

A New Vision of Preventive Medicine for The New Century

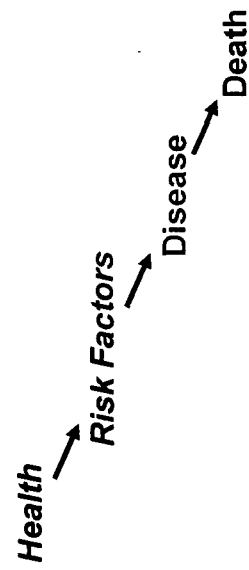
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Disease Continuum

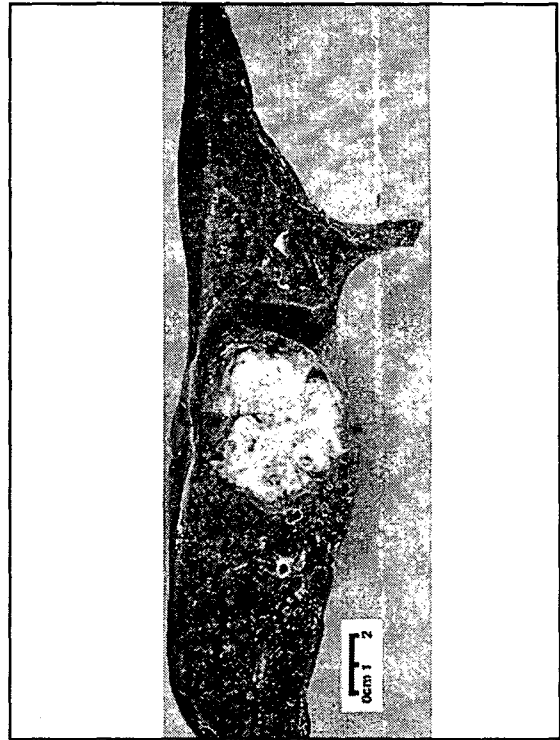
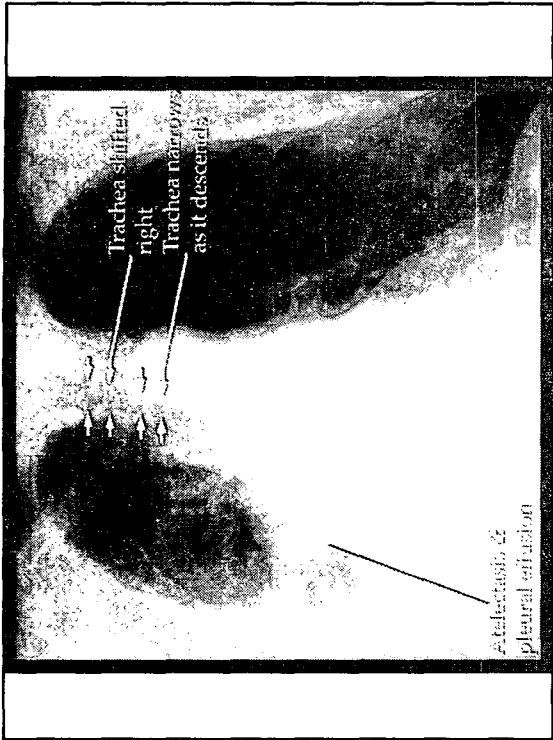
Disease can be thought of as developing along a continuum, that ranges from health, to risk factors, to disease, and finally to death.

Disease Continuum



Disease Continuum

- Progression along continuum can be rapid
 - Drinking and driving
- Progression can take lifetime
 - Poor diet and heart disease
 - Smoking and lung cancer



