



EUROPE

TOBACCO AND HEALTH IN THE RUSSIAN FEDERATION

by

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TOBACCO, ALCOHOL AND PSYCHOACTIVE DRUGS

By the year 2000, the health-damaging consumption of dependence-producing substances such as alcohol, tobacco and psychoactive drugs should have been significantly reduced in all Member States.

ABSTRACT

The prevalence of smoking in the Russian Federation is one of the highest among the countries of the European Region of the World Health Organization.

Some two thirds of adult men and one quarter of adult women are regarded to be current smokers. Smoking prevalence is high and increasing among adolescents with nearly one half of 13–16-year-old boys and nearly two fifths of 13–16-year-old girls reported to smoke at least once a week.

Over 40% of deaths among men aged 35–69 and 7% of deaths among women aged 35–69 are due to cigarette smoking.

To counteract the very high rates of smoking and smoking attributable mortality, the Russian federation has formulated a tobacco action plan for 1997 to 2001.

The elements of the plan are:

- improvement of legislative measures aimed at tobacco control;
- creation and support of organizational structures implementing the tobacco prevention policy;
- improvement of hygienic education for children and adolescents, including early tobacco-use prevention;
- involvement of the mass media in informing and developing negative attitudes towards tobacco smoking within the population;
- improvement of the system of professional treatment and counselling of smokers wishing to quit the habit;
- broadening of the volume of research investigations on tobacco and health.

Keywords

SMOKING – prevention and control
SMOKING – epidemiology
TOBACCO INDUSTRY
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I. Introduction

The Russian Federation During the Transitional Period

For a short period of time serious socioeconomic and political transitions occurred in Russia that no other country in the world has ever experienced. The dramatic economic and social changes that ensued imposed significant emotional, psychological, and physical distress on the Russian people, 34% of who live below the poverty level (21). Unfortunately, over recent years little attention has been given to health care issues in Russia, and the negative results of this lack of attention are becoming increasingly obvious.

Today, the public health crisis of the nation is exacerbating, and future generations of Russians will have to pay for this lack of attention.

Health care should be declared a *state of emergency*. Associated with the unresolved socioeconomic problems, the birth rate in Russia decreased to 9.2, the mortality rate increased to 14.6 per 100 residents, the population decreased by almost 1 million people during 1993 (21).

Natural reproduction of the population can be characterized today by an intense increase in mortality rate and reduction of *life expectancy*. The latter parameter, serving as an integrative indicator of the socioeconomic status of a society, was 67.5 years in 1980 and began to drop in early 1990 (69.2 years; 1990; 69.0 years, 1991; 67.2 years, 1992; and 66.0 years, 1993). In fact, the 1993 life expectancy is virtually the same as that estimated in 1970. The main factor influencing this process is the steadily increasing mortality rate of all categories. The dramatic increase in mortality rate occurred predominantly because of the increase in alcoholism, injuries, psychological distress, suicides, and homicides. The absolute number of Russians who died because of alcohol poisoning by various alcohol surrogates, narcotics, homicide, and drug-related suicide during 1993 is only slightly higher than the number of Russians who died during the 11 years of war in Afghanistan. One-third of the deaths among able-bodied individuals were attributed to unnatural causes. The magnitude of deaths attributed to unnatural causes may be considered an indicator of the dramatic social instability and destruction of the society (5).

In terms of life expectancy, Russia trails the world's developed countries by 10 to 15 years, whereas in terms of infant mortality, Russia leads developed countries by 2 to 2.5 fold (5). Obviously, the present economic and political situation will not solve all of the aforementioned problems in the immediate future; however efforts and resources should be focused on ways to initiate favorable developments in public health.

The majority (55%) of deaths in Russia are due to *cardiovascular diseases*, with *oncological diseases* accounting for the second-highest cause death (20%). *Injuries and poisoning* are in third, and *gastrointestinal diseases* in the 4th place (5). To reduce morbidity and mortality rates, effective treatment and preventive measures are needed. However, because of the economic and organizational difficulties of the transitional period, the number of medical facilities and supplies of medications have sharply decreased. Many medical facilities are unable to provide basic therapeutic needs. In 1993, health care demands for medications were fulfilled by only 60%, and importantly, only 30% of the supplies were provided by domestic manufacturers. It is the first time in the history

of Russia that all resources for vitally needed medications, such as anti-tumor drugs, anti-asthmatic drugs, and anaesthetics were completely exhausted.

Tobacco smoking is a major public health issue in the Russian Federation. Solving this problem is complicated by several factors. When the Soviet Union collapsed, the domestic tobacco industry suffered. Twenty-four of the then-existing 50 tobacco factories were closed because of shortages of raw tobacco, filter materials, and other supplies. The result was severe shortages, and rationing was enforced in early 1990 causing "tobacco riots" among smokers. At that time, the number of smokers was increasing, presumably because of psychological distress as well as the growing popularity of smoking among youth attracted to what they perceived of as the fashionable Western lifestyle ("a cigarette in one hand and a glass of wine in the other"). Under the pressure of tobacco shortage, the Russian government opened widely the doors to the importation of tobacco products. Because of the lack of control over the quality of tobacco products and unprecedented smuggling, Russia was flooded with cigarettes of dubious quality and without health warnings on the packs. At the same time, the appearance of tobacco advertising became a source of income for the officials responsible for the mass media. The penetration of tobacco advertising has become unmanageable because of:

- the lack of legislation regulating tobacco advertising
- the extensive size of the Russian territory
- the break up of the previously developed intersectoral connections
- the absence of an effective system for quality control of the tobacco products
- the absence of a system for health promotion.

The Ministry of Health of the Russian Federation is well aware that one of the major causes of premature mortality, early disability, and high morbidity due to cancer, cardiovascular diseases, and pulmonary diseases is epidemic tobacco use. These diseases can significantly reduce the smoker's life span. The impact of smoking on a person's health, especially women, children, and adolescents is well-known by medical professionals. Many of them work diligently to reduce the impact of and further spread of tobacco smoking; however, there are a number of factors that interfere with the active measures aimed at reducing the incidence of smoking.

II. Organization of Efforts and Sources of Information

This report compares the current tobacco situation in Russia with the previous situation. This evaluation is complicated by the lack of reliable statistical data in Russia. Only since the 1990s, has objective tobacco and health data directly or indirectly related to the Russian Federation been obtained. An appreciable credit should be given to the WHO Regional Office for Europe, which has been constantly involved in the tobacco problem in the Russian region and continues to guide the countries of central and eastern Europe in tobacco control issues.

Several important issues are presented in this report:

1. *Data on the prevalence of tobacco use and smoking-attributable disease*

The most recent data on smoking and health in this report are based on research conducted by the State Research Institute for Preventive Medicine of the Ministry of Health of the Russian Federation, the State Oncology Research Centre of the Russian Academy of Medical Sciences, and the research-industrial corporation *Medsotsekonominform*.

2. *The aspects of manufacturing and importation of tobacco*

Data on tobacco manufacturing and importation have only recently become accessible to tobacco control advocates, i.e., researchers and medical professionals. This access was granted because of recently adopted legislative acts such as the Act on the Consumer Rights.

3. *New legislative activities*

In this report, we provide the exact names, adoption dates, and actual articles of the laws relating to tobacco advertising and tobacco consumption as well as the pathways of the legislative activities and the difficulties in this area. We also refer to legislative acts that are still in effect because they were not terminated, although many people think that these legislative acts do not have to be followed.

4. *Smoking control activities of the Ministry of Health and other agencies*

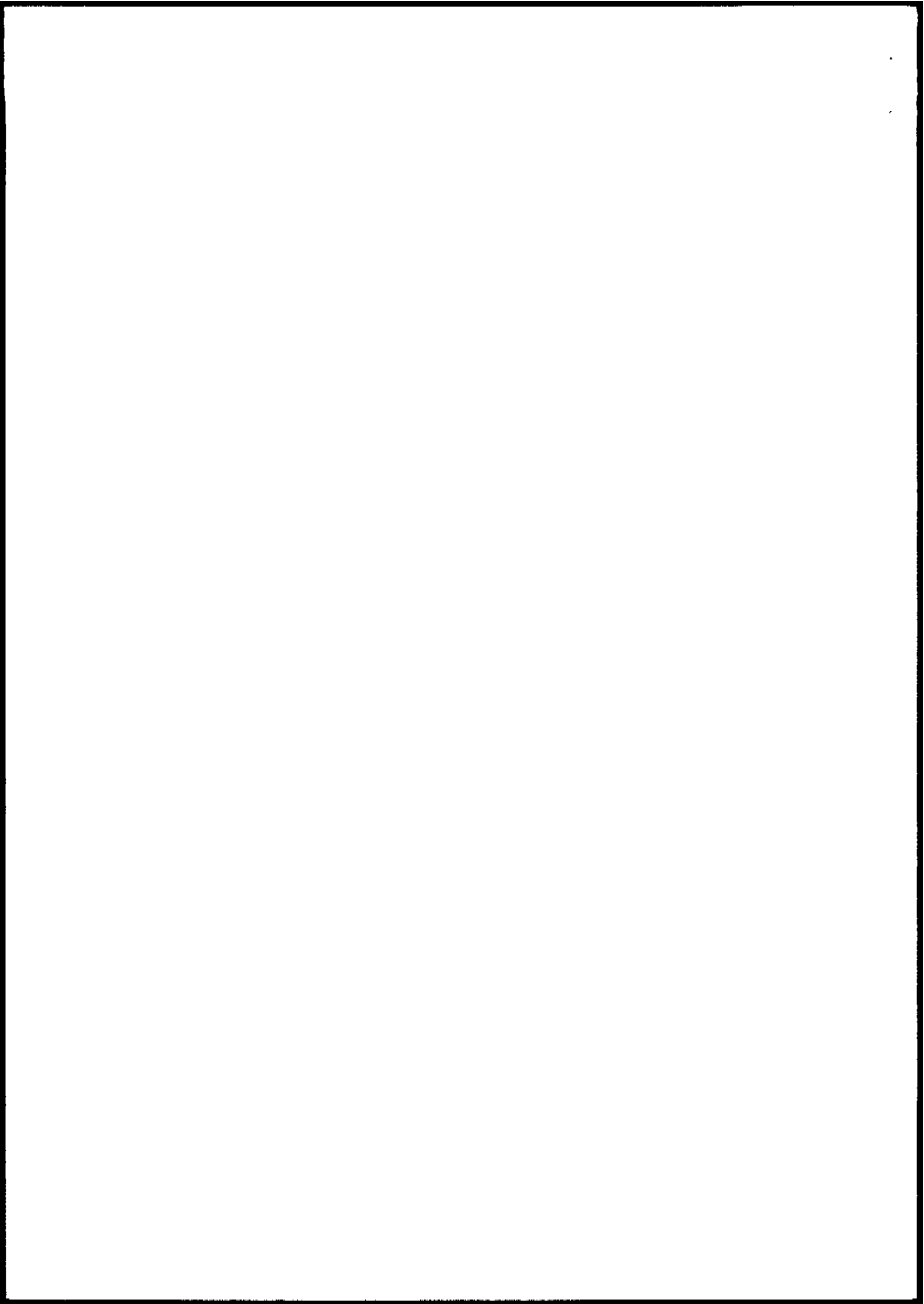
The following activities are discussed:

