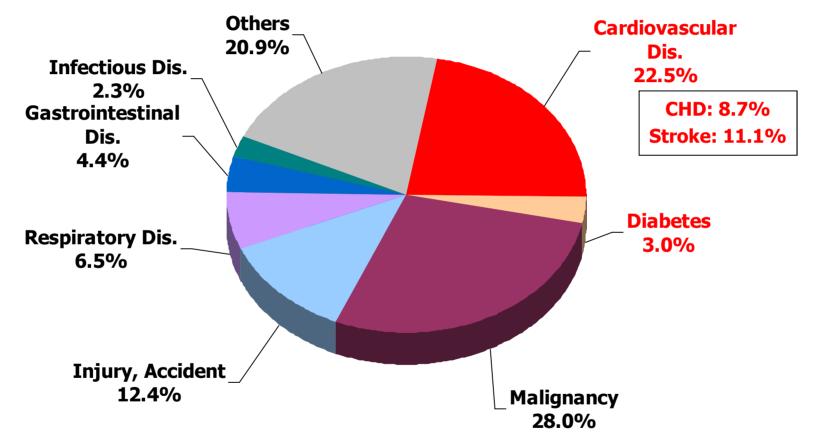
Current Policy for Cardiovascular Disease Prevention and Rehabilitation in Korea



Il Suh, MD, PhD, FAHA YONSEI UNIVERSITY COLLEGE OF MEDICINE

CVD Burden in Korea

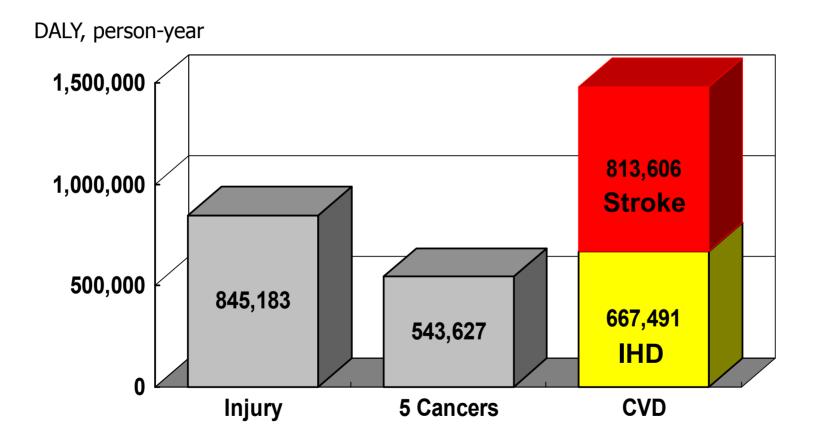
Cause of Deaths in Korea, 2008



- CVD deaths accounted for 22.5% of all deaths.
- Stroke is the leading cause of death for Koreans.

