

## **Socio-economic impacts of major health risk factors and evaluation on effects of regulatory policy**

Sun Mi Lee, Youngduk Yoon, Jonghwan Baek, Kyungrae Hyun and Haryeom Gang  
Health Insurance Policy Institute of National Health Insurance Service, 2015

### **□ Objectives**

This study analyzed the socioeconomic impact of major risk factors of public health by estimating both direct and indirect costs of smoking, alcohol consumption and obesity in Korea in 2005-2013. In addition to the cost analysis, this study also evaluated the effectiveness of public health policy, mainly focusing on the national tobacco control policies, in order to promote an evidence-based policy development as well as to provide recommendations on further improvement of policy.

### **□ The socioeconomic costs of smoking, alcohol consumption and obesity**

Direct medical costs of smoking-related diseases in 2013 was 2,428 billion Won while indirect costs related to smoking was 4,698 billion Won, resulting in 7,126 billion Won as the total estimated socioeconomic costs of smoking in Korea. The socioeconomic costs of alcohol consumption and obesity were respectively 9,452 billion Won and 6,770 billion Won.

### **□ The effects of tobacco control policies on demand for tobacco**

The results of this study also showed that the per capita adult demand for cigarette would fall by 2.2-6.6% for a 10% increase in price of cigarette. Furthermore, implementation of the price and non-price measures simultaneously would encourage reduction in the demand for tobacco; for instance, Korean government raised cigarette price and launched a nation-wide tobacco cessation services at community clinics at the same time in 2005, experiencing the big reduction in demand for cigarette.

**Table 1. Trend of socioeconomic costs caused by smoking**

\*The following table is excerpted from p.483 of the original report and translated into English.

(1 million KRW)

Category	2009	2011	2013
Direct medical costs	1,936,624	2,312,263	2,427,630
Direct non-medical costs			
- Transportation costs	24,685	23,600	28,098
- Caregiving costs	301,293	331,671	354,915
<b>Total direct costs</b>	<b>2,262,602</b>	<b>2,667,534</b>	<b>2,810,642</b>
Costs caused by premature death	3,076,584	3,062,496	3,408,334
Costs caused by loss of productivity	717,338	814,106	898,795
<b>Total indirect costs</b>	<b>3,793,923</b>	<b>3,876,602</b>	<b>4,307,129</b>
Other costs (property damage caused by fire)	6,356	8,209	7,982
<b>Total social economic cost</b>	<b>6,062,881</b>	<b>6,552,345</b>	<b>7,125,753</b>

**Table 2. Trend of total direct medical costs of smoking attributable diseases**

\* The following table is excerpted from p.428-430 of the original report and translated into English.

(1 million KRW)

Category	2009	2011	2013
Respiratory Tuberculosis	10,623	13,177	12,809
Oropharyngeal cancer	12,911	5,898	6,478
Esophageal cancer	28,453	36,313	36,721
Stomach cancer	135,222	160,841	153,578
Colorectal cancer	69,782	88,139	80,671
Rectal cancer	22,443	27,896	25,603
Liver cancer	26,057	35,609	39,067
<b>Pancreatic</b> cancer	19,426	26,925	27,479
Laryngeal cancer	16,867	20,770	22,894
Bronchial lung cancer	261,832	332,060	320,354
Uterine cervical cancer	3,153	3,268	3,325
Prostate cancer	46,273	70,184	79,873
<b>Renal</b> cancer	7,873	10,602	11,605
Bladder cancer	22,365	28,935	29,230
Leukemia	4,592	5,086	4,980
Other neoplasms	20,369	29,932	32,634
Diabetes	62,720	72,740	79,031
Dementia and cognitive disorder	123,769	164,164	201,204
Mental and Behavioural disorders due to psychoactive substance use	162,753	194,121	205,704
Parkinsonism	47,118	71,354	92,803
Senile cataract	23,944	25,710	21,317
Rheumatic carditis	2,297	2,238	2,023
Hypertension	351,205	369,194	389,336
Ischaemic heart disease	152,643	181,332	189,525
Corpulmonale	6,834	9,213	10,741
Other forms of heart disease	6,597	8,522	10,058
Cardian arrhythmia	10,235	14,263	18,194
Heart failure	12,146	13,030	13,306
Hemorrhagic stroke	28,541	32,476	33,163
Ischemic stroke	75,679	86,674	90,759
Other cerebrovascular diseases	16,619	23,761	28,157

## Appendix 4

Atherosclerosis	32,943	44,115	48,831
Pneumonia and influenza	28,687	13,634	15,567
Chronic obstructive pulmonary disease	16,117	18,026	19,600
Asthma	9,294	9,098	8,505
Gingivitis and periodontal diseases	2,766	3,727	5,651
Peptic ulcer	12,929	12,530	10,215
Crohn's disease	676	1,042	1,108
Ulcerative colitis	470	763	923
Vascular disorders of intestine	711	869	998
Liver cirrhosis	13,896	16,360	16,471
Rheumatoid arthritis	1,302	1,860	2,145
Other respiratory distress of newborn	8	15	9
Fracture of neck of femur	25,454	25,767	24,943
Tobacco and nicotine poisoning	29	28	40
<b>TOTAL</b>	<b>1,936,624</b>	<b>2,312,263</b>	<b>2,427,630</b>