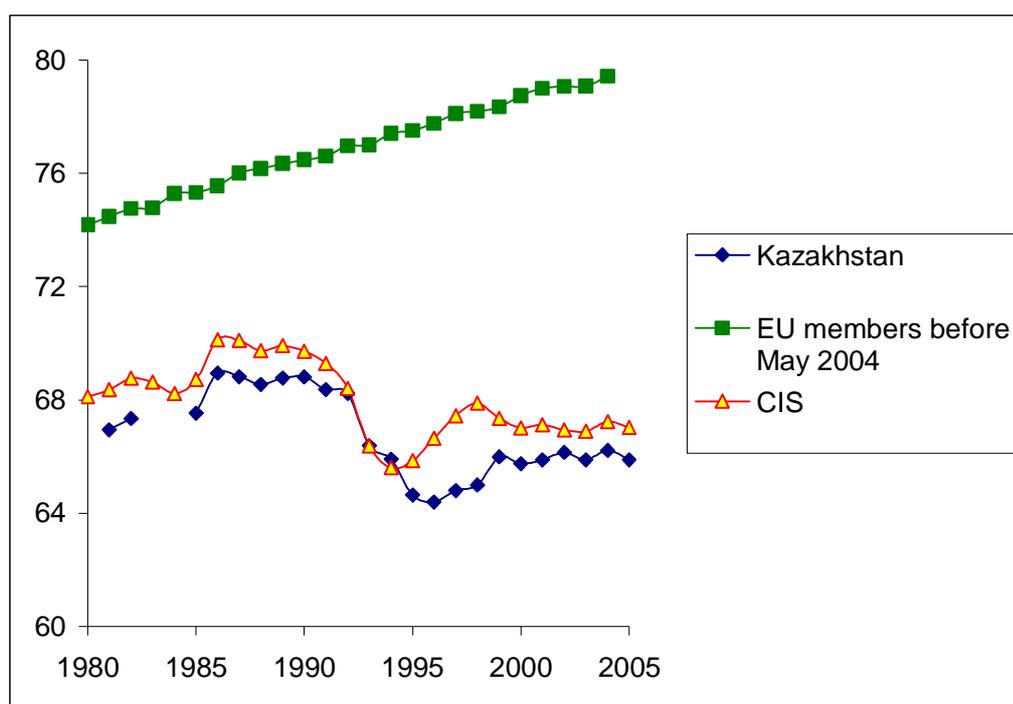
Table 1 Official and estimated life expectancy, 1990-2005

	1990	2000	2001	2002	2003	2004	2005
Life expectancy at	68.81	65.75	65.89	66.15	65.89	66.21	65.89

birth, in years							
Life expectancy at birth, in years, male	63.90	60.18	60.61	60.92	60.63	60.72	60.4
Life expectancy at birth, in years, female	73.40	71.65	71.41	71.62	71.47	72.02	71.73
Estimated life expectancy, (World Health Report)		62.49	63	63.6	61	61.5	

Source: (WHO 2007a)

Figure 1 Official life expectancy at birth, Kazakhstan, EU members before May 2004, CIS, 1980-2005



Source: WHO Regional Office for Europe health for all database, June 2007

Table 2 Estimated mortality and health indicators, 1970, 1980, 1990, 2000, and 2005

	1970	1980	1990	2000	2005
Life expectancy at birth, female (years)	--	71.9	73.1	71.1	71.9

Life expectancy at birth, male (years)	--	61.6	63.8	60.2	60.9
Life expectancy at birth, total (years)	--	66.6	68.3	65.5	66.2
Mortality rate, adult, female (per 1000 female adults)	149	140	136	--	152
Mortality rate, adult, male (per 1000 male adults)	318	312	306	--	343
Mortality rate, 15-60 years, female ^a					194
Mortality rate, 15-60 years, male ^a					437
Mortality rate, infant (per 1000 live births)	--	72	53	63	63
Mortality rate, under-5 (per 1000)	--	85	63	73	73

Source: (WB 2007); ^a(WHO 2007b)

Disability-adjusted life expectancy at birth was estimated at 52.6 years for males and 59.3 years for females in 2002 (WHO 2007a).

The decrease in life expectancy in Kazakhstan in the 1990s is largely due to an increase in mortality from cardiovascular diseases, in particular among middle-aged males. The age-standardized death rate from ischaemic heart disease for males increased from 405 per 100 000 male population in 1989 to 611 in 1996, declining again to 525 in 2005 (compared to 118 in the EU-15 in 2004) (WHO 2007a).

The age-standardized death rate for selected alcohol-related causes is also high and stood at 308 per 100 000 population in 2003, compared to 58 per 100 000 in the EU-15 in 2004. Age-adjusted cancer mortality rates (at 173 per 100 000 in 2005) are comparable to those in the EU-15, but significantly higher than the central Asian average of 107 per 100 000 population (WHO 2007a).

There are however problems with the identification of causes of death (President of Kazakhstan 2004), so that mortality related statistics by cause of death have to be treated with some caution.

Alcohol consumption, smoking, diets high in fats and low in antioxidants, and poor detection and treatment of hypertension are major contributing factors to the increase in cardiovascular mortality (McKee and Chenet 2002). According to a nationally representative survey with 2000 respondents conducted in 2001, 55.6% of men in Kazakhstan were heavy vodka drinkers and only 13.8% consumed fruits on a daily basis (Cockerham, Hinote et al. 2004). While market liberalization has resulted in increased availability of a large number of consumer items, its effects on public health have often been detrimental. A survey of 648 vendors in Almaty in 1999-2000

found that cigarettes, alcohol, sweets, coffee, and tea were widely available, but that there was only limited availability of fruits, vegetables, and whole grains (Yim, Humphries et al. 2003).

Central Asia has also become one of the key targets for the international tobacco industry (Gilmore and McKee 2004). The Living Conditions, Lifestyles and Health Study of eight countries in the former Soviet Union (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, and Ukraine) found the highest smoking prevalence among males in Kazakhstan, where 65.3% of male and 9.3% of female respondents reported to be currently smoking (Pomerleau, Gilmore et al. 2004). However, according to three surveys conducted by the National Centre on Healthy Lifestyles in 1998, 2001, and 2004, the incidence of tobacco smoking among the general population decreased from 28% to 23% and smoking among health professionals decreased from 34% to 26%. Despite health education campaigns in schools, however, the surveys did not find evidence of reduced smoking rates among adolescents, with an incidence of 14% in 13-15 year-olds in 2004 (National Centre on Healthy Lifestyles 2006).

Kazakhstan also has very high death rates due to external causes (accidents, injuries, poisonings, and traumas) and an increase in external cause mortality contributed to the mortality crisis in the 1990s, in particular for non-Kazakh males of working age (Becker and Urzhumova 2005). Age-standardized mortality rates increased from 118 per 100 000 in 1991 to 161 in 2005, which was close to the CIS average (159), but considerably higher than the CARK average (81) and more than four times higher than the EU-15 average (37 in 2004) (WHO 2007a). In 2005, external cause mortality in Kazakhstan was one of the highest in the WHO European region, only surpassed by Russia and Belarus (WHO 2007a). A significant proportion of external cause mortality is due to suicide, in particular among males (49 per 100 000 male population in 2005) (WHO 2007a). Car accidents are another important cause of external cause mortality and the use of seat belts, although mandatory, is not strictly enforced. The age-standardized mortality rate for motor vehicle travel accidents among males was 20 per 100 000 in 2003, which compared to 13 per 100 000 in the EU-15 in 2004 (WHO 2007a).