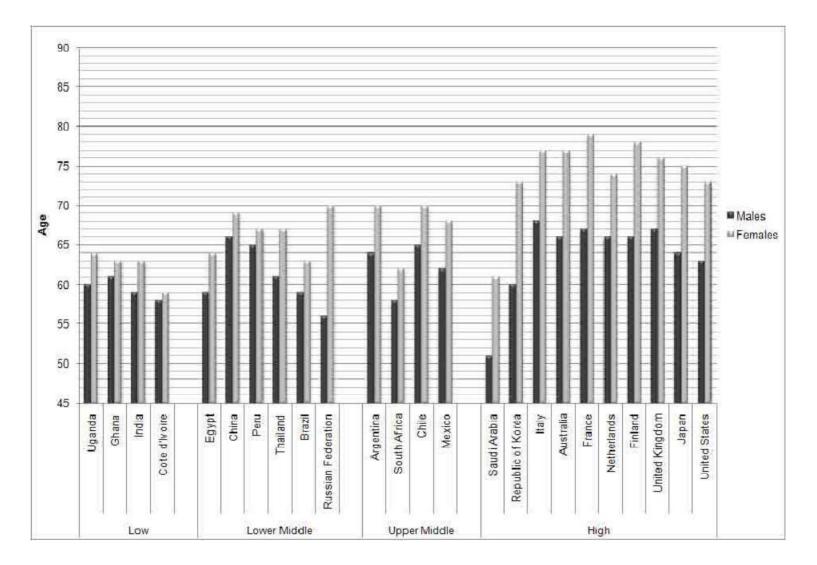
Data: National Statistical Office

Disease Burden (DALY), Korea



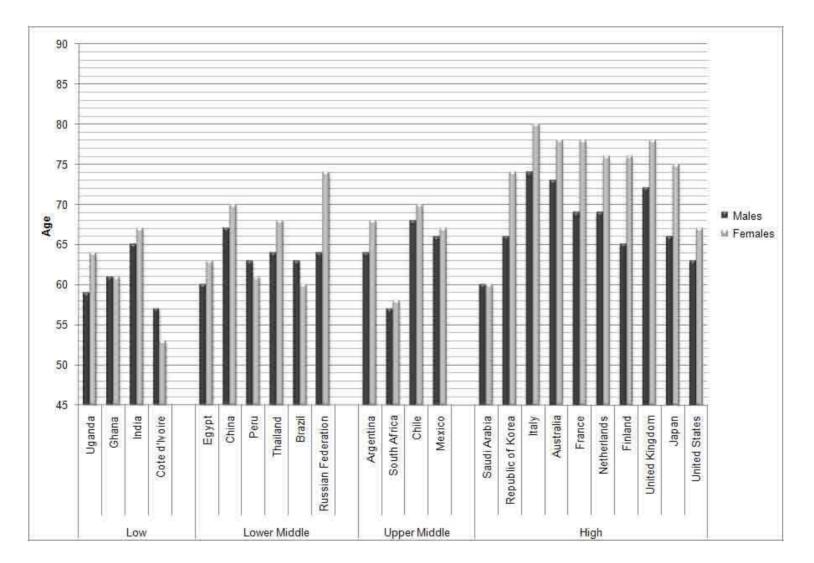
Kim et al., 2003

Median age at acute myocardial infarction



Data: Global Burden of Disease Project, 2004.

Median age at first stroke



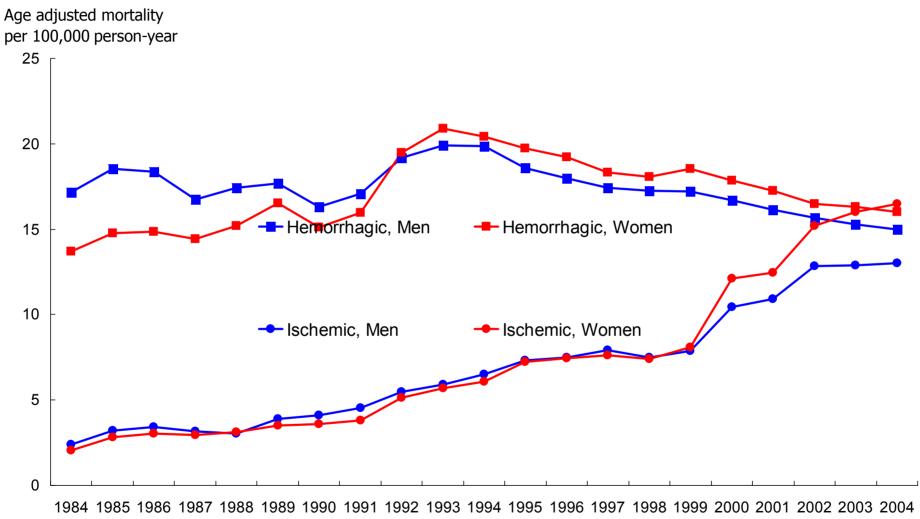
Data: Global Burden of Disease Project, 2004.