- No tobacco days
- Activities of the Ministry of Health against tobacco advertising
- "The Actual Aspects of Healthful Raising of the Young Generation" conference
- The federal "Tobacco or Health" programme created within the framework of the Action Plan of the WHO Regional Office for Europe, known as "A Tobacco-free Europe."

In these subsections, we present legislative acts and regulations, letters of the Ministry of Health, and materials received from various regions of the Russian Federation that have to do with tobacco control.

5. *The primary structures executing different tobacco control functions*

Various state and non-governmental institutions involved in tobacco control activities and the provision of treatment for nicotine dependence.



III. Activities of the Ministry of Health and Governmental and Non-Governmental Structures Involved in Prevention of Tobacco Smoking

Since the collapse of the USSR, the health care system in the Russian Federation has been reorganised. A Department of Preventive Medicine was created within the Ministry of Health and is responsible for researching medical prophylaxis of noncommunicable and communicable diseases.

The main activities of the Ministry were aimed at reforming and adjusting the old system to new conditions and implementing new relationships and intersectoral connections in the activities of the governmental structures.

It should be noted that the old system of preventive services had certain advantages. It was designed to provide efficient work across vast territories of the Russian Federation and to provide rapid communication with remote regions that enabled them to receive information rapidly. On the other hand, however, the old system of preventive services had existed on government money and therefore, executed the government's directions. The absence of fundraising or commercial activities at the regional level had led to development of programmes with poor or no impact on the population. Overall, the initiative at the regional level was substantially restricted.

Indeed, model programmes have been created that remain successful today. In this respect, we must stress that everything that was good in the old system should be combined with new features and incorporated into the existing structures to maximize the disease prevention effect. Government structures of disease prevention include:

- The Ministry of Health of the Russian Federation (Department of Disease Prevention).
- The research institutions:
 - The State Research Centre for Preventive Medicine of the Ministry of Health of the Russian Federation
 - The Oncology Research Centre of the Russian Academy of Medical Sciences
 - The Federal Research Institute of Medical Problems of Healthy Lifestyle Shaping
- A network of practical institutions:
 - The Federal Centre for Medical Prophylaxis
 - Regional centres for medical prophylaxis
 - Municipal centres for medical prophylaxis
 - Units for medical prophylaxis in outpatient clinics

In 1993, a Coordination Committee for Disease Prevention and Promotion of Health, was created as an arm of the Department of Disease Prevention of the Ministry of Health. This coordination committee includes 40 specialists from various institutions, agencies, and ministries. This diversity allows the group to resolve problems via intersectoral connections more operatively.

The research institutions participating in development of preventive programmes, carrying out scientific research as well as implementing preventive programmes, are as follows:

- The State Research Centre for Preventive Medicine of the Ministry of Health of the Russian Federation
- The Oncology Research Centre of the Russian Academy of Medical Sciences, which consists of three research institutions, one of which, The Institute of Carcinogenesis, is involved in tobacco research
- The Federal Research Institute of Medical Problems of Health Promotion

A major function of the practical institutions is dissemination of information on healthy lifestyles and disease prevention. In recent years, these institutions directly participate in the development of healthy lifestyles among the population. The institutions include:

- The republic centre/national centre of medical prophylactics, Ministry of Health of the Russian Federation
- The regional centres of medical prophylactics
- Municipal centres of medical prophylactics
- Units of medical prophylactics created in outpatient clinics

Overall, there are 89 regions with 247 centres of which 66 are regional and the rest are municipal. There are 55 units of healthy lifestyles and 420 units of medical prophylaxis. Over 1200 physicians and over 1000 other medical personnel work in the regions in the area of health promotion. In many centres, there are enthusiasts who use their high professional skills to efficiently promote healthy lifestyles.

In 1993, an Order of the Ministry of Health was issued dealing with broadening the functions of the centres of medical prophylactics. As a result, these centres were allowed to function on a commercial basis and deliver health promotion and health strengthening services. Nevertheless, leaders in some regions still underestimate the value of health promotion and ignore innovative forms of preventive activities. They even put obstacles in front of these centres in their work. In a number of cases, the negative attitudes toward these centres evolved because the centres exhibited poor professionalism and ineffective work. However, these negative experiences can be eliminated if the substantial economic support for these centres is provided and if new more interesting and informative programmes utilizing mass media are delivered.

In December 1995, the Order of the Minister of Health entitled, "To the Development of the Medical Service in Russia," was issued. This document is aimed at strengthening the existing structures and adapting them to the new socioeconomic conditions.

IV. Tobacco Growth, Manufacturing, and Importation of Tobacco Products in the USSR and Russia

According to A/O "Tabakprom," there are 26 tobacco factories in Russia, 8 of which are operating with the financial support of foreign tobacco companies. Seventeen tobacco-manufacturing facilities are incorporated in A/O "Tabakprom," which in fact represents the Russian tobacco manufacturing industry. According to A/O "Tabakprom," the manufacturing of tobacco products in the USSR and Russia has been decreasing since 1986. This data are presented in Table 1.

Table 1 **Quantity of cigarettes and papirossi manufactured in the USSR and in Russia (billion pieces)**

<u>Year</u>	<u>USSR</u>	<u>Russia</u>
1986	383.4	179.5
1987	378.5	175.5
1988	357.8	169.0
1989	349.3	162.0
1990	313.1	151.0
1991	238.0	144.4
1992	-	148.4
1993	-	146.9
1994	-	136.4
1995	-	141.6

One of the reasons for this reduction along with the absence of modern equipment in the factories has been a progressive reduction of land in the areas where tobacco was cultivated (Table 2), as well as the increasing domination of imported tobacco products.

Table 2 **Areas on which tobacco is grown (million hectares)**

<u>Year</u>	<u>USSR</u>	<u>Russia</u>
1986	165	9.2
1987	158	8.3
1988	127	7.0
1989	121	7.0
1990	102	4.3

Over several years, research conducted to assess whether the geographical areas in Russia on which tobacco may be cultivated could be broadened. According to preliminary data, the utilisation of new regions will enable developers to increase the total yields of tobacco crops to 35 to 40 thousand tons per year. This, in turn, will supply the industry with domestically grown raw tobacco and decrease the importation of raw tobacco.

According to the available data, there is presently a demand in Russia for Approximately 300 billion pieces of tobacco products.

In 1994, 24 factories located in Russia manufactured 143 billion pieces of tobacco products. The rest of the demand was compensated by imported tobacco products. The volume of importation of tobacco products is presented in Table 3. The volume of importation of raw tobacco leaves presented in Table 4.