Like other countries of eastern Europe and central Asia, Kazakhstan has recorded a significant increase in the incidence of diabetes in recent years. In Kazakhstan, the incidence rate increased from 35 per 100 000 population in 1995 to 116 in 2005, which is below the CIS average of 158, but above the CARK average of 60 per 100 000 (WHO 2007a).

Table 3. Infant mortality rate per 1000 live births

	1990	2000	2001	2002	2003	2004	2005
Official statistics as reported to WHO	26.69	19.08	19.18	16.91	15.35	13.98	15.1

World Bank estimate	53	63					63
World Health Report		33				63	

Sources: (WB 2007; WHO 2007a)

The officially recorded infant mortality has decreased since 1990, reaching 15.1 per 1000 live births in 2005 (WHO 2007a), but the recorded decline is likely to reflect growing underreporting (Becker and Urzhumova 2005). There were also substantial regional differences, with the lowest infant mortality recorded in Almaty city and the highest in Kyzylorda *oblast* (WB 2004b).

In all central Asian republics, serious concerns have been raised about the quality of official statistics on infant and child mortality. There are three main factors that contribute to the discrepancy between official data and estimates by international organizations: the continued use of the Soviet definition of live birth (which considers infants who are born at less than 28 weeks of gestation or weigh less than 1000 grams as miscarriages unless they survive to 7 days of age) (President of Kazakhstan 2004); misreporting by medical staff (sometimes deliberate to avoid investigations); and failure by parents to report births and deaths of children to the authorities (Aleshina and Redmond 2003). A study in Zhambyl *oblast* in 1996-1997 found an infant mortality of 32 per 1000 live births according to the Soviet definition and an infant mortality of 59 per 1000 under the WHO definition. The Demographic and Health Survey of 1999, based on a nationally representative sample of 4800 women of reproductive age, established an estimated infant mortality of 62 per 1000 live births for the period 1994-1999 and an under-five mortality rate for the same period of 71 per 1000 live births (DHS 1999).

In January 2005, the Ministry of Health issued a decree to adopt the WHO definition of a live birth, which provides a broader definition of live birth than the Soviet version. With the support of the US Centres for Disease Control and Prevention (CDC), health professionals in pilot sites are being trained in using the new criteria. In 2006, all hospitals reported infant mortality data according to both the old and the new definition of a live birth. According to preliminary data, the infant mortality recorded according to the WHO recommended criteria was 12-20% higher than the infant mortality recorded under the Soviet definition of a live birth. The use of the WHO definition of a live birth will make Kazakhstan's infant mortality data more comparable internationally and provide a foundation for devising new interventions to reduce infant mortality.

Table 4. Maternal mortality per 100 000 live births

	1990	2000	2001	2002	2003	2004	2005
--	------	------	------	------	------	------	------

Official statistics as reported to WHO	54.77	61.64	48.92	51.94	41.94	36.63	40.86
WHO/UNICEF/U NFPAs estimates	80	210					

Source: (WHO 2007a)

According to national statistics, maternal mortality rates are very high in Kazakhstan, with 40.86 deaths per 100 000 live births in 2005 (more than seven times the EU-15 average) (WHO 2007a). Virtually all births (98% according to the Demographic and Health Survey in 1999) take place in health facilities, mostly in maternity homes. However, as is the case with infant mortality, actual maternal mortality rates can be assumed to be much higher. UN agencies estimated that that actual maternal mortality rate was 210 per 100 000 live births in 2000, which was more than three times the official rate for the same year (Table 5).

Anaemia is a major public health problem. A survey of more than 2000 children between the ages of 6 and 59 months in the Aral sea region of Kzyl-Orda, which was conducted in 1994-1995, found a prevalence of anaemia of 50% (Dangour, Hill et al. 2002). Similarly, a study conducted in 1999-2000 in the same region found a prevalence of anaemia among 6-15 year-olds of about 50% (Hashizume, Kunii et al. 2003). According to the 1999 Demographic and Health Survey, 36% of women of reproductive age in Kazakhstan suffer from some degree of anaemia and 36% of children under five are anaemic (DHS 1999). Anaemia is likely to be due to reproductive health and dietary causes, including high fertility rates, untreated gynaecological problems, iron-deficient diets, including those high in fats and low in vegetables and fruit, and diets that reduce the uptake of iron. Iron supplementation during pregnancy is one of the main components of the UNICEF/CARK Anaemia Control and Prevention Strategy in Kazakhstan.

As in other countries of the former Soviet Union, abortion has traditionally been the main method of birth control. However, between 1992 and 2005 the rate of abortions per 1000 live births has decreased from 1020 to 450, which compares to 226 per 1000 live births in the EU-15 in 2003 (WHO 2007a). According to the Demographic and Health Survey in 1999, more than half (53%) of currently married women used one of the modern methods of contraception, with the intrauterine device (IUD) being the most widely used method of modern contraception (DHS 1999). According to the same survey, the total abortion rate declined from 1.8 abortions per woman for the period 1992-1995 to 1.4 abortions for the period 1996-1999 (DHS 1999).

Table 5. Infectious diseases, 1990-2005

	1990	2000	2001	2002	2003	2004	2005
--	------	------	------	------	------	------	------

Tuberculosis incidence per 100 000 population	65.8	173.4	175.9	185.4	180.1	175.6	--
Number of new HIV cases	4	347	1175	694	747	699	964
Syphilis per 100 000 population	1.5	161.4	140.4	123.2	92.1	79.3	60.9
Gonococcal infections per 100 000 population	105.2	88.2	87.5	86.6	73.7	76.2	67.5

Source: (WHO 2007a)