WHO

About WHO

Definition of Health

Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

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WHO

Definition of Health

Good health

Integrating

Enabling

Participatory

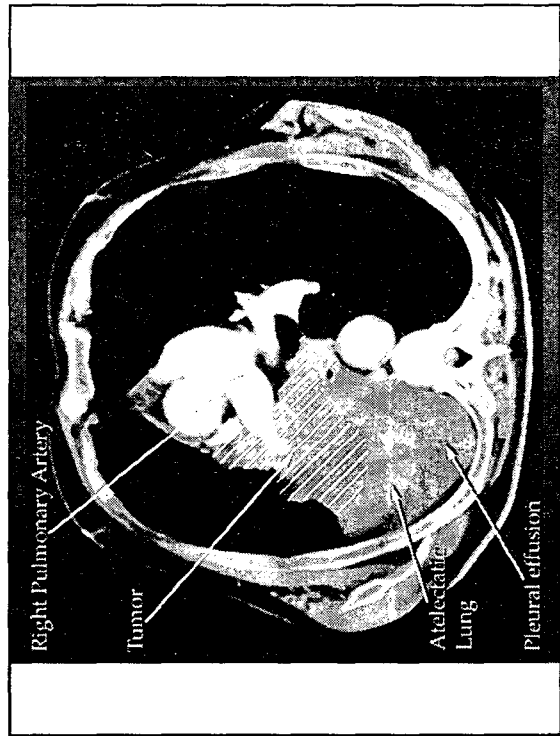
Administration

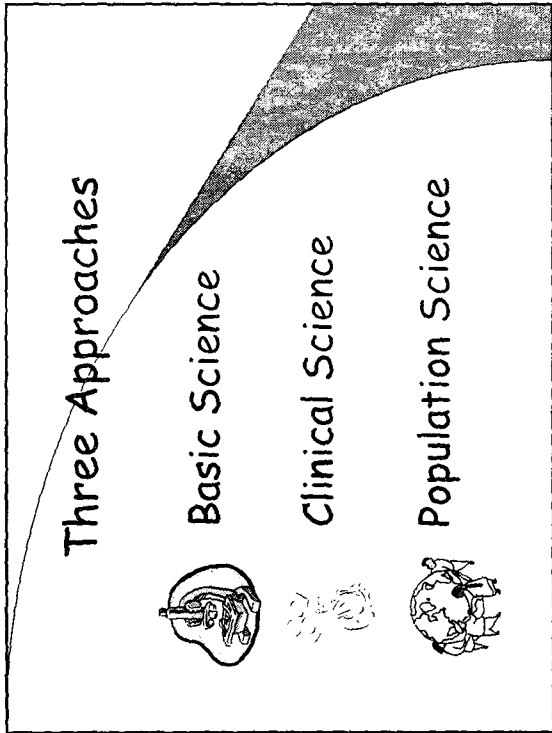
Structure of WHO

Regional offices

Member states

WHO





Basic Science Approach

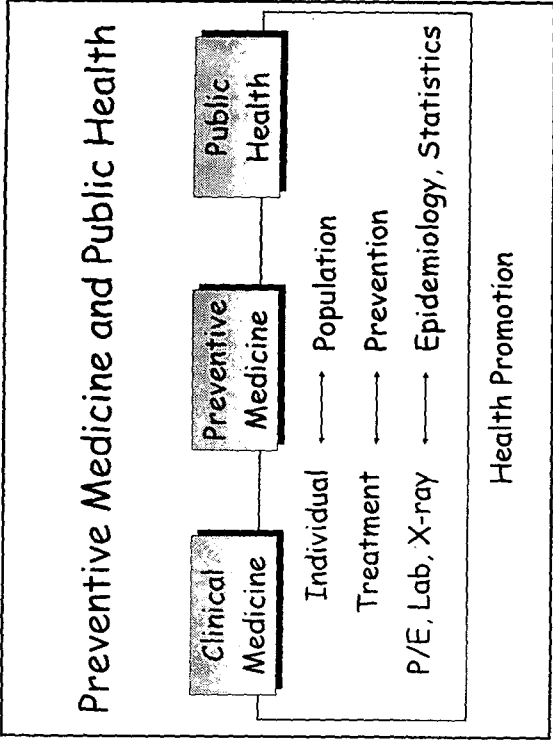
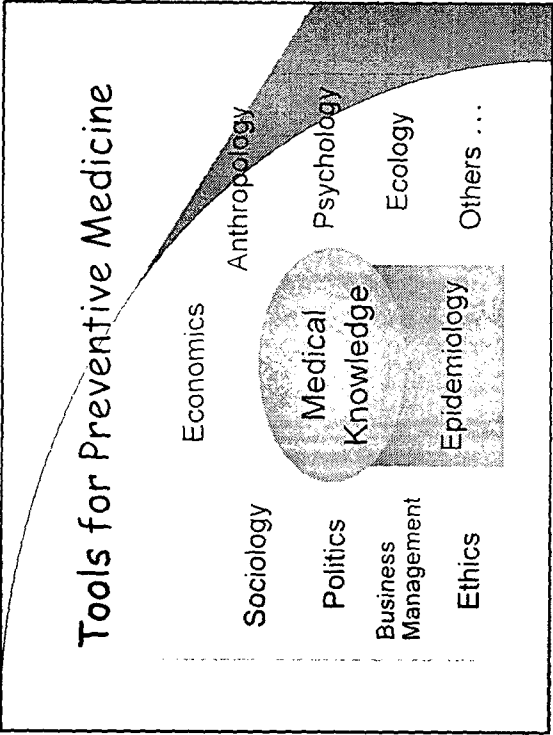
- Learn the biomolecular mechanisms of lung cancer
- Discover why cells become cancerous
- Understand how cells communicate with one another