Table 3 Volume of importation of tobacco products (billion pieces)

<u>Year</u>	<u>USSR</u>	<u>Russia</u>
1986	67.2	35.5
1987	58.0	27.5
1988	54.6	32.6
1989	55.1	32.9
1990	62.1	45.9
1991	100.0	93.0
1992	-	55.0
1993	-	58.0
1994		68.0
1995		66.0

Table 4 Volume of importation of tobacco leaves (thousand tons)

<u>Year</u>	<u>USSR/CIS</u>	<u>Russia</u>
1986	67.0	30.0
1987	53.8	25.0
1988	48.7	21.7
1989	35.9	15.4
1990	50.0	16.8
1991	50.0	28.2
1992	-	114.0
1993	-	138.0
1994		125.0
1995		143.6

The following tobacco products are being manufactured in Russia:

- Cigarettes with filters (31.4 billion pieces or 21.1%)
- Oval and round-shape cigarettes without filters (84.7 billion pieces or 56.8%: these cigarettes are the most widely used tobacco products in Russia)
- *Papirossi* (32 billion pieces or 22.1%), a typically Russian type of tobacco product that does not have analogues abroad

In Russia, 150 to 158,000 tons of fermented tobacco is used for tobacco product manufacturing. The Russian raw tobacco leaf production satisfies only an insignificant portion of the demand of the tobacco industry (5.4 to 6.8 thousand tons). The range of needed volume of raw tobacco is used for tobacco product manufacturing and is imported from the countries of the former Soviet Union (90.7 to 112.4 thousand tons) and from other countries (23.4 to 25.6 thousand tons). According to A/O "Tabakprom," it is planning to increase manufacturing of tobacco products to 300 billion pieces by the year 2000, including filtered cigarettes - this is an increase of up to 200 billion pieces. However, the remaining old equipment and absence of modern technology will not allow developers to realize these plans, and according to the latest forecasts, a decrease of cigarette production is anticipated. Some old facilities are being closed to reallocate finances. Remaining facilities are being modernized, reduce the amount of noxious substances in domestic tobacco products.

At present, the Russian tobacco market receives a substantial amount of tobacco products from other countries via various channels -- from relatively small wholesale amounts to very large amounts purchased on a contract basis. This complicates the reliable assessment of the volume of tobacco importation and creates a basis for importation of poor quality raw tobacco leaf and manufactured tobacco products that cannot meet the existing international standards for nicotine and tar yield. Russia imports tobacco leaf from the countries of the Commonwealth of Independent States. Moldova is the leading exporter among the republics of the former Soviet Union. Kyrgyzstan is in second place, and Azerbaidjan is in third place. Of the countries of Eastern Europe, Bulgaria continues to be the largest exporter of tobacco leaf to Russia. According to the press sources, high-quality tobacco leaf is increasingly imported from the United States of America. Overall, Russia imports about 125,000 tons of tobacco leaf annually.

According to *Tobacco World* magazine, Russia is becoming an increasingly lucrative market for cigarettes manufactured in Western Europe and the United States. In 1994, Russia imported about 40 billion cigarettes, which is almost twice the number imported in 1993. These data are based on the volumes passing through transit check points in Belgium and Finland. In 1994, the sale of American-made cigarettes increased in volume by 36% and in price by 57%. In spite of the decrease in cigarette manufacturing in the United States, their sales outside the country are increasing along with decreasing sales in the United States. The increase in demand for American-made cigarettes in Russia can be attributed to "improved" tobacco advertising. (*Tobacco World*, 1995).

Serious changes are currently taking place in the Russian tobacco industry. According to materials prepared for the Parliament hearings, "Problems and perspectives of tobacco industry in Russia," the tobacco industry is experiencing a deep crisis: manufacture of tobacco products is

decreasing, the industry capabilities are decreasing, and the existing equipment does not enable developers to improve the quality of tobacco products and decrease yields of noxious substances in cigarettes.

Despite the relative affordability of domestic tobacco products, their quality is not satisfactory; therefore, the demand for imported cigarettes is rising. This demand has been satisfied by the amount of imported cigarettes (150 billion pieces/year without taking into account the smuggled tobacco products). However, the quality of the imported cigarettes as well as their origin does not necessarily correspond to the claims written on the packages; therefore, the expectations of the Russian customers are not completely met.

A/O "Tabakprom," uniting the majority of domestic tobacco manufacturers on the Russian territory, proposes to unite all manufacturers in a non-commercial association. This association will be developing a common policy for all tobacco manufacturers on the Russian territory. The policy will include the modernization of production facilities, withdrawal of custom fees on imported tobacco leaf, acceleration of the utilisation of the foreign credits to increase the competitiveness of the Russian-made tobacco products, and development of large-scale, anti-tobacco-smuggling measures.

V. The Quality Control of Tobacco Production

Until recently, Russia did not have reliable, independent control of tobacco production. Currently, there are three laboratories that provide such control:

- Laboratory of the Russian Research Institute of Tobacco and Makhorka, Krasnodar, Russia
- Laboratory of the Oncological Research Centre, Moscow, Russia
- Laboratory for Tobacco Quality Control, Moscow, Russia

In December 1993, for the first time, the Collegium of Gosstandard of Russia with participation of representatives from the Ministry of Health adopted a document called "To Certification of Tobacco and Tobacco Products," which carefully formulated the procedure of tobacco product certification.

In 1991, the Ministry of Health of the USSR adopted the following standards regarding the content of cigarettes manufactured in the former Soviet Union and imports from foreign countries:

- Tar - not more than 25 mg per cigarette
- Nicotine - not more than 1.3 mg per cigarette

These standards were adopted by the first Collegium of Gosstandard Committee (December 1993) as a step towards the standards currently existing in Western countries (Table 5). The following standards for imported cigarettes were also adopted:

- Tar - 15 mg per cigarette
- Nicotine - 1.3 mg per cigarette

Table 5 Content of tar, nicotine, and carbon monoxide in cigarettes sold in some countries

<u>Country</u>	<u>Tar (mg/cig)</u>	<u>Nicotine (mg/cig)</u>	<u>CO (mg/cig)</u>
Belgium	12 - 15	1.2 - 1.5	-
Finland	10 - 15	0.7 - 1.2	8 - 12
France	12 - 15	-	-
EU Countries	15	1.2	15
USA	14	1.0	-
Russia	25	1.3	-

For domestic tobacco products, the standards are being adopted in a step-by-step manner. Prior to January 1, 1997, tar content of 20 mg per cigarette was allowed for filtered cigarettes and 24 mg per cigarette for plain (unfiltered) cigarettes. After January 1, 1997, the filtered cigarettes should meet the international standard for tar content (15 mg per cigarette), the tar content in unfiltered cigarettes should not exceed 22 mg per cigarette.

The procedure for tobacco-product certification was formulated in the supplement to Decree of 18 December 1993. According to this decree, the right to control tobacco products was granted to two laboratories: (1) the laboratory of NPO Tabak, Krasnodar, Russia, and (2) the laboratory of the Oncology Research Centre of the Russian Academy of Medical Sciences. The mentioned collegium preceded a very substantial work of the Ministry of Health and the Oncology Research Centre of the Russian Academy of Medical Sciences. The laboratories are examining the quality of domestic and imported tobacco products. According to NPO Tabak, from 1991 through 1993, all manufactured tobacco products can be characterized as "very high tar-containing," namely:

- Cigarettes with filter (tar content 19 to 26% mg per cigarette)
- Cigarettes without filter (tar content 24 to 29.2% mg per cigarette)

It is much more difficult to characterize *papirossi*. *Papirossi* are manufactured only in Russia and other independent states (republics) of the former Soviet Union. This raises the question, "What criteria are necessary to use to develop a standard of quality control of these tobacco products?" A new Russian standard for tar, nicotine, and carbon monoxide content of these tobacco products is needed because the complete ban of its production does not seem to be possible in the near future.

However, after research carried out by the laboratory of the Oncology Research Centre (Dr. R.D. Safayev, 1991 through 1993) it became clear that practically all tobacco products including those imported can be classified as either "high tar" containing or "very high tar" containing (see Tables 6 and 7). Also, tobacco products manufactured in Russia can be qualified as imposing an increased carcinogenic danger (Dr. R.D. Safayev, 1991 through 1993) and containing an increased amount content of metals (Table 8) and pesticides (Table 9). It is possible that the high levels of toxic substances is attributable to the smuggled tobacco products, the origin and characteristics of which are unknown.

Table 6 Content of tar, nicotine, and carbon monoxide in cigarettes sold in Russia (1991)

<u>Name</u>	<u>Class</u>	<u>Tar (mg/cig)</u> <u>min. - max.</u>	<u>Nicotine (mg/cig)</u> <u>min. - max.</u>	<u>CO, %</u> <u>min. - max.</u>
<u>Plain Filterless Cigarettes</u>				
<u>Vatra</u>	3	28.2 - 30.2	1.0 - 1.2	2.7 - 3.0
Verkhovina	5	27.6 - 33.6	1.2 - 1.3	2.7 - 3.9
Astra	3	29.1 - 34.6	1.0 - 1.4	2.7 - 3.8
Reis	2	24.2 - 29.3	1.0 - 1.1	3.4 - 3.7
Polyot	2	28.3 - 37.8	1.0 - 1.3	2.7 - 3.7
Prima	5	22.5 - 31.9	1.1 - 1.6	2.9 - 3.8
Dymok	5	26.5	1.0	3.9
<u>Filtered Cigarettes</u>				
<u>Kosmos</u>	1	17.8 - 24.5	0.9 - 1.7	2.5 - 3.6
Stolichnye	3	19.0 - 26.8	0.6 - 1.2	2.7 - 3.5
Pegas	4	18.7 - 21.9	0.7 - 1.0	3.4 - 3.5
Troika	2	19.4	0.9	3.4
Visit	2	21.8	0.9	3.2
Novost	5	20.9	1.1	3.7
Dybek	3	21.9 - 27.1	0.8 - 1.2	3.1 - 3.3
Tallinn	2	22.2	1.0	3.1
Medeo	4	22.6	1.1	2.9
Express	4	20.8 - 22.0	1.0	2.9 - 3.5
St. Petersburg	1	26.8	0.7	2.9
Leningrad	2	22.4	1.0	2.9
Rostov	2	22.9	1.3	3.7
Lira	3	22.1 - 22.7	1.0	3.2 - 3.5
Sabantuy	1	21.9	0.9	3.1
Kyrgyzstan	1	33.1	1.3	3.0
Komuz	4	28.1	1.2	3.1
Prilutskye	4	28.1	1.0	3.2
Fluerash	2	15.8 - 18.7	1.0	3.5
Temp	1	16.9 - 23.9	0.9	3.2
Daina	4	18.6 - 22.3	1.1	3.2
Kurs	4	18.9	0.7	2.7
(aromatized)				
Erevan	2	25.3	1.1	N/A
Arin-Berd	2	26.1	1.0	N/A
Gonio	4	28.8	1.2	3.1
Yava	2	17.2 - 19.0	0.7 - 1.2	2.7 - 3.4