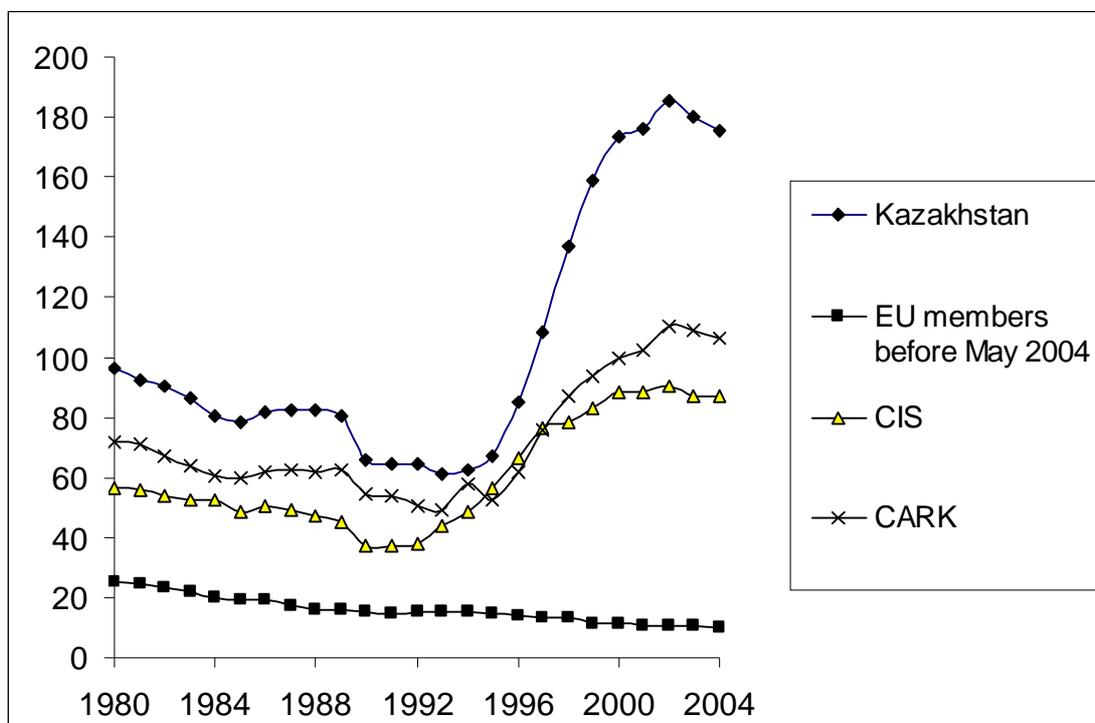
Like other countries in central Asia and the former Soviet Union, Kazakhstan has witnessed epidemics of sexually transmitted diseases and tuberculosis since the early 1990s. The incidence of tuberculosis initially declined from 96.57 per 100 000 population in 1980 to 60.9 in 1993, but has almost tripled since, reaching 175.56 in 2004. Although this situation mirrors trends in central Asia and the former Soviet Union as a whole, the rates in Kazakhstan in 2004 were higher than in any other country of the WHO European region (WHO 2007a). According to the National Centre on Tuberculosis, however, the incidence rate has since declined to 132 per 100 000 population in 2006 (IRIN 2007b).

In the 1999 Demographic and Health Survey, 9% of respondents reported that someone in their family had had tuberculosis and more than 23% reported having frequent exposure to a person with tuberculosis. Yet, only 68% of women and 62% of men knew that tuberculosis can be completely cured with proper medication (DHS 1999). There are considerable regional variations. In 2001, tuberculosis prevalence varied from 121 per 100 000 population in Almaty city to 308 per 100 000 in Kyzylorda *oblast* (Godhino, Novotny et al. 2004). Prisons in particular constitute high risk environments. In 2001, tuberculosis incidence rates were 30 times higher than among the general population and mortality rates were 9 times higher (Godhino, Novotny et al. 2004). A growing concern is multi-drug resistant tuberculosis, which is much more difficult and expensive to treat. Although there are as yet no national data available on drug resistance, an estimated 10% of all smear positive cases are multi-drug resistant (Godhino, Novotny et al. 2004).

The incidence of other communicable diseases such as syphilis has also increased dramatically. The incidence of syphilis increased from 1.45 per 100 000 population in 1990 to 269.5

in 1997, decreasing again to 61 in 2005 (WHO 2007a). This trend was similar to developments throughout the former Soviet Union, although the incidence rates were above the CIS and CARK averages. In 2000, syphilis was diagnosed in 1% of blood donors, 1% of pregnant women, and 2% of hospital patients (Godhino, Novotny et al. 2004). Many patients with early syphilis were unnecessarily hospitalized, while others obtained anonymous health care from the private sector (Godhino, Novotny et al. 2004). The incidence rate of hepatitis A decreased in Kazakhstan from 444 per 100 000 in 1990 to 70 in 2003 (WHO 2007a).

Figure 2 Tuberculosis incidence per 100 000, Kazakhstan, EU members before May 2004, CIS, CARK, 1990-2004



Source: (WHO 2007a)

Despite the high incidence of sexually transmitted diseases, 18% of women and 7% of men included in the 1999 Demographic and Health Survey reported not having heard of such infections. High risk behaviour seems to be widespread. 81% of interviewed women and 42% of men reported not using a condom during the last sexual intercourse with a noncohabitating partner (DHS 1999). A survey in 2004 found that only about half of those interviewed were aware of HIV/AIDS and only 16% correctly identified all sources of HIV infection (Godinho, Renton et al. 2005).

Although the absolute number of officially registered HIV cases is still comparatively low, an exponential increase has been recorded in recent years and, as in the other countries of the region, the real number of cases is likely to be much higher (Bernitz and Rechel 2006). In 2006 the

situation in the country worsened, with the number of newly reported HIV cases doubling in comparison to those reported in 2005. A major HIV outbreak occurred in Shymkent among children due to transmission in hospitals (UNAIDS 2007). At the end of 2006, UNAIDS estimated that the real number of people living with HIV/AIDS in Kazakhstan in 2005 was between 11 000 and 77 000 (UNAIDS 2006).

As in other countries in the former Soviet Union, the epidemic is mainly driven by the inflow of heroin from Afghanistan and the growth in injecting drug use. In Kazakhstan, the number of registered injecting drug users has increased five-fold since the early 1990s (Godinho, Renton et al. 2005). A rapid assessment carried out by UNAIDS in 1998-2002 suggested that there might be more than 250 000 injecting drug users (Godinho, Novotny et al. 2004). Of the people living with HIV in Kazakhstan in 2005, 80% were believed to be drug users (Godinho, Renton et al. 2005). There has also been an increase in commercial sex work, with an estimated 20 000-50 000 commercial sex worker in 2002 (Godinho, Novotny et al. 2004).

The HIV/AIDS epidemic in Kazakhstan is concentrated among highly vulnerable populations (injecting drug users and sex workers) but is also spreading to other vulnerable groups including youth, migrants and truck drivers. Injecting drug use and sexual transmission are currently the main recorded routes of HIV transmission in Kazakhstan. There is a great potential for the continued rapid spread of HIV among injecting drug users, since between 8% and 28% of sex workers inject drugs, according to sentinel surveillance results for 2003 and 2004 (WHO 2005b).

Sentinel surveillance in 2003 indicated HIV prevalence levels of 3.8% among injecting drug users and 4.6% among sex workers. About 78% of reported cases are attributed to unsafe injecting drug use, and sexual transmission accounts for 14%. More than 25% of newly registered infections in 2004 were attributed to unprotected sex. Most people living with HIV/AIDS are men, but the proportion of women infected is reported to be increasing. In 2003, Kazakhstan's reported HIV/AIDS prevalence rate (0.2%) was higher than in the four neighbouring countries (WHO 2005b).

The country is still at an early stage of the HIV/AIDS epidemic, but there are a number of factors in place that create the potential for a dramatic increase: widespread injecting drug use, migration, extensive commercial sex work, high risk behaviour, marginalization of vulnerable groups, low public awareness of HIV/AIDS, and limited capacity of the government and civil society to implement effective responses. While Kazakhstan has adopted overarching policies and strategies to control HIV, the coverage of highly vulnerable groups such as injecting drug users, commercial sex workers or prisoners is still insignificant and treatment with anti-retroviral drugs is not yet widely available. According to UNAIDS estimates, in 2005 only 11% of those in need received antiretroviral treatment (UNAIDS 2006). If HIV control efforts are not significantly

expanded, the HIV epidemic will broaden and, according to an “optimistic” scenario, reduce the country’s GDP by 2.2% by 2015 and slow down GDP growth by about 5% (Godinho, Renton et al. 2005).