Clinical Approach

- Surgery (thoracotomy)
- Radiation therapy
- Chemotherapy
- Pain relief
- Hospice and end-of-life care

Approaches of Preventive Medicine

- Discover the "upstream" causes of lung cancer using epidemiology
- Learn about effective prevention programs and policies
- Implement these programs and policies
- Evaluate progress in preventing cancer in communities



Several Considerations

	Clinical Medicine	Preventive Medicine	Public Health
Cost	+++++	++	+
Outcome	+	+++	++
Efficiency	+	++	+++
Satisfaction	+	+++	+++

- ### Scope of Preventive Medicine
- Epidemiology
 - Environmental & Occupational Health
 - Health Services Research
 - Health policy, Hospital management

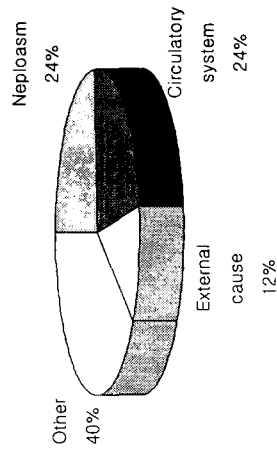
Cause of Death in Korea

- 1920

- 1960s

1. *Infectious disease*
 2. *GI disease*
 3. *Pulmonary disease*
 4. *Neurologic disease*
1. *Pneumonia*
 2. *Tuberculosis*
 3. *Neurologic disease*
 4. *Cancer*

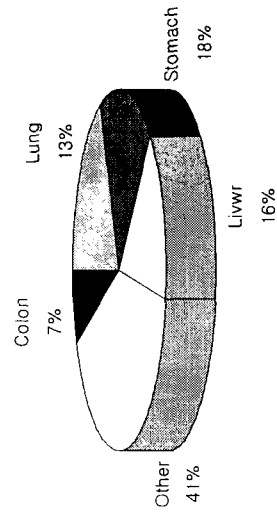
Cause of Death in Korea, 2000



What is the leading cause of cancer death in Korea?

1. Gastric cancer
2. Lung cancer
3. Breast cancer
4. Colon cancer
5. None of the above

Cause of Cancer Death in Korea, 2000



Known Causes of Lung Cancer

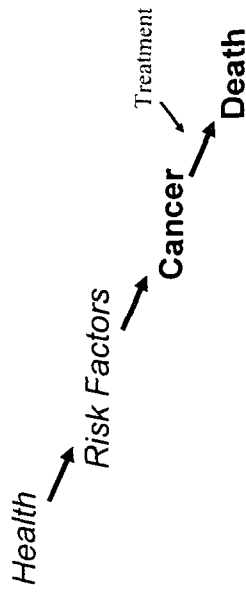
- Do we know all of them?
- Are they the real causes?

Risk Factors

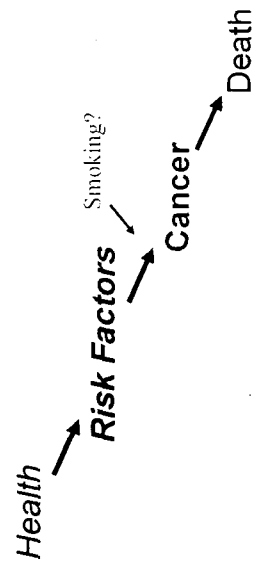
- Smoking
- Radon
- Asbestos
- Passive smoking
- Genetics