CHD and stroke mortality in Korea 1984-2004

Age adjusted mortality per 100,000 person-year 100 ---- Stroke, Men Stroke, Women 50 -- CHD, Men -- CHD, Women 0 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004

Data: National Statistical Office

Stroke mortality by subtype in Korea 1984-2004



Data: National Statistical Office

CVD Risk Factors in Korea

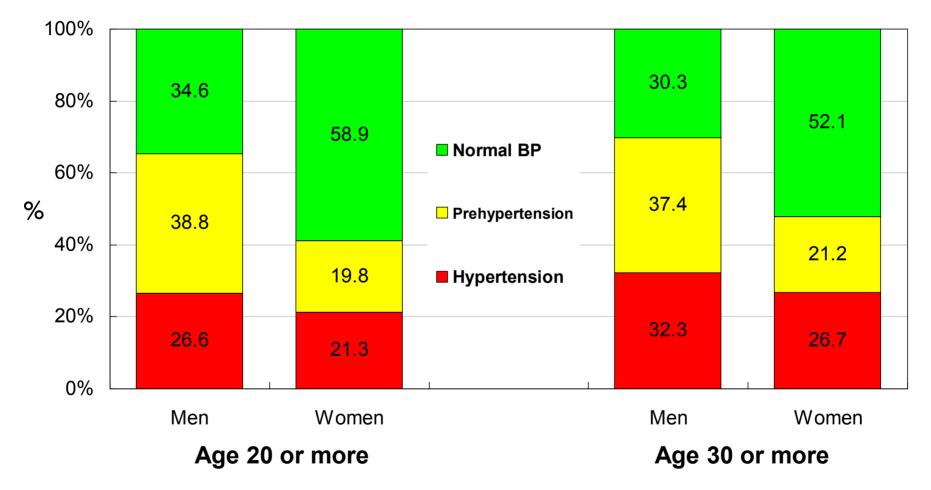
Classification of Cardiovascular Risk Factors

Major modifiable risk factorsHigh blood pressureTobacco useAbnormal blood lipidsPhysical inactivityObesityUnhealthy dietDiabetes mellitus	Other modifiable risk factors Low socioeconomic status Mental ill health (depression) Psychosocial stress Heavy alcohol use Use of certain medication Lipoprotein(a)
Non-modifiable risk factors Age Heredity, family history Gender Ethnicity, race	Novel risk factors Excess homocysteine in blood Inflammatory markers (CRP) Coagulation (elevated fibrinogen)

CVD Risk Factors in Korea

- Cardiovascular disease is the leading cause of death in Korean populations
- Risk factor levels and disease patterns often different to the "West"
- Relatively little information on how classical risk factors act in Korea
- Huge potential for prevention even if risk factors are the same and only as important in Korea as in Europe/USA

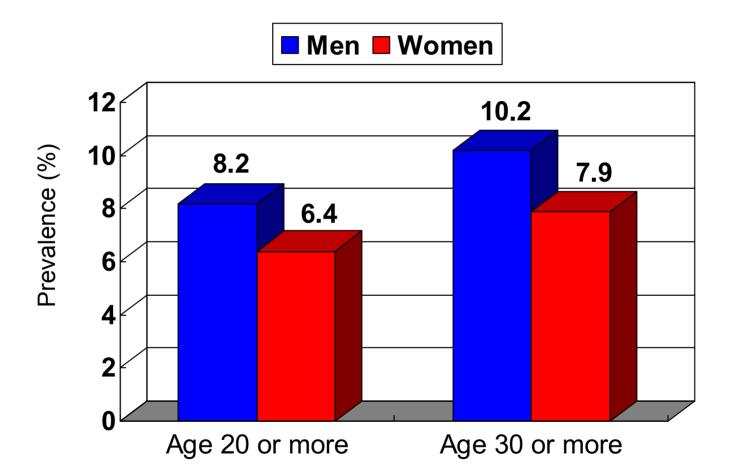
Hypertension in Korea



Prehypertension: SBP≥120mmHg or DBP≥80mmHg Hypertension: SBP≥140mmHg or DBP≥90mmHg