Kazakhstan has a number of natural breeding grounds for epidemic diseases, including plague (in 8 *oblasts*), rabbit fever (in 11 *oblasts*), haemorrhagic fever (in 4 *oblasts*), tick-borne encephalitis (in 6 *oblasts*), and anthrax (in 1767 locations) (President of Kazakhstan 2004).

The quality control system for food is underdeveloped and poorly coordinated, and low quality food is domestically produced and distributed, as well as imported from other countries (President of Kazakhstan 2004).

The possible effects on population health of severe environmental degradation and pollution are of considerable concern in Kazakhstan. The basin of the shrinking Aral Sea is heavily salinated since its feeder rivers are siphoned off in irrigation schemes, and the remaining water is polluted from factories and agriculture. The air around the Aral Sea is polluted with salts, pesticides and chemicals. The already limited supply of fresh water in Kazakhstan is made worse by various forms of contamination. Air and water pollution is severe, particularly in industrial areas. The rapid upsurge of industrial production and the lack of measures for environmental protection has resulted in extensive air pollution in large industrial centres such as Ust-Kamenogorsk and Karaganda.

The problems of poor sanitation and contaminated water (salinity, toxins and bacteria) have increased in urban and rural areas. Water filtration and purification systems have broken down in many areas and in 1998 in rural areas about half of the water supply systems were no longer operational (President of Kazakhstan 1998). In 2002, 61% of homes were connected with a water supply system, with a higher share in urban areas (88%) than in rural areas (27%) (WHO 2007a). The percentage of the population with access to a sewage system, septic tank or other hygienic means of sewage disposal was 72%, a share increasing to 87% in urban areas and decreasing to 52% in rural areas (WHO 2007a).

The radiation exposure from nuclear testing in the Semipalatinsk area that once served as the Soviet Union’s main testing ground for nuclear weapons has also been high. Between 1953 and 1963, when the Nuclear Test Ban Treaty banned all testing in the atmosphere, a large number of surface and atmospheric nuclear tests were carried out at Semipalatinsk (Semey). Underground testing continued until August 1991, when the site was closed down. The current impact of the nuclear testing on population health remains unclear (Stone 2003b; Stone 2003a).

Safety standards in industry and construction leave much to be desired. In 2006 alone, there were 114 deaths in the in the mining and metallurgy industry, according to the Ministry of Labour and Social Protection, while 133 deaths on construction sites were recorded (IRIN 2007a).

Conclusions

Since the country's independence, Kazakhstan has embarked on a number of major health care reforms. It has revised health care financing, introduced new provider payment methods, performed some initial rationalization of its network of health care facilities, started strengthening primary health care, and introduced the safe motherhood approach, the DOTS treatment strategy for tuberculosis, healthy lifestyle activities, as well as other priority programmes.

After 1991, the country faced a number of challenges. Kazakhstan inherited from the Soviet Union a health system based on outdated norms and practices, delivered through an oversized network of publicly-owned facilities with an overemphasis on inpatient care and managed through direct control rather than regulation or contracting and with few incentives for efficiency or quality. A key challenge after Kazakhstan became independent was the drop in health care funding from public sources. In 2002, public allocations to the health sector amounted to only 1.93% of GDP. As in much of the rest of the former Soviet Union, population health indicators showed a dramatic decline in the early 1990s. Life expectancy in Kazakhstan has still not reached its 1991 level, adult and infant mortality remain high, and communicable diseases such as tuberculosis are raging. As in other countries of the region, the rapid spread of HIV/AIDS presents another major challenge. The Kazakh health system has so far been unable to respond effectively to these population health challenges. Several inequities have emerged during the 1990s, associated with the fiscal crisis. As the government health budget shrank, people increasingly had to pay for health services and drugs, which disadvantaged those on subsistence incomes. Rural areas have suffered more than urban areas from health budget cuts and hospital closures. Continuing variations in health status and in health resources allocations across *oblasts* remain a key issue.

Until 2002, health reforms were often inconsistent, lacked a clear evidence base and the allocation of appropriate resources. They remained at the conceptual stage and had little impact on the health of the population. One of the reasons for this was the lack of leadership and continuity, which seems to have been larger than in other central Asian countries. In Kazakhstan, there were frequent changes of leaders, priorities, and the organizational setup of the Ministry of Health, with the dissolution of the Ministry of Health between 1997 and 2002. Another serious reason lied in the uncoordinated reform activities at local and national level. Some effective pilot projects were running far ahead the policy agenda at the time. In order to reach more sustained reforms, it is necessary to strengthen health care management and the capacity of the Ministry of Health.

With the economic boom of recent years, and the decision of the government to use some of the oil revenues for the social sector, an opportunity for large-scale reforms of Kazakhstan's health sector has arisen. In 2004, the government adopted the National Programme of Health Care Reform and Development for 2005-2010. The programme is comprehensive, sets ambitious goals and

suggests a sensible reform path. Since 2002, budgetary allocations to the health sector have increased significantly both in absolute figures and as a share of GDP, and the national reform programme envisages to gradually increase budgetary allocations to 4% of GDP by 2010.

However, an increased financial allocation to the health sector does not automatically solve all challenges of the health system in Kazakhstan. Substantial changes are required in the organization, management and provision of health services. The inpatient sector continues to consume the majority of health funding and more attention will therefore have to be devoted in the future to the development of the primary care sector. There is also a continued reliance on specialized services, such as those for maternal and child health, as evidenced by the recent completion of a new Maternal and Child Health hospital in Astana. The parallel health services operated by some ministries or the railways continue to operate and their existence is not addressed by the current health reform programme.

Overall, there appears to be the need to integrate services for the provision of modern medical care and evidence-based medicine that allows for multi-disciplinary teamwork and avoids duplication. Intersectoral coordination is vital as an interim measure to manage this process. Overall, increased emphasis will need to be placed on the quality and efficiency of services. A system of monitoring and evaluation, which is in the early stages of development, as well as the establishment or revision of clinical practice guidelines could play an important role in achieving these aims.

Health care workers will play a paramount role in any reforms. The current reforms envisage an overhaul of the training of health care professionals and the introduction of financing mechanisms that encourage health professionals to perform well. Too often, health is still considered as a non-productive sphere, and it will be important to overcome this traditional misperception to ensure a sustained investment in the health sector. The involvement of professional associations in health policy making could substantially enhance the effectiveness and sustainability of reforms.

Kazakhstan has ambitious goals for the future. With rapid economic growth fuelled by oil revenues, the country has embarked on a comprehensive national health reform programme. It is too early to assess its effectiveness. Now that the second stage of the programme is just about to begin, health policy-makers need to carefully assess the successes and failures of its first stage, in order to feed this information into the second stage of reforms.

PALLIATIVE CARE IN KAZAKHSTAN: CURRENT STATUS AND PERSPECTIVES FOR DEVELOPMENT

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Palliative care is one of the important parts of medical aid for patients in terminal stage of diseases. In Kazakhstan palliative care institutions – hospices was started to establish in 90-ths.

Such figures as high level of morbidity rate, high mortality rate from oncological diseases, high rate of people with IV stage of tumor are evidence about necessity of this service in Kazakhstan. Six palliative care centers have been established in Kazakhstan. All of them get most financial support from governmental budget (80%), other 20% are charitable contributions, donations of companies and private persons, holdings of governmental, nongovernmental and religious organizations and funds.