→ Lung Cancer

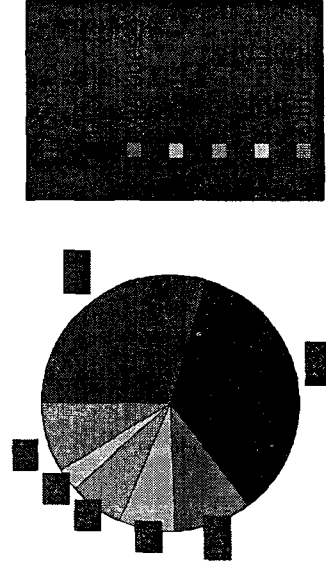
Cancer Prevention Continuum



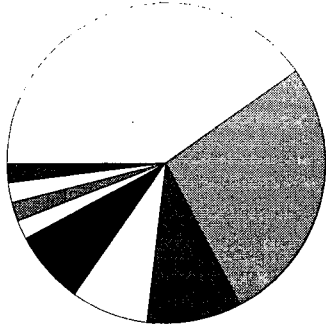
Cancer Prevention Continuum



Preventable Causes of Cancer



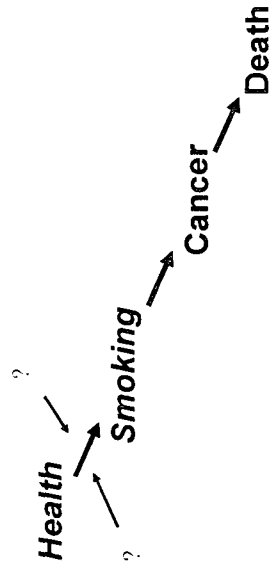
Preventable Causes of Death



What is the leading cause of cancer death in Korea?

5. None of the above

Cancer Prevention Continuum



But, what makes risk factors risky?

Another View(I)

- **Environmental**
 - Physical
Exposed to carcinogens(radon, asbestos, passive smoking)
 - Social
Improper regulation against carcinogens
Not enough education or campaign about health promotion
No benefit for early diagnosis of cancer in health insurance
 - Others
...

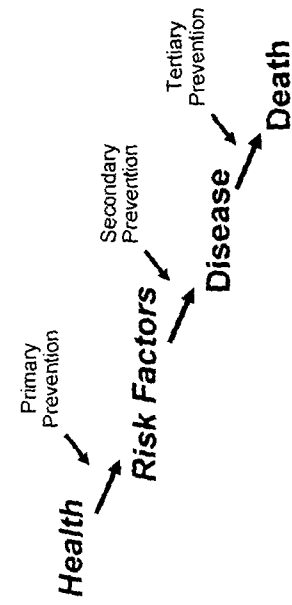
Another View(II)

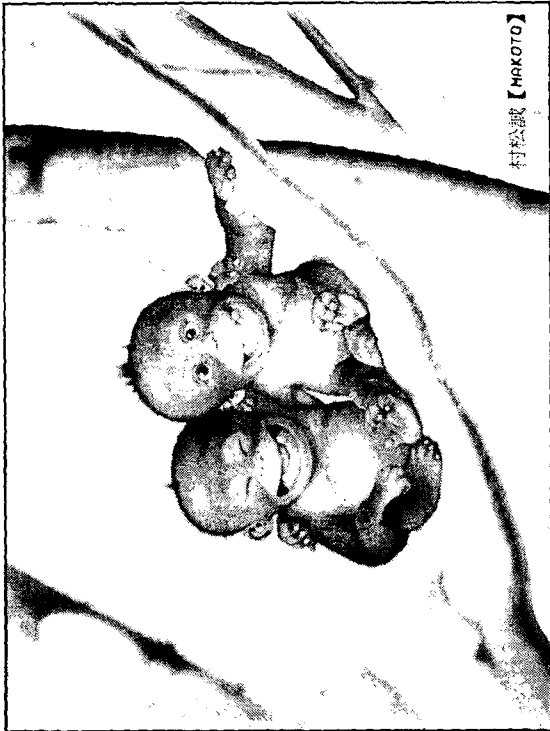
- **Personal**
 - Genetic
Habitual smoking, no motivation to quit it
 - Behavioral
Educational
No knowledge about risk factors of lung cancer
 - Economic
Cannot pay for taking Chest X-ray or visiting a clinic
 - Others ...