Table 7 Content of tar, nicotine, and carbon monoxide in imported cigarettes purchased in Moscow tobacco kiosks (June 1993)

<u>Name</u>	<u>Tar (mg/cig)</u>	<u>Nicotine (mg/cig)</u>	<u>CO(mg/cig)</u>
Magna (USA)	22.9	1.4	17.0
Palace (USA)	24.7	1.6	13.8
Burrus & Sons (UK)	21.5	1.2	14.3
Appolo Soyuz (USA)	17.8	1.2	15.2
Sovereign (UK)	14.2	1.0	13.0
Fores (USA)	19.2	1.3	16.7
Rothmans (UK)	20.2	1.1	13.5
Kent (USA)	20.2	1.0	15.8
Imperial (Columbia)	26.9	1.2	16.3
Gallant (USA)	17.6	1.0	14.8
Winston (USA)	19.0	1.2	12.3
Boy (USA)	26.2	1.4	14.8
West (USA)	21.3	1.0	15.6
Cowboy (USA)	15.5	1.2	18.1
Astor (USA)	17.0	0.9	13.9
Gold Bond (UK)	16.5	1.1	14.3
Match (USA)	19.3	1.2	13.8
Smoke (USA)	15.6	0.9	12.0
Montana (USA)	17.0	1.1	14.1
Camel (USA)	19.2	1.0	16.7
Marlboro (USA)	21.5	1.1	15.8
L&M (USA)	16.7	1.7	18.3

The system of tobacco and tobacco products certification

A system of tobacco and tobacco product certification is being planned. The system is headed by Gosstandard of Russia as a national organ responsible for certification. The functions, rights, and responsibilities of the central certification organ are established by the special document (Gosstandard Collegium Decree No. 23 of 8 December 1993) that is adopted by Gosstandard of Russia. All tobacco factories must receive certificates proving that their products meet the adopted norms for toxic substance content. Gosstandard is carrying out this certification.

All tobacco factories in Russia should receive a certificate confirming the acceptable content of tar and nicotine in cigarette smoke (tar - 25 mg per cigarette; nicotine - 1.3 mg per cigarette).

Table 8 Metal content in tobacco grown in the Commonwealth of Independent States (microgram/gram)

<i>Tobacco</i>	<i>Makhorka (Bryansk region)</i>	<i>Tropezond-219 (Krasnodar region)</i>	<i>Samsug-155 (Abkhazia)</i>	<i>Dubek-50 (Crimea)</i>	<i>Ubileiny-9 (Moldova)</i>	<i>Tropezond-538 (Georgia)</i>	<i>Dubek-44-07 (Kyrgyzstan)</i>
<i>Element</i>							
Al	1895.0	230.5	193.5	209.0	374.0	394.0	425.0
Mn	213.0	118.5	855.0	62.0	115.5	47.0	58.1
Co	27.5	9.5	9.5	10.0	12.0	14.5	16.5
Cu	8.0	3.6	18.0	5.0	6.05	11.0	5.0
Zn	58.5	64.0	68.0	34.0	44.0	38.0	26.0
Mo	5.1	1.3	5.4	3.95	3.6	0.1	0.2
Pb	70.0	33.0	51.5	54.0	66.0	65.5	58.5
Cr*	1.9	8.7	12.4	1.2	9.5	9.3	8.7
Ni*	15.0	9.0	14.0	8.0	12.0	10.5	8.5
As*	12.5	6.36	8.19	7.98	8.7	6.48	7.62
Cd*	1.1	1.9	3.15	1.55	1.95	1.45	1.25

* proven or possible human carcinogen

Table 9 Contamination of raw tobacco with residual quantities of pesticides. Proportion of samples containing residual pesticides

<i>Region</i>	<i>Chlororganic</i>		<i>Phosphororganic</i>		<i>Ditiocarbomates</i>	
	<u>Total*</u>	<u>↑MAL**</u>	<u>Total</u>	<u>↑MAL</u>	<u>Total</u>	<u>↑MAL</u>
Kyrgyzstan	93.2	7.7	93.2	-	15.4	-
Moldova	93.7	42.8	93.7	-	6.3	-
Azerbaijan	100	6.7	100	-	6.7	-
Uzbekistan	100	25.0	91.7	-	66.7	16.7
Russian Federation	63.6	18.2	63.6	-	-	-
Bulgaria	94.4	33.3	88.9	5.6	27.8	5.6

*percent of studied tobaccos containing residual quantities of pesticides

** percent of studied tobaccos in which the maximally accepted levels of pesticides are exceeded

VI. Tobacco Advertising

Tobacco advertising represents thoroughly organized, well-planned and research-based measures aimed at increasing tobacco consumption. Tobacco advertising associates tobacco use with sex appeal, relaxation, glamour, and other positive human emotions and perceptions. The revenues of the tobacco industry directly depend on smoking prevalence, i.e., on the number of people addicted to cigarettes.

During the Soviet era, the phenomenon of advertising in general and tobacco advertising in particular was not an issue. Tobacco advertising was achieved predominantly through indirect means (e.g., characters smoking on the television screen) and, for the most part, did not feature attractive models or desirable lifestyles. Also, the USSR-manufactured tobacco products were consumed because foreign-made tobacco products were not accessible.

However, with the democratization of society and the impact of Western influence, the demand for cigarettes has sharply increased. In 1990 alone, in the USSR and especially in Russia, there has been a sizable gap between the demand and the production of tobacco goods. In the early 1990s, tobacco rationing was introduced by the government which led to "tobacco riots," cars were overturned and city roads blocked by angry abstinent smokers. The aggravating tobacco shortages opened the gates to importation of Western tobacco products along with massive tobacco advertising. Ever since, tobacco products have been imported in Russia accompanied by Western-type tobacco advertising.

The transnational corporations found new opportunities to sell their products in Russia. Competition started between Western tobacco companies, and the mass media began broadcasting tobacco advertisements. The Reynolds tobacco representative, Brenda Holmer, in an interview for the *Washington Post* said Eastern Europe was a "colossal market of smokers, and when doors began to open Reynolds certainly wanted to be there." Michael Parsons, Philip Morris representative, told the *Washington Post* that this is a gigantic market opening in front of us with big possibilities for growth.

Increasingly more channels began showing tobacco advertisements, particularly during the hours when children and youth were watching. For example, in 1993 as much as 40% of all foreign tobacco advertising in Russia was tobacco advertising. Tobacco advertisements were shown in the evening, when school children and adults were sitting in front of the television sets. This allowed Western tobacco manufacturers to achieve their goal of involving youth in smoking and prompting products rejected in their own markets into Russian markets. Television was trying to please tobacco monopolies and created the conditions making anti-advertising of smoking ineffective. However, because of the persistence of the Ministry of Health and a number of public organisations, the pressures imposed by tobacco advertising have been decreasing over time. Also, Russian-made anti-tobacco videoclips developed by Russian centres for medical prophylaxis began to appear on television screens because of the Ministry of Health's activities. Television programmes such as "Health" and "Medicine for You" periodically highlighted this problem; however, these programmes were aired during daytime when most people were at work or at school. The Ministry of Health does not have sufficient monetary resources to create high-quality anti-tobacco materials that could

compete with tobacco advertising. In contrast, Phillip Morris provided the bulk of the \$150,000 spent on an advertising festival in Moscow.

The Ministry of Health has been receiving numerous letters from all the regions of Russia, from medical professionals and citizens, about the harm caused by tobacco and alcohol advertising, especially on the television advertisements. As a result of the active position of the Ministry of Health and leading scientists, Article 19 of the Basic Act of the Russian Federation on the health protection of citizens was adopted. In this article, "advertising of alcoholic beverages and tobacco products was prohibited in the mass media." However, the mass media did not comply with this article because no punitive measures were established. In response to this situation, the Ministry of Health had asked the Federal Government of the Russian Federation to conduct a session of the Judicial Council on Informational Disagreements of the President of the Russian Federation. As a result, the Judicial Council held a session on 5 May 1994 and determined that Article 19 must be executed and a Federal Law on advertising should be adopted. Since that time, the Ministry of Health has begun to state the policy for the complete ban on alcohol and tobacco advertising during its work on the Draft Law on advertising. Nevertheless, the intensity of the advertising pressure did not decrease, and the President of the Russian Federation issued a decree "On the Guarantees of Health Rights of the Citizens during Advertising" (17.02.95.No. 161). On 18 July 1995, the Federal Law on Advertising was adopted. The Presidential Decree's action was extended until the adoption of the Federal Law on Advertising. Two versions of the Law were considered: a version by the Ministry of Health insisting on the complete ban of alcohol and tobacco advertising and a version of the State Committee on Anti-Monopoly Policy restricting the advertising but not banning it. The final decision was to adopt a compromised version by the Ministry of Health (total ban of the advertising beginning 1 January 1996) and Article 16 included a limitation on advertising in non-electronic mass media.