By patient and physicians' opinion palliative care service is very important and helpful part in oncological service providing, and during last ten years Kazakhstan achieves real positive results in organization of this care. At the same time there are a lot of challenges in this field. By medical experts' opinion only in Almaty already today should be minimum four palliative care centers to satisfy population needs in this service. Moreover, if today the most of the patients in palliative care centers (80%) are with oncological diseases, and only 20% of them with internal diseases, so in nearest future patients with such diseases as tuberculosis and HIV/AIDS in terminal stage will also need palliative care. This will lead to another big challenge for palliative care - human resources development. Current time there is lack of specialists in general oncology, who would provide services as in oncological clinics, so in palliative care centers; lack of trained specialists in palliative care; psychologists and social workers. And there is lack of unified training programs in palliative medicine to prepare qualified professionals.

To organize palliative care at the appropriate level in the country there is necessary to foresee decision of following motivating objectives in the future:

- considerable salary increasing for nurses and physicians of palliative care institutions;
- shortage of working day;
- decreasing of age limit of retiring on a pension.

In National program of health care reforming and development in the Republic of Kazakhstan for 2005-2010, in Chart «Reforming and development of medical care organization system for population» is noted: «...there will be foreseen development of the rehabilitation service

and palliative care with attraction of interesting ministries and departments, and also with participation of international and nongovernmental organizations», that is evidence about government interest in palliative care development in the country.

Today in Kazakhstan there are only six hospices. However in plans of Kazakhstan specialists of palliative care – development of National program of hospices’ development, opening palliative care institutions in all settlements with population over the 100 000 people.

Thus, palliative care is in the progress stage in Kazakhstan. To improve development of this service it is necessary to work up on modern organizational, economical, and managerial mechanisms and standards to establish appropriate centers. Also, it is significant to work up on workforce development to provide qualitative palliative care. In these positions development of medico-psychological care for incurable patients is perspective direction of health care system in our country.

MEDICO – SOCIAL CARE FOR AGEING PEOPLE IN THE REPUBLIC OF KAZAKHSTAN

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Population ageing problem including all aspects of governmental and society life is one of the important on the way to stable social and economical development in the country. Analysis of current tendencies of population age structure demonstrates that Kazakhstan is on the population ageing threshold. Accounting these processes special interest is given to several numbers of factors relating to health, organization of medical care, social protection of elder people in Kazakhstan.

Medico – social care for elderly people provides in integration of medical and social systems in the Republic of Kazakhstan. Legislation documents are of current medico-social care system for elderly in the republic are Laws of the Republic of Kazakhstan “About Health Protection” from July 7, 2006; “About Health Care System” from June 4, 2003; “About Social Protection of Invalids” from April 13, 2005, National Program on Health Care Reforming and Development in the Republic of Kazakhstan from September 13, 2004; Program on Invalids’ Rehabilitation for 2006-2008 from January 6, 2006.

Medico – social care for population with social significant diseases is provided by free of charge (Governmental Regulations from May 5, 2000) or on the preferential terms. List of significant diseases among elderly includes oncological, mental diseases, diabetes, heart attack, conditions after surgery, tuberculosis and others. More than 40% of patients with oncological diseases are elderly people; almost 60% of patients with diabetes are elderly. Medical aid appeal ability at the ambulatory level among elderly is in 2 times higher than among other age groups. There is high level of morbidity and disability among people elder 60 years. At the same time volume of inpatient medical care for people up 60 is on the same level and less than in other age groups.

Main direction of medico-social care and rehabilitation of elderly and invalids is prosthetic and orthopedic medical care and provision of technical (compensatory) means. All invalids including elderly invalids have gotten prosthetic and orthopedic goods and technical (compensatory) means for free of charge or on the preferential terms. In the republic there are three prosthetic and orthopedic centers: Almaty, Petropavlovsk, and Semipalatinsk, financing of these centers is from republican budget.

Main part of medico-social care and rehabilitation of elderly and invalids is sanatorium-and-spa treatment. 16% of pensioners improve their health in the sanatoriums of Kazakhstan. 79 hostels are functioning in the republic, 17 000 people are on the full governmental provision. 61 from 79 hostels are for elderly and elder invalids. There are private hostels. One of the types of social care and rehabilitation is social service at home that is presented by 339 departments of social care and 7 territorial centers providing care for 34 000 lonely elderly and invalids. Social dwelling house for lonely pensioners and invalids, lonely married couples pensioners, Veteran House.

American International Health Alliance successfully implemented pilot project on primary health care orienting to society in Kazakhstan. There was organized Family Medicine Center in Astana in 2000 that first in NIS provides integrating medical and social care at the primary level including vulnerable groups – elderly. Based on improved population health in this Center analogical centers were opened in Semipalatinsk and Uralsk in 2004.

Invalids' rehabilitation program for 2006-2008 foresees reorganization of social services' net for elderly and invalids including their structural and organizational reorganization; development of governmental standards of social care, organization of hostels and hospices in different cities of Kazakhstan.

In many regions nongovernmental social organizations providing medical and social care successfully work in Kazakhstan. At the same many legislation acts in medico-social care are declarative and have not appropriate financing, and in the many cases there is interdepartmental dissociation. In the republic there is no gerontological service and professional gerontologists.

Thus, in Kazakhstan medico-social care for elderly and invalids of ageing people is realized in cooperation of Ministry of Health and Ministry of labour and social protection of population. Medico-social care is realized also by nongovernmental organizations and social organizations.

Following to UNDP recommendations there is necessary to develop Governmental strategy on healthy ageing. Risk factors for health of ageing people are systematic and need complex decisions directing to their prevention and reducing. Complex decision of ageing people's problems is foreseen in developing and realization of National Program "Healthy Ageing".

TO THE ISSUE OF HUMAN RESOURCES MANAGEMENT IN NURSING

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Nursing is one of the main parts in the health care system with its considerable human resources and real potential capacity for population needs' satisfaction in accessible and appropriate medical care. Nursing reforming process in the Republic of Kazakhstan is going very slow and with difficulties because of several reasons. One is the insufficient activity of nurses themselves. Being at the second roles in the medicine, nurses very often do not show their initiatives at the workplaces. However without quality of nursing care there would be no qualitative medical care.

Nursing practice analysis in the regions through survey is evidence about number of factors hampering nursing reforms including:

- Legislative – lack of standards and law in nursing;
- Organization-managerial – lack of complex approach to reforming of some links in health care system, lack of nursing administrators having modern managerial and marketing skills, and ability to hold expertise of quality and effectiveness in nursing care;
- Deficiency of nursing staff – nurses and nursing assistants, lack of nurses with higher nursing education degree, high coefficient of job combining.

Conducted studies confirm readiness of nurses to expand their responsibilities and independence in nursing care organization, increasing of providing manipulations. To support these initiatives it is necessary conditions including adequate salary, modern technical equipment of working places, labor organization due to new technologies and standards of treatment-and-diagnostic process, professional knowledge improvement. Nurses still conducted overtime work for low salary, very often use old tools for patient care. Low prestige of nursing profession in the society, lack of professional growing ability, lack of ability to conduct research initiate experienced nursing staff to

change profession, to get physician degree or profession of biology or chemistry teacher with furthering job position changing.