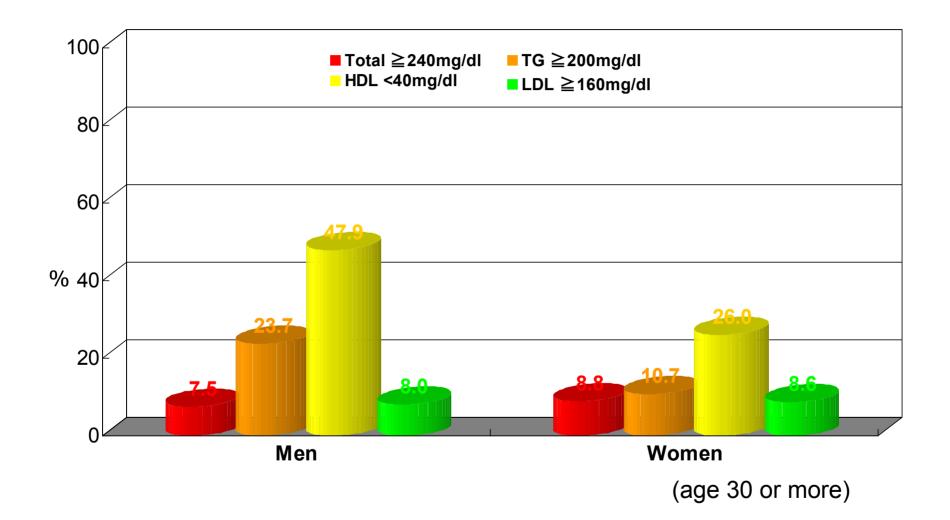
KNHANES 2005

Diabetes in Korea



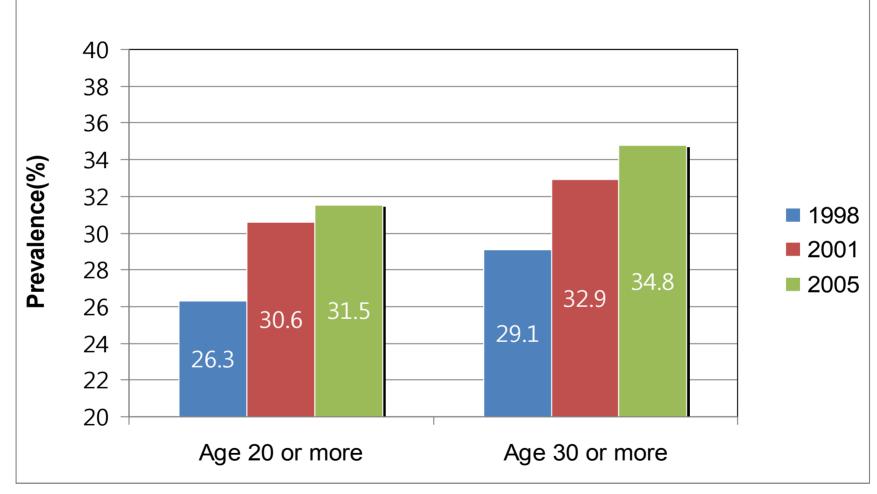
KNHANES 2005

Dyslipidemia in Korea



KNHANES 2005

Obesity in Korea



(BMI≥25kg/m²)

KNHANES 1998-2005

Fat intake in Korea

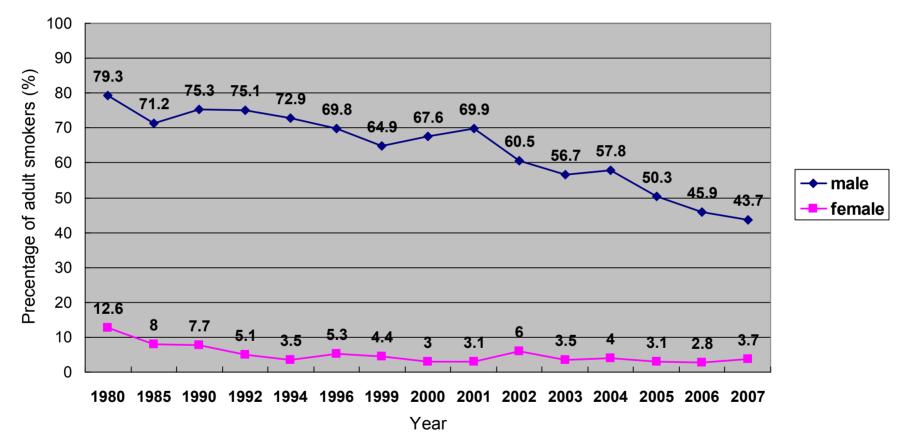
Change in Protein, Fat, and CHO intake (% total energy)