Thus, the four most important actions on tobacco advertising are:

- (1) Adoption of Article 19 of Basic Legislative Act of the Russian Federation on the health protection of the citizens
- (2) Conduction of a special session of the Judicial Council on Informational Disagreements of the President of the Russian Federation (Dr. Tkachenko)
- (3) Decree of the President of the Russian Federation on protection of public health from advertising of hazardous products, and
- (4) Adoption of a Federal Law on advertising (Articles 16 and 33 restricting and prohibiting tobacco advertising, respectively).

In addition, the legislative act on advertising has been adopted by the Russian Parliament. According to this act, violators of the Russian law on advertising are punished administratively the first time, then criminally imprisoned for up to two years or a sizable monetary penalty is imposed.

VII. Influence of Smoking on the Health of the Population of the Russian Federation

Studies of health effects of tobacco use that have been carried out in the Russian Federation and abroad have shown that the most prevalent chronic non-communicable diseases (such as cancer, cardiovascular, and respiratory diseases) are caused cigarette smoking. It is important to note that the morbidity and mortality associated with cardiovascular disease and cancer (Tables 10 and 11) is increasing. The single most preventable cause of increased mortality in Russia is tobacco smoking.

Table 10 Cancer Morbidity in Russia

Years	1970	1980	1991	1992	1993	1994	1995
Million people	816	1318	1665	1707	1749	1823	1870

(Russian Statistic Annual, 1996)

Table 11 Morbidity in Russia

	Total thousand people				per 1000			
	1990	1993	1994	1995	1990	1993	1994	1995
Cancer	820	910	954	974	5.5	6.1	6.5	6.6
Cardiovascular diseases	1661	1752	1900	1960	11.2	11.8	12.9	13.3

(Russian Statistic Annual, 1996)

In 1989, a Russian-language monograph, "Smoking and Health" (D.G. Zaridze and R. Peto, editors, (9)) was published. In this monograph, international cross-sectional and longitudinal studies on tobacco use and health were summarized. Until recently, this monograph was the only comprehensive Russian-language document extensively highlighting various aspects of smoking and health such as toxicology of tobacco smoke, tobacco-attributable morbidity and mortality, etc.

Many tobacco industry lobbyists claim that there is no direct evidence of the causal role of cigarette smoking in increased morbidity and mortality among the population. Only poorly informed individuals will trust such declarations because the aforementioned monograph and numerous other documents (for example, documents published by the WHO and UICC) provide compelling evidence about the colossal impact of cigarette smoking on health of the present population and of future generations as well as the impact on the environment and economy.

In the monograph "Smoking and Health," the following conclusions were made:

- The duration of smoking and lung cancer rates are highly related.
- A three-fold increase in duration of regular smoking increases the annual rates of lung cancer by approximately 100-fold.
- The beginning of smoking during adolescence increases the risk of tobacco-related diseases in middle and old age.
- There are causal relationships between cigarette smoking and cardiovascular diseases and the magnitude of risk for death from these diseases is 50% higher among smokers than among nonsmokers.

The above-mentioned conclusions are being constantly provided with more evidence from research studies conducted all over the world.

The longitudinal studies on tobacco and health conducted in Russia and other countries have indicated that the majority of non-communicable diseases are caused by cigarette smoking. These diseases primarily include the following:

- Cancer
- Cardiovascular diseases
- Respiratory diseases

The State Research Centre for Preventive Medicine of the Ministry of Health of the Russian Federation carried out a prospective study in Moscow among men 40 to 59 years of age with different smoking status. The study showed that mortality among heavy smokers (over 20 cigarettes a day) was four times higher from all causes and oncological diseases and two times higher from cardiovascular diseases as compared with those who have never smoked (Table 12).

Table 12 Mortality from cancer in the Russian Federation

<i>Years</i>	<i>Absolute Number of Deaths</i>		<i>Cancer Mortality per 100,000</i>				<i>Lymphatic/Haemopoetic System</i>		
	<i>Total</i>	<i>Esophagus</i>	<i>Stomach</i>	<i>Rectum</i>	<i>Lung</i>	<i>Breast</i>	<i>Cervix</i>	<i>System</i>	
1980	223,453	163.5	5.6	41.5	7.5	30.7	15.2	9.3	7.9
1985	248,272	175.5	5.4	38.6	9.0	36.1	17.6	8.5	8.6
1986	257,385	180.6	5.5	38.2	9.2	37.9	18.5	8.2	9.0
1987	264,062	181.0	5.8	38.0	9.3	38.9	18.6	8.1	9.1
1988	271,204	187.0	5.8	37.5	9.4	40.6	19.1	7.9	9.7
1989	277,481	187.9	5.9	36.8	9.4	41.6	20.0	8.0	9.6
1990	284,403	191.8	6.0	36.7	9.5	42.5	20.4	7.8	9.6
1991	290,488	195.5	6.1	36.1	9.5	43.3	21.3	7.7	9.8

Table 13 Mortality rates (per 1,000 person/years for a 10 year period of observation of men aged 40 to 59)

<u>Smoking Status</u>	<u>Total Mortality</u>	<u>CVD Mortality</u>	<u>Cancer Mortality</u>
Never Smokers	4.9	3.0	1.1
Former Smokers	8.6	5.6	2.2
Current Smokers	12.7	5.3	4.1
1 to 10 cig/day	11.8	5.9	3.8
11 to 20 cig/day	11.7	4.8	4.2
20 cig/day and more	19.1	6.8	4.9

Source: State Research Centre for Preventive Medicine

At the same time, over the past ten years the prevalence of smoking in Russia has increased by 14%. In contrast, in several Western countries, which are carrying out the preventive programs part of which are aimed at decreasing smoking prevalence, there has been a noticeable decrease in mortality and morbidity from tobacco-attributable diseases. The health damage attributable to smoking is supported by the indicators of morbidity with *temporary disability*, which is 40% higher in smokers as compared with nonsmokers. It is important to note the data on cancer mortality over ten years (Table 13). A substantial increase in mortality from lung and esophagus cancer has been observed. These data support the role of smoking in the deterioration of the population's health. Finally, higher intensity of smoking cigarettes per day among men correlates with higher mortality rates among men from the diseases attributable to smoking (Table 12).

Recent studies in the area of carcinogenic effect of tobacco on the human body conducted by the research group headed by Dr. Zaridze are of interest. Dr. Russanova and co-authors (14) in 1993 analyzed 138 cases of haemoblastosis in the regional children's hematological centre in the city of Chelyabinsk. The studied parameters were smoking status of the parents, duration of smoking from the moment of birth of the child, and the number of cigarettes smoked. The case-control method was utilised. The control group consisted of 138 healthy children standardized by age, gender, and place of residence. It was shown that among offsprings of female smokers, the relative risk of leucoses was 1.84. The relative risk was dependent on the number of cigarettes smoked per day by both fathers and mothers. The risk of disease development was also associated with the duration of smoking among fathers. The results suggest that smoking among mothers as a risk factor of haemablastosis in their offspring is more significant than smoking among fathers.

The effects of smoking of one or both parents on the health of their offsprings has also been studied by I.S. Tarasova and colleagues (17). They measured weight, height, chest, and circumference of the newborns and one-year-old children. Measurement of parameters of physical growth was accomplished by standard anthropometry with the parametric statistical analysis among 450 healthy children in the first year of life. It was found that the weight of children born to smoking parents was significantly lower than that of children born to nonsmoking parents. The average weight of girls in the control group was 3.5 ± 0.04 kg, whereas the weight of the girls who were born to parents who smoked was 2.82 ± 0.04 kg ($p < 0.05$). Similar differences were found among the newborn boys in the study group: 3.58 ± 0.04 and 2.93 ± 0.04 respectively. On average,

newborns born to smoking parents were about 2 cm shorter than newborns in the control group. At the end of the first year of life, girls born to smokers were about 3.8 cm shorter than girls in the control group.

The difference in height of one-year-old boys born to smokers and nonsmokers was 1.5 cm. The most significant was the difference in head circumference that reached 1 cm at the age of 9 months. Thus, smoking of parents negatively impacts the physical growth of offspring beginning at birth and delays the child's growth and development during the first year of life. It also appears to cause the delays in neuropsychic growth and immune status of children in early age.

VIII. Smoking Prevalence Among Adults

In the 1980s, the USSR and the Russian Federation ranked among the countries of the world with the highest prevalence of cigarette smoking. According to Chazov and co-authors (1984), at that time, there were 70 million smokers in the USSR or 26% of the population. The studies performed in the 80s showed that 62.6% of the smokers were men and 19% were women in the 30 to 39 year age group (Oleinikov et al., 1981; 1983).

The same authors presented information on the smoking prevalence according to the level of education (Table 15; data by Oleinikov et al., 1983 and Chazov et al., 1984).

Table 14 Russian Federation: 1990 deaths, all ages.
Number of deaths attributed to smoking/total deaths (thousand).