At the same time due to modern international standards providing of quality of medical care could not be without important part of working with patients that should made mostly by nursing staff.

Thus, nursing leaders have to decide following actual objectives:

- Review “nurse” definition and relating to this definition expanding of scope of work and changing of needs at the PHC level. Key to professional improvement in nursing practice would be education.
- Renew Chief Nurse Position at the governmental level, to organize department of nursing practice that would allow for nursing and midwifery staff to influence to national health care policy.
- Support innovative approaches to development of curriculum, educational methods and materials. Development of multi-level nursing education with higher nursing education degree.
- Action performing base on the results of analysis of physician and nurses labour conditions, national needs’ forecasting in health care and nursing services.
- Orienting to support priority directions of nursing development, and promoting skills of critical thinking and problem decision by the managerial staff.
- Accounting PHC concept.
- Appropriating to results of modern researches in nursing practice.
- Acceptable to national traditions.
- Multi-functional, supporting to knowledge and experience exchanging between representatives of different professions.
- It is necessary to review requirements to admission to nursing schools, because nurse profession expects self-contribution, mercy, mental ripeness, ability quickly and exactly assess and synthesize big information volume.

Supporting of nursing initiatives, leadership development, improvement of admission system and using multiform and multilevel education will positive influence to the nursing future.

THE INVESTIGATION FOR SOCIOECONOMIC DETERMINANTS OF SCHOOLCHILDREN’S HEALTH IN KAZAKHSTAN.

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The socioeconomic state is one of the general health predictors of health in every age (1). This criterion consists of economical state (the level of family income), social state (education, family structure), and work state (the type of work for families' members). Investigations which were hold in many countries show that the difference in socioeconomic state provides spontaneous and indirect effect on health of children and adults (2,3,4). So, the level of family income determines the difference in the life standards – the quantity and quality of the using goods and services. The differences in life conditions form difference in adaptation resources, ability to deal with physical and emotion stresses. Inequality in life conditions defines inequality in potential to use the effective actions for prevention of health problems. With such way of “transmission” influence of socioeconomic inequality, the main hypothesis for investigations of dependence between socioeconomic inequality and health “better socioeconomic state – better health” is connected (1).

At the last time another ways of dependence are found. So, chronicle stresses which are connected with dissatisfaction by low socioeconomic state in adolescent age can change neuroendocrinal and psychological function of organism and increase risk of diseases. Fear, uncertainty, low self-appraisal, social isolation, uncontrolled situation at home and in school can be cause of depression, high cholesterol level in blood, high receptivity for inflectional diseases, diabetes and cardiovascular diseases. Low socioeconomic state has action on health by deprivation and material asperity on the one side and by subjective perception of inequality on the other side (5,6,7).

Even in high-grade countries poorer people live shorter lives and are more often ill than the rich (1). Those differences attracted attention of scientists for the main determinants which are defining the level of health in modern society. The medical help can long life and improve the prognosis for health patients, but socioeconomic conditions are more important for health of general population. Especially important is socioeconomic welfare in childhood and adolescent when is forming physical and physical health and also are forming habits and lifestyle (8).

The problems of correlation between socioeconomic state and health in Kazakhstan attract more and more attention because of changing structure of economy inequality at the last ten years and the quantity of people who are poor increased. Big difference between rich and poor came on place of relative equality which existed till end of 90-years. The conditions of live in family changed for children and adolescent too. For the last years changed the structures of families – children more often live with one parent, in adoption, in families who are living together the part of time. There are kind of families, who are living in misery more often – having many children, one parents' families (9).

The influence of socioeconomic determinants on health of children in Kazakhstan is poorly known, if correlation between health, habits and socioeconomic state for adult is obvious, as for children it's not so evident. The aim of our work is to present the method of measure socioeconomic inequality for children, to characterize structure of socioeconomic determinants in Kazakhstan by the age and regions, to find correlation between socioeconomic state of family and quality of life and health. We plan to find correlation between socioeconomic state and bad habits (smoking, drinking alcohol) and make conclusion about socioeconomic state and it's correlation with health for school age children in Kazakhstan. The instrument of study is standard questionnaire which was developed on basic WHO questionnaire (9,10). The objective contingents are children of age 11, 13, 15 from Astana, Almaty, and Chimkent cities.1500 children for every age group.

This investigation became increasingly important after edited by WHO International Classification of Functioning, Disability and Health for Children and Youth. ICF-CY contains classification codes for the estimation of health of children and adolescent in context of development's stage and surrounding conditions. ICF-CY use classification codes for functions and structures of organism and different conditions which can facilitate or hamper life of youths. So, there are codes for social surrounding (d910-d999), economical conditions (d860-d879), and work employment (d840-d859) (11).

The present investigation devotes to study differences of socioeconomic state and it's relation with health and behavior among school children from different regions of Kazakhstan for improving comprehension of influence socioeconomic state on health and practical using this knowledge for developing programs of health promotion for children.

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PLACE OF FEEDBACK MECHANISMS WITH PATIENTS IN THE RATING SYSTEM OF MEDICAL ORGANIZATIONS

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Rating system of medical services' providers composes through certain collection of indicators, comparison of what gives possibility to found appropriation level of medical providers to necessary requirements, and also effectiveness of treatment process in medical organizations.

Many countries aspire to define their own collection of combined rates of activity and results that could be objective assessment of provided services quality.

Indicators are chosen accounting standard requirements – they should be measurable, accessible, no expendable, informative, and valid. Usually, indicators demonstrate effectiveness of

medical care in certain organization and affect on hospital lethality, presence of complications from treatment.

Since 2005 in health care system governmental control body with regional branches has functioned by the results of what rating of health care organizations could be formed.

Regulations of organization and conducting medical services' quality expertise have been approved by Ministry of Health of the Republic of Kazakhstan from April 26, 2007 consist collection of indicators from several ranks. Indicators show condition of equipment base and staff in medical organizations, frequency of tactical and technical mistakes of medical workers, data about guarantee free medical care volume completeness, presence of patient complaints, and prevention activity at the PHC level. According to Regulations quality of medical services providing by medical organization assess on 5 levels.

However, direct criticism of medical care quality and hospital service is perilous because of following public action, response. In this regard due to modern condition of health care system more expedient to make public not results of activity, but forces of hospital managers in improvement of medical care quality as it demonstrated by rating system on the accreditation standards base.

As rule accreditation standards refer to activity of all medical organizations. Main requirements set not to equipment base condition of organization, but to ability to use the most effective organizational technologies. In this case accreditation standards are very appropriate and objective criteria in medical organizations rating forming.

Information for the consumers could be provided in sum of marks getting through accreditation and appropriate rank of organizations or completely on each standard including activity of service facility etc. In this case it is possible to present information by graphics showing different directions of organization activity.

Besides noted positive moments, rating system on the base of accreditation has series of additional advantages. It allows to demonstrate development level of feedback mechanisms with patients in certain medical organization.

At the medical organization level tools of feedback with patients could be following:

- Boxes for anonymous addresses of patients in the cases of blackmail, bioethics and deontology violation by medical workers and etc.;
- Systematic survey on medical care and service quality satisfaction, exposure facts on attraction of money and medications during guarantee free medical care providing;
- Development of consultation service via phone performing by nurses – where to address, what kind of measures to perform, what should not be done, etc. Consultations should base on set

standards and could serve one of the measures phased expanding of nursing authority and movement of some functions from physicians to nurses.