'05	15.4	20.3	64.3
'01	14.9	19.5	65.6
'98	15.0	19.0	66.0
' 95	16.1	19.1	64.8
'94	16.3	18.4	65.3
'93	15.9	18.2	65.9
'92	15.8	16.6	67.6
'91	15.1	16.6	68.3
*90	16.9	13.9	69.2
'89	16.1	13.4	70.5
'88	16.4	14.0	69.6
'87	15.6	14.7	<mark>69.7</mark>
'86	15.4	13.1	71.5
'85	15.4	13.7	70.9
'84	14.6	11.4	74.0
'83	13.8	12.5	75.7
'82	13.5 13.7	9.5	77.0
'81 '80	13.1	9.6	77.3
'79	13.3	11.2	75.9
*78	13.0	11.1	74.9
'77	13.3	11.8	77.9
'76	12.5	9.6	80.0
*75	12.8	8.6	80.0
*74	13.2	6.8	0.08
'73	12.5	8.4	79.1
*72	13.6	9.1	77.6
'71	13.0	6.3	80.7
*70	12.6	8.9	78.5
'69	12.5	7.2	80.3
0	% 10%	20%	30% 40% 50% 60% 70% 80% 90% 100'
		Protein	Fat Carbohydrate

Year

Smoking in Korea

Trends in smoking prevalence in Korea (20 years of age and older)



Source: Korean Association of Smoking and Health (KASH), Gallup Korea

CVD prevention and control in Korea

Government Plan for CVD prevention & control in Korea

Goals

Reduction in MI/Stroke incidence and disabilities **Improvement in management of Hypertension and Diabetes**

Strategies

Development of comprehensive and continuous system for prevention and control of cardiovascular disease

Secondary prevention	Tertiary prevention
 Hypertension registry 	 Improve emergency treatment and
 Diabetes registry 	rehabilitation system
 Screening for risk factors 	Evaluate programs
	• Diabetes registry

Infrastructure

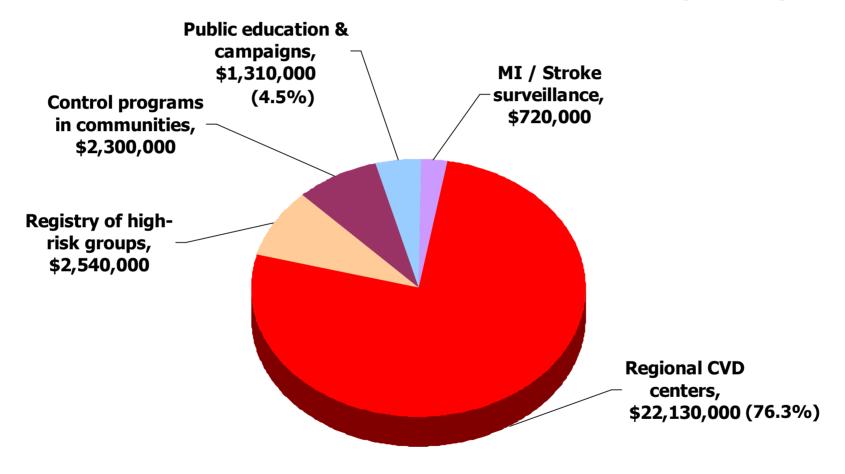
Develop CVD surveillance system

•Offer training, continuous consultation and technical support

•Upgrade and expand health data sources needed for systematic monitoring and evaluation of policy and program interventions

Develop innovative ways to monitor and evaluate policies and programs

Government's expenditure for CVD prevention and control in Korea (2010)



Source: Korean Ministry of Health and Welfare, 2010. CVD control plan.

Public campaigns for CVD prevention

Mass media campaigns on TV, radio, internet, newspapers for CVD prevention and control

Support local government campaigns

Registry of high-risk group of hypertension and diabetes

Demonstration projects in 2 cities:

- Hypertension registry: 83,537 patients
- Diabetes registry : 31,519 patients
- Community education programs for registered patients



Assess medical records of heart attack

 21,861 cases in 714 hospitals (16 cities, 2009)

 MI / Stroke registry based on emergency care data

 4,269 MI / 11,078 Stroke cases in 24 hospitals (2009)

Regional CVD center

- To facilitate treatment and rehabilitation of
 CVD patients in early stage
- Grant for medical facility of CVD centers in 9 regions for 5 years