Prevention Continuum

- **Primary prevention**
 - Modifies, eliminates, or avoids risk factors
- **Secondary prevention**
 - Reduces risk of developing disease among people with risk factors
- **Tertiary prevention**
 - Reduces the risk of dying or disability among persons with a disease

Prevention Continuum





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A New Vision for the New Century

A New Vision for the New Century

- Our timeless mission
- Last century's progress
 - Remember Small Pox, TB and Polio?
- This century's challenges
 - How modern living can kill
- New tools & new goals
- A few things we've already begun

Our Timeless Mission

Whatever It Takes to Understand and Prevent Disease

- Assessment (*What is happening to people in families and local communities?*)
 - Who is born, who dies?
 - What is the where and why for disease?
 - What does science say about prevention?
- Policy development (*Balancing science, perception, politics, individual rights & most people's good health.*)
 - Who do we want to do what about prevention?
- Assurance (*What counts is what's counted.*)
 - Are all parties doing what's expected?

Last Century's Progress (Remember Small Pox, TB and Polio?)

- Average lifespan in 1900 --- 45 years
- Average lifespan in 1995 --- 75 years
- Credit **Sustained** Public Health Efforts:
 - *Sanitation (personal hygiene, safe drinking water, sewage & garbage control)*
 - *Nutrition (a safer food supply, a more balanced diet)*
 - *Immunization (universal access, financing, school entry requirements and monitoring)*
 - *Antibiotics and other medicine*

This Century's Challenges (How Modern Living Can Kill)

- Health disparities from social inequities
- Poor diet
- Not enough exercise
- Addictions to nicotine, alcohol and other drugs
- Unsafe sexual practices

About WHO

Achievements and Challenges

Since its creation in 1948, the World Health Organization has continued to make accomplishments resulting in a healthier world for all people.

In 1987, smallpox was eradicated in 31 countries. It had been silent between 19 and 18 million people were estimated to have died from the disease. The last known case of smallpox was reported in Somalia on 26 October 1977. Since that time, it has not been announced that at least 30 million people would have died from the disease.

Yaws, a crippling and disfiguring disease affecting some 30 million people, was the first specific antibiotic cure. The first antibiotic cure for yaws came in 1948 with benzathine penicillin. A simple injection of which was enough to cure the disease. By 1986, 45 million yaws patients had been successfully treated in 48 countries.

New Tools and New Goals for the 21st Century

- Honor & preserve our foundation of success
 - *Do no harm to core public health functions*
 - *Keep the food, water & air safe*
 - *Strengthen and expand effective programs*
- Eliminate health disparities
 - *Promote healthy surroundings for every citizen*
 - *Promote critical health services for all*
 - *Diversify the health care work force to promote its cultural competence*

New Tools and New Goals for the 21st Century

- Create the conditions that promote healthy behavior - Health Promotion
 - *Make it hard to get and stay addicted to nicotine, alcohol, and other dangerous drugs*
 - *Make it easy to eat right*
 - *Make it easy to get enough exercise*
- Use genetics to improve everyone's health
 - *Assure privacy and informed consent*
 - *Assure ethical use of proven genetic tests and treatments*

A Few Things We've Already Begun

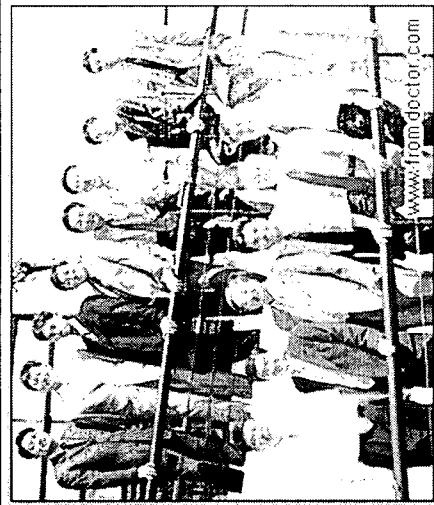
- Epidemiology
- Environmental & Occupational Health
- Health Services Research

Opportunities as a Researcher

- Unique disease pattern
 - *Thrombotic vs. hemorrhagic stroke*
- Prevalence of risky health behavior
 - *Smoking and drinking*
- Single ethnic background
 - *Genetic epidemiology*

Opportunities as a Researcher

- Sustainable development and environmental health
 - *"Genetics loads the gun, but environment pulls the trigger"*
- Recognizing the importance of socioeconomic factors in health status
 - *Is the economic policy a health policy?*
- Social experiments of health policies
 - *Mandatory prescription*



The end is another beginning.