At the health care management level there could be suggested following versions:

- Opening of web-site for submission of suggestions from population on medical services quality improvement in city and oblast organizations;

- Conducting Forum at the Internet-site where would be possible to discuss on-line local health care problems;

- Under the management body to develop public commission, function of what would be admission of population addresses, statistical analysis of complaints and suggestions submission about reaction measurement priority;

- Organization of Call-centers to get different information, references, suggestions, conducting rating voting and etc.

PRIORITY FACTORS INFLUENCING TO COAL DIGGING WORKERS' HEALTH

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Study of workers' health status, behaviour factors, labour and life conditions has been held to develop effective preventive interventions at the coal digging colliery. 406 men have participated in the research including 326 from them working at the main units of the colliery and 80 – control group.

Only 23.9% colliery respondents are not smoking according to research results. Smoking history shows that each fifth respondent has moderate extent of tobacco dependence and 15.7% - high-grade extent of dependence from tobacco.

It is founded that only 9.8% respondents are not alcohol drinking. 11.4% respondents are using alcohol in “moderate quantity” according to WHO method of alcohol using extent assessment. Group with “high-grade alcohol using” is 8.9% and “alcohol abusing” – 69.9%.

Physical activity study demonstrated that 22.3% indulge in sport, 45.2% have physical examinations and 58.3% are walking.

Psychological status study showed that more than half workers have no stress. Among other half most workers have stress at the working place and each third has stress at home. Evaluation of

psychological depression extent according different methods is evidence of stable psychological status of workers.

Nutrition study showed that 57.9% has three meals a day, 33.9% - more that 3 meals a day. 41.5% have nonsystematic nutrition.

Whole complex of industrial environment negative factors is influencing to the workers equally with lifestyle. So, the most significant factors of working condition noted by workers were dust factor (88.3%) and gas pollution (82.4%). Noise factor was noted by 79.0% of respondents, vibration – 71.5%, objectionable odors in the air of working area – 60.7%. 54.4% of respondents have heavy physical loads. 48.7% of respondents noted negative microclimate at the working place, i.e. high and low temperature effects, and presence of draughts. 33.0% of respondents have emotional exertion and 22.7% - monotony.

Deep medical examination of the workers was held to study their health status. According to the results of the medical examination 49.8% of the observed workers had not pulmonary and neurological disorders.

One of the main health rates is morbidity with temporary disability. There was founded that 67.1% of respondents did not take sick-lists during last year.

Estimation of chi-square (χ^2) value and comparative portion of factors' inputs in the general influencing to morbidity rate was held to assess priority factors of lifestyle and labour conditions in the health forming of workers.

Results of mathematical analysis showed that in forming of pulmonary and neurological disorders among workers of the main units preferred meaning has smoking history, alcohol abusing degree, frequency of stresses at the home and at the work, and depression level. Lifestyle (behaviour) factors are influencing to the case frequency of morbidity with temporary disability firstly. It is expedient to note that industry environment factors have lesser meaning in occupational diseases development and in the rate of morbidity with temporary disability than lifestyle factors. This is possibly evidence about adaptation of workers to the negative factors of industry environment.

Thus, results of research are evidence about priority of behaviour factors in forming of occupational diseases and morbidity rate with temporary disability at the coal digging colliery. On the base of conducted research comprehensive model on diseases prevention and healthy lifestyle forming was developed for workers from the coal digging colliery.

SOCIAL-PSYCHOLOGICAL ASPECTS OF HEALTH RESEARCH IMPORTANCE AMONG DIFFERENT POPULATION GROUPS IN THE REPUBLIC OF KAZAKHSTAN

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Current stage of development in Kazakhstan as one of the NIS relates with changes in public health: demographical crisis, decrease of life interval, population mental health worsening. Social and economical determinants are core factors in the political and social development and have main role in the health differences between different population groups in the country and between different countries. At the same time there is a lot of information about psychological aspects of population health. Study of 10 leading reasons of population mortality in European region shows that only in Russian Federation, Kazakhstan, Ukraine, Belarus, Latvia, Lithuania, and Estonia poisonings and premeditated self-damages are in the first of five leading reasons of death. In Kazakhstan, three from one hundred people die from premeditated self-damages and each twentieth from poisonings. Suicides in Kazakhstan in age of 0-14 are on the first place in the European region. There are problems of social adaptation, high level of autopathogenia (slow suicides) and addictive behaviour including drug-using, alcohol abuse, smoking, overeating, irrational nutrition, hypodynamia, not getting enough sleep, chronic psychological tiredness. Results of research note direct correlation between above mentioned behaviour risk factors and low level of population social status. On the other side “for success businessmen health promotion stays as their image”. This category of people understands health as main tool for quality of life and well-being improvement.

Native and foreign scientists noted importance of knowledge in mental health and behaviour impact for health of individuals and society. At the same time during last 15 years there are very few studies of psychological factors influencing to health. There is no works on deep psychoanalysis of population psychological status, and there is no works on evaluation methods of psychosocial risk factors and their influencing for health. There are several researches about motivation, behaviour and attitude to health among such target groups as children, youth, and population groups with bad habits. These studies devoted to epidemiology of behaviour risk factors, but not expose mechanisms of these factors initiating including social-psychological mechanisms.

Thus, behaviour research of different population groups by social, economical, age, ethnic, education and other signs are very interesting and important for today's Kazakhstan.

ORGANIZATION OF EMERGENCY MEDICAL CARE FOR PATIENTS WITH HEART DISEASES

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In spite of almost ancient history electrocardiography (ECG) is active developing and is still one of the main and prevalent diagnostic methods in cardio-vascular system examination.

In May rayon, Pavlodar oblast more than 1000 people have cardio-vascular diseases, and 500 – heart diseases. To improve quality of emergency medical care to such kind of patients we transfer ECG to oblast hospital. ECG apparatus connected up to PC, examination results sent via e-mail to cardiological unit in oblast hospital where specialized cardiologists interpret ECG and instantly send results to Central district hospital via e-mail with treatment prescriptions and recommendations. Transformation of ECG data with patient information takes 1.5-2 minutes. Analysis continues 1-2 minutes thanks for computer program. We have following opportunities:

- ECG printing on the any standard printer and simple printing paper;
- Flexible opportunities of printing format settings of ECG examination protocols;
- Saving conclusions and comments of medical personnel in examination protocols;
- Simultaneous reviewing of several ECG protocols for comparative analysis;
- Saving of individual program settings (general screen view, volume of outputting information, etc.) for each user;
- Transformation of patient information and ECG data in electronic format to any distance;
- ECG broadened analysis.

Whole process continues 15-20 minutes. If necessary, history data and laboratory tests could be also transferred via e-mail.

Thus, specialized cardiological care stays more accessible for population in rural area thanks for simple computer technologies. Such technologies could be implemented also at the first level of medical services – rural medical ambulatories and feldsher-obstetric points.