	Males	Females	Males + Females
All Cancer	82/157 (52%)	6.5/127 (5%)	89/284 (31%)
All Causes	241/802 (30%)	36/854 (4%)	276/1656 (17%)

Table 15 The prevalence of smoking among men aged 30 to 39 with different levels of education

<u>Region</u>	<u>Education</u>	<u>Smokers (%)</u>
Moscow	Elementary (N=298)	64.8
	Unfinished Middle (N=1059)	59.7
	Middle (N=459)	50.1
	High (N=1693)	37.2
6 Other Cities	Elementary	64.8
	Middle	59.7
	High	37.2

These data show that smoking is more prevalent among the less educated than among educated individuals. Over the years, the State Research Centre for Preventive Medicine (formerly the USSR Research Centre for Preventive Medicine) has been involved in studies on smoking prevalence within the population of Moscow and other cities of the Russian Federation as well as in the development of tobacco-control measures. From 1985 to 1986, 12,275 individuals in 20 cities and six regions of the country were interviewed in a survey about smoking behavior. Among them were 3,576 school children, 3,317 students of universities and vocational schools, and 5,382 individuals 20 to 60 years of age. The analysis of interviews showed that 45.1% of the men and 7.6% of the women in the study smoked. In other words, smoking is six times more prevalent among men than among women.

Although the highest percentage of smokers were observed among adults (64.7%), tobacco use was quite prevalent among school children (13.5 to 31.3%).

The results of this study indicates that many smokers acquire a smoking habit during adolescence. Most smokers begin to smoke between 13 and 18 years of age, i.e., during the period of intense physiological and psychological development.

In various regions, the percent of smokers varies from 26% to 62.3%. According to a study conducted by researchers from the State Research Centre for Preventive Medicine, approximately 50% of Moscow's population used tobacco (preschool age individuals were not taken into account) (Table 16).

Table 16 Prevalence of smoking among residents of Cehremushkinsky district of Moscow

Years

<u>Age (years)</u>	<u>Sex</u>	<u>1979 (%)</u>	<u>1983 (%)</u>
20 to 29	Males	60.4	62.0
	Females	16.9	16.8
30 to 39	Males	62.6	57.4
	Females	19.0	19.0
40 to 49	Males	48.5	48.2
	Females	8.5	9.5
50 to 59	Males	45.1	45.3
	Females	8.9	8.6
20 to 59	Males	54.0	53.2
	Females	13.0	13.5

As it appears from the research study conducted among residents of a Cheremushkinsky district of Moscow, the percent of smoking among males aged 20 to 59 was 45 to 62%, and among women in the same age group, it was 5.5 to 19%. The highest prevalence of smoking was observed in the 20 to 29 year and 30 to 39 year age groups, varying among males from 57.4 to 62.6% and among females from 16.8 to 19%. In similar age groups, the intensity of smoking was higher among men (17.3 cigarettes per day) than among women (8.6 cigarettes per day).

Prevalence of Smoking in the Russian Federation in the 1990s

According to the long-term investigations conducted by the State Research Centre for Preventive Medicine in the 1990s there has been an increase in the percent of male smokers among younger individuals along with an insignificant decrease of smoking rates among the older age groups. For example, reports of the State Research Centre for Preventive Medicine indicate that in 1991, the highest increase in smoking prevalence was revealed among 25 to 34 year olds, and the highest decrease was observed among 55 to 64 year olds. Presumably, the latter finding was associated with the shortages of tobacco products, which has brought about their relative inaffordability for the older people. This explanation, however, does not appear to hold up for females among whom smoking rates have increased in younger and older age groups.

Thus, at the beginning of 1990, a moderate decrease in smoking rates was observed among older males (mainly retired individuals and those of near-retirement age) along with an increase in smoking rates among younger individuals. The smoking rates among females had increased significantly, mainly because the youngest age group and individuals of the near-retirement age.

Analysis of the most recent indirect data (e.g., increase in tobacco-product consumption, importation of cigarettes, increase in domestic tobacco manufacturing) indicates that the negative trends revealed in 1991 continue to exacerbate, and the number of smokers in the Russian Federation is constantly increasing (by approximately 14% over the last 10 years).

There is evidence of the increase of smoking prevalence in various regions of the Russian Federation. For example, in the Republic of Sakha (Yakutia) located in the far Northern part of the country, the prevalence of smoking among men of the indigenous ethnic groups is 49.8%. Among women it is 14.8% (Polikarpov et al., 1993). According to the data collected by Galyukov and co-authors (1993), of 102 male railway workers in Chelyabinsk Oblast (Ural region), 60.9% were regular smokers.

In 1995, the prevalence of smoking among the population in the city of Chelyabinsk was 60.2% among males and 8.4% among females; in Chelyabinsk Oblast (rural areas) the prevalence was 57.8% and 0.4%, respectively. However, among Chelyabinsk urban males 25 to 49 years of age, the smoking prevalence was noticeably higher - 85.8%.

Studies conducted by the Research Institute of Cardiovascular Disease located in the city of Tomsk (Siberia) have revealed that among that city's residents aged 17 to 25 years, 41.2% of males and 7.3% of females smoke cigarettes. Further, among the Tomsk population 20 to 59 years of age, 79% of males and 18% of females use tobacco. Among industrial workers, smoking prevalence was

58% and 8%, respectively. Among 20 to 59 year old residents of small towns located throughout Tomsk Oblast, 71% of males and 7% of females smoke cigarettes.

Prevalence of smoking in the city of Tver (Central region) was investigated from 1994 to 1995. Regular smoking was reported among 63% of males and 8.6% of females. According to Murmansk Regional Centre of Medical Prophylaxis (European North of Russia), 70.7% of males and 20.5% of females residing in this city smoked cigarettes.

Table 17 summarizes the smoking prevalence data collected by the Ministry of Health (1991-1993) from some other large urban areas of the Russian Federation.

Table 17 Prevalence of smoking among urban male population 20 to 54 years of age residing in various cities of the Russian Federation

Novosibirsk	62%
Norilsk	62%
Ufa	60%
St. Petersburg	56%
Yakutsk	56%
Moscow	55%

Within the framework of the Countrywide Integrated Noncommunicable Disease Intervention (CINDI) program (Kamardina, 1992; 1993, the State Research Centre for Preventive Medicine) smoking prevalence among heavy industry workers in Moscow and Elektrostal has been studied. It is interesting to compare the data on smoking prevalence collected by the researchers from the State Research Centre for Preventive Medicine in the same sites in the 1980s and the 1990s. The results from the studies conducted in the 1980s showed that the percentage of men who used tobacco among industrial workers in Elektrostal was higher than among industrial workers in Moscow (Table 18). It should be noted that the majority of the Elektrostal males were industrial workers and, therefore, had lower levels of education. As far as the labor characteristics is concerned, in both sites, workers of heavy industries were studied.

Table 18 Prevalence of smoking (%) among industrial workers in Moscow* and Elektrostal** (1986)

<u>Age</u>	<u>Males</u>	<u>Females</u>
20 to 29	58.2* / 65.6**	7.2* / 9.5**
30 to 39	53.4 / 65.6	12.6 / 7.6
40 to 49	40.9 / 55.5	2.4 / 2.2
50 to 59	40.0 / 38.8	5.0 / 4.0

Representative populations were sampled from 3,500 workers in Moscow and from 12,000 workers in Elektrostal. Comparison of these data with the data obtained in the same populations in the 1990s has revealed an increase in the smoking prevalence among males and females by 6.2%, on average.

Research studies have revealed that a high percent of women of the reproductive age smoke cigarettes. Unfortunately, a number of these women continued to smoke during pregnancy. A survey conducted among pregnant women (N=371) aged 16 to 35 years in a maternal consultation facility showed that 99 women (26%) had smoked before pregnancy, and 10 women (2.6%) continued to smoke during pregnancy (Osokina, 1993). There is compelling evidence, however, that smoking during pregnancy causes a substantially negative impact on the newborn's health. Infants born to women who smoked during pregnancy were lighter than infants born to nonsmoking women. In addition, pregnancy complications are observed more frequently among smokers than nonsmokers. The WHO documents indicate that the consequences of smoking during pregnancy continue to affect the child's health during the first seven to nine years of life manifesting psychological, emotional, and physical retardation.

In 1995, researchers from Rostov State Medical University investigated smoking prevalence, nicotine dependence attitudes and beliefs about smoking among medical students (109 males and 72 females), law students (48 males), and military academy students (129 males) in the city of Rostov. A high prevalence of smoking was found among the law students (75%) and the military academy students (57%). Smoking prevalence among the medical students was lower, although still quite significant - 44% among males and 24% among females. According to the Fagerström Tolerance Questionnaire (FTQ), 67% of law students who smoked reported insignificant nicotine dependence, 11% moderate, 9% medium, 7% strong, and 6% very strong nicotine dependence. Among the military students, 48% indicated insignificant nicotine dependence, 43% moderate, and 9% medium nicotine dependence. No strong or very strong nicotine dependence was detected in this group. This finding may be explained by very high requirements for physical fitness in the military academy and the high intensity of the physical exercise program. The nicotine dependence among male medical students appears to be the highest among the studied schools: 34% of them reported an insignificant nicotine dependence, 28% moderate, 6 medium, and 32% strong and very strong nicotine dependence. Among the female medical students who smoked, 75% had insignificant nicotine dependence, 11% moderate, 7 medium, and 7% strong and very strong nicotine dependence. A negative correlation was found between the degree of nicotine dependence and academic performance. Among the law students, 6% felt indifferent about their spouses or children smoking. Among the male medical students, 16% did not care if their spouse or children smoked cigarettes, and among the female medical students every third person cared about their spouses or children smoking. In contrast, all 129 military students reported that they would not approve of their spouses or children smoking.

