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Social Cost of Substance Abuse in Russia

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ABSTRACT

Objective: To summarize results of studies that estimate the social costs of alcohol, tobacco, and illicit drug abuse in Russia. The purpose of these studies was to inform policymakers about the real economic burden of risky behaviors and to provide conditions for evidence-based and well-informed decision making in this area. **Methods:** The cost-of-illness method was applied to estimate the social cost of substance abuse. The intangible cost was not included in estimation. A prevalence-based approach was applied to estimate the tangible cost. For the estimation of direct costs, a top-down method was used. Indirect costs were estimated using two methods: the human capital and the friction cost. **Results:** In 2008, the social cost of substance abuse in Russia comprised 677.2 billion rubles if the friction cost method is applied and 1965.9 billion rubles if the human capital method is used. The social cost of substance abuse is defined to

the greatest extent by alcohol consumption, comprising about 45% of the economic burden. Illicit drug use comprises about 30% of the economic burden and tobacco consumption 25%. **Conclusions:** The results of economic studies demonstrated that psychoactive substances impose a considerable economic burden on society. Analysis of the substance abuse social cost pattern shows that the main losses that society bears because of these behavioral risk factors fall outside the health care system and lay in other sectors of the economy such as social care, law enforcement, and productivity losses.

Keywords: alcohol, illicit drugs, social cost, substance abuse, tobacco.

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Introduction

Risky lifestyle behaviors pose significant challenges to public health and impose on society an enormous burden expressed in epidemiological, economic, and social terms. Alcohol, tobacco, and illicit drugs are the main behavioral risk factors [1]. Country-specific studies devoted to the evaluation of the economic impact of substance abuse were carried out in many countries, but mainly in high-income ones. The results of the studies have demonstrated a significant drain on a country's economy in both budgetary expenditure terms and reduced productivity due to morbidity and premature mortality.

The rates of psychoactive substance use in Russia are among the highest in the world. But there are no country-specific systematic evaluations of the overall burden imposed on the Russian economy by substance abuse. Restricted data on different parts of the aggregate burden are published, mainly data on the epidemiological burden. It is important to have adequate social cost estimates to argue that policies to prevent and treat substance abuse should be among the highest priorities of the public policy agenda. Such estimates would give a broader picture of the problem looking at it not only from the health sector perspective but also from that of the economy as a whole.

The article summarizes the results of economic studies that examine the effect of substance abuse on the Russian economy

in 2008 (for alcohol and illicit drug abuse) and 2010 (for tobacco consumption). For comparability of all three studies, the economic burden of tobacco consumption initially evaluated for 2010 was recalculated in 2008 prices using the consumer price index [2]. The objective was to provide reliable and credible estimates of the economic consequences of alcohol, tobacco, and illicit drug use in Russia, which are evaluated in accordance with internationally adopted approaches.

Methods

Study Design

Estimates of the economic burden of a disease can be made using three main approaches: the cost-of-illness method, economic growth models, and the full income approach [3,4]. The International Guidelines for Estimating the Costs of Substance Abuse recommend using the cost-of-illness method, which was applied in our studies [5]. This method enables the estimation of the tangible and intangible costs of a disease. The intangible cost, which reflects the cost of suffering and pain of substance users and others as well as the cost of lost life, was not considered in our studies.

Conflict of interest: The authors have indicated that they have no conflicts of interest with regard to the content of this article.

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Published by Elsevier Inc.

<http://dx.doi.org/10.1016/j.vhri.2014.03.004>

Table 1 – Types of social cost included into estimations, by type of substance abuse.

Types of cost	Alcohol	Illicit drugs	Tobacco
Direct medical cost	+	+	+
Direct nonmedical cost including the following:	+	+	+
Law enforcement and the criminal justice	+	+	+
Research, public education, and prevention	+	+	+
Fires	+	–	+
Road accidents	+	+	–
Services for orphans	+	–	–
Indirect cost including the following:	+	+	+
Premature deaths	+	+	+
Short-term disability due to illness	+	+	+

Note. “+” type of cost included, and “–” type of cost not included.

For estimating the tangible cost, the prevalence-based approach was applied. The tangible cost included direct and indirect costs.

Direct costs included the following main cost types: medical cost, law enforcement and the criminal justice costs, cost of research and prevention, and costs of fires, road accidents, and services for orphans. For estimation of direct costs, the top-town method was used. Direct medical cost included public expenditures on the provision of medical care for substance users and people injured by their actions, for diseases of direct substance etiology, and for substance-related diseases. Attributable fractions were used for determining the number of treated patients who received medical care for substance abuse-related conditions. Morbidity rates were evaluated on the basis of disease prevalence rates. Direct nonmedical costs were estimated using attributable fractions either evaluated directly on the basis of available Russian data and a set of assumptions or as reported in cost studies carried out in other countries.

Indirect cost included productivity losses in the workplace associated with premature death and short-term disability due to illness. Costs included into estimations by type of substance abuse are presented in Table 1. Indirect costs were estimated by using two methods: the human capital method and the friction cost method. Indirect costs were estimated in terms of the lost earnings stream of individuals. Productivity losses due to premature mortality were calculated on the basis of average age- and sex-specific earnings for the lost years.

Social cost can be estimated in terms of gross and net cost. The first considers only negative effects; the second takes into account any possible positive effects. Among the most pernicious behavioral risk factors (alcohol, tobacco, and illicit drugs), only alcohol is characterized by having some positive effects on health. As demonstrated by international research, a moderate consumption of alcohol in older ages has a preventive effect, leading to a decreased probability of cardiovascular diseases. That is why when estimating the social cost of alcohol consumption, the positive effects in terms of decrease in hospitalizations should be counted. Some studies that counted for both gross and net social cost of alcohol consumption demonstrate that the net social cost could be lower than the gross social cost by 12.5% to 14.5% [6,7]. In our study, only the gross social cost of alcohol consumption was estimated, assuming that positive effects in Russia could be insignificant due to much harder structure of alcohol consumption compared with that in other countries. This assumption is indirectly confirmed by the data presented in the research on the global burden of disease and injury and the economic cost attributable to alcohol use and alcohol-use disorders. In this research, the positive effect of alcohol consumption for Russia in terms of disability-adjusted life-years was evaluated as zero [8].

Data Collection

Our studies mainly relied on Russian official statistics and surveys carried out in Russia such as data of the Ministry of

Table 2 – Social costs of substance abuse in Russia, 2008 (million rubles).

Types of cost	Alcohol, 2008		Illicit drugs, 2008		Tobacco, 2008	
Direct cost including the following:	284,501.6		189,351.3		131,660.1	
Medical cost	161,980.2		19,910.5		109,686.8	
Nonmedical cost including the following:	122,521.4		169,440.8		21,973.3	
Law enforcement and the criminal justice	94,255.6		168,374.7		108.1	
Research, public education, and prevention	258.8		151.7		141.6	
Fires	17,786.6		–		21,723.6	
Road accidents	3,000.3		914.4		–	
Services for orphans	7,220.1		–		–	
	Friction cost method	Human capital method	Friction cost method	Human capital method	Friction cost method	Human capital method
Indirect cost	27,217.6	587,120.9	22,222.9	381,823.7	22,290.3	391,468.8
Social cost	311,719.2	871,622.5	211,574.2	571,175.0	153,950.4	523,128.9

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