PATIENT SURVEY AS CLINICAL PRACTICE ASSESSMENT TOOL

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Introduction: Any health system activity orients to doctors' clinical practice improvement. Patients as consumers of medical services are main information source for medical care process assessment. Tools for monitoring and evaluation of changes in clinical practice were developed in the frame of joint project on Clinical guidelines of patients with arterial hypertension management at the PHC level. One of such tools is questionnaire for patients with arterial hypertension (AH). Patients' survey conducting before project for assessment of initial level and after a year allows to define main directions for doctors' activity improvement and to assess performed measurements effectiveness (Clinical guidelines (CG) implementation, physicians and nurses' education, instructions and feedback implementation).

Goal: to assess quality of provided medical care in the pilot PHC services through knowledge and practice study of patients with AH.

Materials and methods: questionnaire consisted several parts such as information about patient (vignette, social status, disease duration, presence of associated diseases), patient satisfaction by provided medical care, informing level about hypotensive therapy. Special attention was devoted to reasons of AH medication cessation. Important part of the questionnaire was patient informing level about methods of non-medication therapy and using them.

Results: Doctors' prescriptions are very important part of the AH patients' management quality assessment. At the same time patients' knowledge about their disease, level of information satisfaction getting from PHC physicians, and adherence to treatment are also parts of the medical care quality management process. If patient get correct information about treatment and then adhere to physicians' recommendations this will influence to quality of his life and clinical outcome. Relationships between physician and patient are influencing to patient's knowledge and his decision to adhere or not to gotten recommendations. As showed research, measurements conducted in frame of project – physicians and nurses' education, booklet using in clinical practice and others helps to improve as clinical practice of physicians so patients' knowledge. Patients' opinion and informing are direct reflection of medical care providers' activity.

Conclusions: conducted research in frame of joint project on AH clinical guidelines management showed necessity of patient survey as additional objective information source about changes in doctoral practice and their impact to patients' knowledge and behaviour. This tool also helps to define reasons influencing to patients' adherence to treatment, to define directions for future

activity, and that is very important to increase patient role in management process of such widely distributed disease as arterial hypertension.

USING OF DALY INDEX IN THE MEDICAL AND DEMOGRAPHICAL SITUATION ASSESSMENT IN THE REPUBLIC OF KAZAKHSTAN

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Population health complex assessment traditionally bases on the data of mortality, morbidity and/or diseases prevalence in target population, and also disability.

New approach to population health complex assessment is method of global burden of diseases that is integral and including data on mortality, diseases prevalence among population and its disabling consequences, and also prevalence and disabling consequences of trauma, poisonings, and accidents.

Methodological approaches of Murray C.J.L., Lopez A.D., methodological recommendations of Germanyuk T.A. were used in this study. Initial materials were official statistical data of Statistic Agency and Ministry of labour and social protection of the Republic of Kazakhstan for 2005.

In 2005 in Kazakhstan 157121 mortality cases have been happened. Population lost 2975759.5 DALYs, which is 197.4 per 1000 people. Among lost life 51% was for men, and 49% - for women.

Among men the highest losses are noted in the group of 40 – 64 age (39.4%), then in group of 15 – 39 age (32.5%). In South-Kazakhstan Oblast percent of lost life years in consequence of premature mortality was higher in the group of 15-39 ages and exceed losses of DALYs in 40 – 64 ages.

Peculiarity of losses from premature mortality among women is high percent (38.3%) of DALYs among people of 60 age and elder, and then are people of 40 – 59 age (27.4%) and 15 – 39 age (22.1%). Similar distribution is almost in all studied regions, excepting South-Kazakhstan Oblast where high percent of DALYs was in the group of 15 – 39 ages (32.8%).

The most losses of DALYs are among urban population (62.8%) in comparison with rural (37.2%). In urban population percent of lost life years among men is higher (58.7%), than in the republic in general.

Losses of DALYs in rural area are also high among men (59.5%) in comparison with women (40.5%). Moreover, there is regularity of losses among men before 64, whereas among women in age 60 and elder. There were determined higher losses of DALYs among male population of Astana, 64.1%.

Reasons of healthy life losses in consequence of premature mortality in Kazakhstan relate to three classes of diseases: cardiovascular diseases, accidents, trauma and poisonings, and tumors.

There were determined differences of healthy life losses in consequence of premature mortality in different regions. In Akmola Oblast and Almaty high percents of losses of DALYs from cardiovascular diseases (39.07% and 43.0% accordingly) are happened because of high percent of them among women (45.9%). Higher life losses from respiratory diseases were noted in South-Kazakhstan Oblast, 12.1% among women. Accidents, poisonings and trauma class takes first place among men in losses structure of DALYs in Astana (36.5%).

Thus, cardio-vascular diseases, tumors, accidents, poisonings and trauma are priority problems in prevention programs of the country.

SYSTEM OF PATIENT RIGHTS PROTECTION IN RUSSIA: REVIEW

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Stated in Part IV of “Legislation basics of Russian Federation about population health protection” approved in 1993, patient’s rights in Russia appropriate to recommendations of “Declaration on patients’ rights protection in Europe” approved at the European Consultation on patients’ rights in 1994.

Judicial protection of rights bases on criminal, civil, and administrative legislation of Russia. They are some times contradictory and do not account specificity of relations between medical workers and patients.

Lack of effective organized governmental system of patients’ rights protection in Russia leads to opening of many juridical firms providing to their clients a broad assortment of services on their interests’ protection in the all instances including judicial. They provide as one-time

consultations on medical care delivery, patients rights and interests' protection issues, so services on juridical accompaniment of medical services activity.

Activity of many public organizations devoted to the problems of population rights' protection during medical care delivering.

The biggest from others is All-Russian public organization "League of patients' defenders" registered by Ministry of justice of Russian Federation on July 5, 2000. During its activity League gives consultations for more than 5 000 people.

League has own Internet site where provides distance juridical consultations for population, one of the easiest from them is information providing about legislatively durable population rights during medical care delivery.

Materials on the patients' rights violation cases and their restoration through law-court, health insurance issues, and law standards are placed at the site.

This activity directs not only to consultation and increasing of patients' juridical literacy, but also support to development of medical workers' responsibility, their education level in medical law.

League issues booklets for patients about their rights, excerpts from law, and methodological guidelines for medical workers about population informing maintenance, maintenance of citizens' rights on information confidentiality about fact of addressing to medical care.

In many regions of Russia similar public organizations are being developing. Regional public organizations pose their goal as patients' rights protection in concrete situations and ready to bring up a question about competence of bench considering occasions on damage suffering during treatment. They recruit physicians having big practical experience as experts. Legislative support is provided not only for people who are suffering from medical errors and negligence of medical workers. As a rule, clients of organizations on patients' rights protection are elder people, invalids, children, other social vulnerable population groups.

Governmental management bodies supports to development of such public organizations considering them as worthy alternative in social protection of population.

In the result of social and governmental partnership and force consolidation in September 2006 League has gotten official status. Public Board on patients' rights protection was established under the Federal service on surveillance in health care and social development. Board includes representatives from scientific and medical society, insurance companies, lawyers, journalists, pharmacists and other experts on law issues in health care.

Board occupies by solutions of pre-trial complaints from patients incoming to Russian health care surveillance body consideration. Besides this Board's members give expert estimation to preparing proposals and initiatives in health care reforms.

Thus, main goal of Board's activity is development of mechanisms of safety, quality and accessibility of medical care for population increasing.