Intention to quit in the future was revealed among 82% of military students, 50% of law students, and 66% of male and 57% of female medical students. Over half of all respondents who smoked had tried quitting in the past.

IX. Prevalence of Smoking Among Children and Adolescents

In the 1990s, the State Research Centre for Preventive Medicine continued to conduct studies on smoking prevalence among children and adolescents in the Chermushkinsky district of Moscow. A highly reliable technique -- "expert assessment" - was utilised. The essence of this technique is that two representatives of each class ("experts") using a standardized questionnaire independently provide researchers with information about the number of smokers in their class without specifying names. The method has been presented in detail in the literature (Prokhorov, Murray, & Whitbeck, 1994).

In 1992, a survey was conducted among 3,000 school children ages 11 to 17 years. Analysis of the data showed a substantial increase in prevalence of smoking among boys and girls. Over a six year period, a statistically significant increase in smoking rates for both genders was observed; this increase was especially dramatic among regularly smoking girls (i.e., those who smoked at least one cigarette a week) from 5.4% to 12.3%.

The follow-up surveys conducted by the State Research Centre for Preventive Medicine in Moscow in 1992 to 1993 indicated a steady increase in percentage of smokers among school children (Table 19).

Table 19 Smoking prevalence among school children ages 11 to 16 years (%)

	<u>Age (years)</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
<u>1992</u>	11 - 14	22.9	11.5	17.1
	13 - 16	40.5	24.5	31.5
<u>1993</u>	11 - 14	27.2	14.9	20.7
	13 - 16	48.6	37.7	42.5

It was also revealed that every tenth adolescent who smoked cigarettes had a nicotine dependence. The tobacco-dependent adolescents were more likely to suffer from symptoms of bronchitis and shortness of breath during physical exercises than nondependent smokers. These findings may indicate the beginning or even advancing tobacco-attributable respiratory diseases.

The NPO "Medsotsekonominform" located in Moscow has recently presented data by Skvortsova (1993) on prevalence of cigarette smoking among secondary school graduates in 21 cities of the Russian Federation. The author found that among boys, smoking prevalence ranges from 25% to 48%, whereas among girls it ranges from 13% to 29% (Table 20).

Table 20 Prevalence of smoking among secondary school graduates residing in large cities of the Russian Federation

<u>City</u>	<u>Total Smokers</u>	<u>Daily Smokers</u>	<u>Total Smokers</u>	<u>Daily Smokers</u>
Arkhangelsk	42.3	39.2	19.9	11.7
Petrozavodsk	29.8	28.3	19.6	15.8
St. Petersburg	34.0	29.2	25.0	19.4
Vladimir	34.7	33.1	17.5	15.5
Tver	26.2	24.1	19.8	14.3
Orel	32.3	28.4	20.7	18.2
Kirov	25.0	19.4	17.3	8.9
Nizhny Novgorod	42.0	38.3	20.7	15.4
Voronezh	42.0	37.1	26.4	16.6
Lipetsk	27.7	27.6	21.7	18.6
Astrakhan	33.9	33.8	16.4	16.4
Volgograd	37.5	35.0	26.6	14.3
Krasnodar	42.1	39.1	29.0	22.4
Stavropol	42.6	40.7	27.4	24.8
Perm	37.6	33.6	27.7	22.2
Izhevsk	24.7	22.6	13.5	11.1
Kemerovo	36.2	32.6	22.6	17.3
Tomsk	36.4	34.1	28.4	19.4
Irkutsk	48.2	43.2	13.1	9.8
Khabarovsk	39.0	37.8	28.1	24.4
Moscow	43.7	42.4	27.6	23.4

The prevalence of daily smoking highly correlated with the total prevalence among both girls and boys begin different from the latter by only 2 to 5%.

To question "What makes you smoke?", the majority (90%) of smokers responded that "It is just a habit" or "I cannot quit." Thus, 90% of smokers, as a minimum, have a psychological dependence on smoking, which over time will inevitably develop into physiological dependence, and quitting might then be possible only with professional help. These data have been obtained from a large nationwide sample that concludes that one is dealing with a real picture of smoking epidemic among the young generation.

An important factor regarding the increase of tobacco smoking among school children is the weakening of anti-tobacco education and absence of systematic work aimed at healthy lifestyle formation. This statement may be supported by the data obtained by researchers from the Oncology Research Centre V.G. Drozhachikh and V.F. Levshin, who conducted an intervention study in five Moscow schools from 1988 to 1992. Prevalence of smoking was studied prior to anti-tobacco intervention and during the entire period of anti-tobacco intervention. The study results presented in Table 20 showed that already after the first year of intervention (the 1990 data collection point) a

substantial decrease in smoking prevalence in the intervention schools had been observed. At the same time, smoking prevalence in the control schools remained at the same level or even increased. However, the results from the subsequent years indicate that the effects of the intervention had weakened. This may be explained by the students getting used to the program and/or the decreasing quality of the preventive measures conducted by the school teachers (Table 21).

Table 21 Prevalence of smoking (%) among school children in five Moscow schools: Intervention Results

Year	Intervention School 1 (N=581)		Intervention School 2 (N=878)		Control School 1 (N=578)		Control School 2 (N=579)		Control School 3 (N=886)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1989	36.7	18.6	32.2	19.5	29.8	12.4	25.4	15.0	30.5	10.7
1990	24.5	12.1	16.8	9.2	40.2	23.4	28.5	12.4	33.9	12.8
1991	28.9	9.3	36.7	21.8	47.8	25.9	24.9	6.7	35.9	23.0
1992	29.3	11.4	33.8	16.3	37.4	18.4	28.0	13.6	40.5	20.2

Smoking prevalence has been studied among college students and vocational-technical school students. It was demonstrated that 69% of male and 14% of female students of vocational-technical schools smoked cigarettes. Among college students studying chemistry, 47% of males and 13% of females smoked. Among medical school students, the percentage of smokers was especially high: in 5th and 6th year students, 65% of males and 31% of females smoked cigarettes (23).

Thus, the recent increase in smoking prevalence among children and adolescents is a matter of special concern. Urgent anti-tobacco measures are necessary to prevent further worsening of the situation with tobacco-attributable diseases in the country.

X. Professional Assistance in Smoking Cessation

In the 1980s, a number of regional health centres organized specialized smoking cessation units. These units offered consultation, counseling, and professional medical help in smoking cessation including physiotherapy, acupuncture, pharmacological methods, and relapse prevention during the first 6 to 12 months after quitting.

The experience gained since 1988 has shown high efficiency of such units (16). The data collected by the State Research Centre for Preventive Medicine of the Ministry of Health of the Russian Federation indicates that immediately after the smoking cessation treatment course of 759 patients, the cessation rates were as high as 79% varying widely from 94% with use of acupuncture (the Nogier technique) and the lowest with the use of Gamibazin (a domestic-manufactured chewing gum containing anabazine hydrochloride) - 52%, and slightly higher with the use of Nicorette (2 mg and 4 mg) - 61%.

After three months, the percentage of quitters decreased although it remained rather high - 74%. More substantial relapse was observed six months after quitting. However, in the group treated with acupuncture, the cessation rate was still higher (78%) than in other groups, e.g. Gamibazin - 34.7% and Nicorette - 51.4%.

After one year, in the group of 759 patients, only 42.9% remained nonsmokers, the highest percentage was in the group that received acupuncture and remained under observation - 64%. In the group that was not under observation the cessation rate was 43% though among those who received Nicorette it was 38%, and among those who received Gamibazin it was 17%.

It may be concluded that regular follow-up and medical and psychological support after smoking cessation increases the efficiency of smoking cessation treatment. At the same time, the number of such units is definitely insufficient and they are not evenly distributed among the regions. These units exist only in large cities and their staff are financed by the state or on a commercial basis. The State Research Centre for Preventive Medicine presented the 1993 data (S.I. Sarsenova and L.V. Chazova (15)) obtained from a study on the comparison of the efficiency of different smoking cessation methods. The study showed that among smokers ages 24 to 64 years in 1986 through 1991, 46.9% of males and 57.0% of females wanted to quit smoking. Of the total number of those who wanted to quit smoking, 64% contacted the unit for assistance in quitting. Those patients who had chronic diseases, shorter duration of smoking, and lesser intensity of smoking were able to quit smoking more successfully. L.A. Zyriaeva and co-authors (1) have studied personality characteristics influencing smoking cessation. Analysis of relapse causes was carried out among 156 people, 15% of who had quit smoking, 45% had attempted to quit, and 40% had never attempted to quit. It was shown that the cessation rate was affected by the degree of physiological and psychological dependence on tobacco. It was found that "rigidity" plays the leading role in the effective treatment, which is one of the psychological mechanisms participating in forming the smoking behavior and bringing about the overall strength of the behavior.

V. Yu. Aleksandrova and S.I. Sarsenova (3) studied the efficiency of the smoking cessation course after one year because the course was completed in those with different degrees of readiness to quit smoking. They found that among those with a low initial degree of readiness to quit, 2.9% were abstinent after one year; among those with a medium degree of initial readiness to quit, 48.8% were abstinent after one year, and among those with the highest degree of readiness to quit, 83.3% did not smoke after one year.

In the specialized unit for smoking cessation of the State Research Centre for Preventive Medicine, a number of treatment measures and professional counseling aimed at smoking cessation as well as methodological recommendations for practicing physicians have been developed.

An innovative technique of nicotine-dependence treatment with the help of the device called "Stop a Cigarette" represents a modification of an auricular biostimulator Aurix. This method was 74% effective; however, after one year, the effectiveness dropped to 3.5%.

Within the framework of the CINDI program (10) a system of measures of nicotine-dependence treatment has been developed and implemented. This system allows us to significantly reduce the number of cigarettes smoked per day. There has been a comparative study conducted in terms of results of the treatment of 311 men average age 37.6 years and 51 adolescents average age 14.4 with the use of the survey method (1). Examination and survey were conducted in a specialised unit for smoking prevention. The methods used were as follows:

- Pharmacological
- Acupuncture
- Psychotherapy
- Psychotherapy with introlinguistic programming

The adult patients in the study were divided into two groups. The first group, which comprised 115 individuals received different methods of treatment including introlinguistic programming. The second group, 195 individuals, received various methods without using introlinguistic programming. It was shown that the use of the entire system of measures resulted in higher efficiency and reduction of the number of cigarettes smoked. For example, those who smoked 14.5 ± 5.6 cigarettes a day after treatment smoked 10.8 ± 5.5 cigarettes. At the same time, those who had not received any assistance at baseline smoked 15.0 ± 8.4 cigarettes per day, and at the end smoked 11.9 ± 8.0 cigarettes per day. It should be noted that in the group who received medical assistance 33.9% quit smoking. Without assistance only 26.7% quit smoking.

Thus, within the framework of different programs, for example CINDI, studies of the efficiency of tobacco-dependence treatment are being conducted with the use of different methods. It should be noted that even though in recent years medical professionals in the Russian Federation are taught to utilize these techniques, they have not used them sufficiently. The use of pharmacological methods is insufficient because of the absence of the domestic facilities that would produce nicotine-containing agents in sufficient quantities.

XI. Organization and Implementation Actions of Smoking

The Ministry of Health of the Russian Federation is the coordinator of all structures participating in the work aimed at health promotion and disease prevention including tobacco control and international actions that are conducted under the auspices of the WHO. The WHO Tobacco of Health program delivers constant consultative assistance and supply of information necessary for the successful organisation of No-Smoking Days.

The Ministry of Health and its institutions and agencies have constant contact with other agencies and institutions. For example, through the Ministry of Education of the Russian Federation, it has contacts with nonmedical universities and schools and also with the Russian Academy of Medical Sciences.

There are various forms of involvement by different institutions in tobacco-control activities. Research centres combine their research work with the propaganda of nonsmoking. The State Centre for Preventive Medicine and the Cancer Research Centre have special units that offer professional assistance to those who want to quit smoking. State institutions such as the Centres for Medical Prevention and the Moscow Health Centre are carrying out propaganda activity combining it with treatment and prophylactics for those who would like to quit smoking.

Currently, the only institution that can combine the efforts of various structures and the international actions against tobacco is the Ministry of Health. Since 1992, in Russia, two No Tobacco Days have been conducted on 31st May, under the auspices of WHO, and 18th and 19th November, the last Thursday according to the proposal of the International Oncological Society.

Under the current circumstances the Ministry of Health considers it important to organise and participate in these actions in order to remind the population about the harmful and hazardous effects of tobacco on health. The experience gained by different agencies and institutions of the Ministry of Health of the Russian Federation in Moscow and in other regions was summarized in the information letters, which were entitled "Under the results of conduction of No-Tobacco Day in the Russia Federation, 19 November 1992". These letters were forwarded to the 89 regions of Russia. They embody the plan for organisations of these international actions.

The specialists from the Ministry of Health of the Russian Federation, the State Centre for Preventive Medicine, the Oncology Research Centre, and the Moscow Health Centre are constantly coordinating with the mass media. The Ministry of Health has organised a round-table discussion devoted to the smoking issues together with the journalists from the newspaper *Federatsia*, and American colleagues and scientists from the centres involved in the tobacco problem.

As a result, an article entitled "Imported smoke over Russia" was written. On 14 May 1993, a television program "Good Evening, Moscow" included a special segment - medical competition devoted to smoking cessation. Three competitions were conducted during the show. The winners of these competitions were announced 28 May 1993, and were awarded special prizes. Organisers of the competitions were researchers from the State Research Centre for Preventive Medicine. On 31 May 1993, the World No Tobacco Day was conducted, and in this action many regions of the country took place (6,7).

On the same day, a special release was presented on the new program "Ostankino" devoted to no-tobacco day 1993. With the help of the State Research Centre for Preventive Medicine, the Moscow Health Centre and the Republican Centre for Medical Prevention a number of very interesting television and radio programs were organised, including a speech by the director of the National Centre for Preventive Medicine, Academician Raphael G. Oganov.

Researchers from the State Research Centre for Preventive Medicine (Dr. Alexandrov and Dr. Ivanov), in the Southwest county of Moscow region, the former Cheremushkinskiy district, over a number of years carried out the measures on tobacco prevention and tobacco control within the framework of the CINDI program.

In recent years, the measures were conducted together with the Republican Centre for the Medical Prevention. For example, on 31 May 1993, no-tobacco day was celebrated in 49 different medical settings: 24 adult outpatient clinics and 29 specialised medical settings in the city of Moscow.

The international No Tobacco Day was also organised for the school children of Moscow on 18 November 1993. Moscow school departments organised meetings of the school representatives. As a result, no-smoking poster competitions were initiated.

The conduction of the no-smoking day was severely complicated by the absence of centralized financing of anti-tobacco propaganda at the city and county levels. Medical professionals indicate that there is a necessity to budget for expenses for tobacco control. Many regions of the country constantly direct their information about no-tobacco days to the Ministry of Health of the Russian Federation. We receive information of this kind from Moscow, Novosibirsk, Chelyabinsk, Tula, Chita, Nizhiny Novgorod, Lipetsk, Yaroslavl, Kostroma, Saratov, Yakutsk, Pskov, Vologda, Ryazan, etc.

In the regions of Russia, there are many problems associated with smoking such as the lack of information about the concrete and harmful effects of tobacco on health, the lack of professional help to those who want to quit smoking, and the difficulties with enforcement of advertising bans throughout the mass media.

We hope that the federal program on smoking control will be adopted soon in the Russian Federation.

XII. Tobacco Action Plan for the Russian Federation from 1994 to 1996

The Federal Program on Tobacco Control from 1994 to 1996, which in fact, represents the Tobacco Action Plan for the Russian Federation has been developed by a group of researchers under the supervision of Dr. G.B. Tkachenko. The plan has been approved by the Coordinative Council and distributed among the heads of regional Departments of Health of the Russian Federation (89 regions). The plan has been financed partly from the federal budget and partly from the regional budgets. According to this plan, a number of tobacco-controlled measures have been conducted in Moscow and other regions. Among them:

- Legislative acts aimed at prohibiting tobacco advertising on television, and limiting other types of tobacco advertising.
- Involvement of the mass media in anti-smoking activities: press conferences, round table discussions, creation of anti-tobacco videoclips, segments on popular television and radio programs (national and regional), and publication of printed materials for various groups of the population.
- Research activities in the area of tobacco-control and development of preventive measures.
- Organisation of national art exhibitions and contests on anti-smoking themes.

- Organisation of actions within the framework of collaboration with the WHO: World Tobacco Free Days, Quit and Win campaigns, etc.
- Publication of guidelines for teachers on anti-tobacco education in primary and secondary schools.
- Publication of a series of scientific articles on substance abuse; including tobacco usage.

XIII. Tobacco Action for the Russian Federation from 1997 to 2001

The Federal Program on Tobacco Control from 1997 to 2001 is a continuation of the previous programs. This program was developed entirely by Dr. G.B. Tkachenko. The principal difference of the new program is that the Ministry of Health will be insisting on realization of the proposed actions based on 1% of excise taxes from sales of tobacco products. The main principals of the state policy on tobacco prevention have been formulated in this program. These principals are outlined below:

- **Improvement of legislative measures aimed at tobacco control**
 - To achieve the complete prohibition of tobacco and alcohol advertising
 - Based on the Law on Consumer Rights, to assure the responsibility for the quality of tobacco products
 - To adopt legislation on tobacco-free zones
 - to prohibit unfiltered cigarettes
 - To achieve 100% labeling of tar and nicotine content on cigarette packs; to provide rotating health warnings on cigarette packs
 - To organise proper control of the execution of the above listed measures
- **Creation and support of organizational structures implementing the tobacco prevention policy**
 - To create a federal and 15 regional centres to monitor the tobacco situation and develop preventive measures in various regions of the Russian Federation; to equip these centres with computers and modem connections
- **Improvement of hygienic education for children and adolescents, including early tobacco-use prevention**
 - To develop various programs aimed at development of negative attitudes towards tobacco smoking
 - to create videoclips, films, and publications about tobacco and health for children and adolescents

- **Involvement of the mass media in informing and developing negative attitudes towards tobacco smoking within the population**
 - To introduce the WHO materials on tobacco and health to the public through the mass media
 - To participate in public events, publish materials on tobacco and health in popular newspapers and magazines
 - In collaboration with the mass media, to organise and conduct Tobacco Free Days, Quit and Win contests, and other important anti-tobacco actions

- **Improvement of the system of professional treatment and counseling of smokers wishing to quit the habit**
 - Increase the network of specialised units for assistance in quitting smoking
 - Implementation of new methods of smoking cessation

- **Broadening of the volume of research investigations on tobacco and health**
 - Research and development of new methods of smoking cessation (pharmaceutical and behavioral)
 - Research and development of new approaches to tobacco control

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