

**PNEUMOCONIOSIS IN CHINA-
ADVANCES
IN PREVENTION AND CONTROL**

Dehong Li, M.D.

**National Institute of Occupational Health
and Poison Control, Chinese CDC**

OUTLINE OF THE PRESENTATION

- **POLICY AND STRATEGIES**
- **LEGISLATIONS AND HEALTH STANDARDS**
- **TECHNICAL MEASURES-EIGHT CHINESE CHARACTER GUIDELINE**
- **ACHIEVEMENTS**
- **CURRENT SITUATION**
- **PROBLEMS**

POLICY FOR PREVENTION AND CONTROL OF PNEUMOCONIOSES

- **Mobilizing the whole society to participate**
- **Developing and perfecting the legal system of occupational health**
- **Development of science and technology**
- **prevention first**
- **Readjustment of the industrial structure**
- **Strengthening the comprehensive administration and management**

TECHNICAL STRATEGIES FOR ELIMINATION OF PNEUMOCONIOSES

- **Engineering prevention as the first-Primary prevention**
- **Technical innovation for dust control**
- **Looking for substitute of high free silica**
- **Strengthening personal protection**
- **Health surveillance for workers exposed to dust**

THE MAIN ACTIVITIES

- **Government activities-Legislation**
- **Enterprises activities-A campaign of technical innovation-eight character guideline-Engineering prevention**
- **Occupational health professional activities**
 - ★ **Development of health standards for workplaces**
 - ★ **Epidemiological study to clarify the situation**
 - ★ **Occupational health services-monitoring of workplaces and health surveillance**

ISSUED LEGAL DOCUMENTS CONCERNING PNEUMOCONIOSIS CONTROL (1)

- **The Decision on Prevention of Hazards of Silica Dust in Factories and Mines in May, 1956;**
- **The Technical Measures for Prevention of Silica Dust Hazards in Mines in March, 1958;**
- **The Measures for Tuberculosis Control in Workers with Silica Dust Exposure in March 1958;**
- **The Implementing Measures of Medical Prevention for Workers Exposed to Silica Dust Operation in July 1963;**
- **The Provision for Pneumoconiosis Control issued by the State Council in December 1987;**

ISSUED LEGAL DOCUMENTS CONCERNING PNEUMOCONIOSES CONTROL (2)

- **The list of Occupational Diseases and the Provision on Management of Occupational Disease Patients issued jointly by the Ministries of Health, Labor, Finance and General Union of China in 1987**
- **The Measures of Diagnosis and Management of Occupational Diseases issued by the Ministry of Health in 1980s.**
- **The National Law on Prevention and Control of Occupational Diseases implemented, May 2002⁷**

CONTENTS OF THE NATIONAL LAW OF PREVENTION AND CONTROL OF OCCUPATIONAL DISEASES

- **Chapter I General Provisions**
- **Chapter II Prevention at An Earlier Stage**
- **Chapter III Protection and Management in the Process of
Work**
- **Chapter IV Diagnosis of Occupational Diseases and Security
of Patients with Occupational Diseases**
- **Chapter V Supervision and Inspection**
- **Chapter VI Legal Liabilities**
- **Chapter VII Supplementary Provisions**

DEVELOPMENT OF HEALTH STANDARD

- **Up to now there are 376 items of health standards at workplaces, of which 47 are related to dusts. These are mainly the standards of maximum allowable concentration, and technical standards for dust measures.**
- **The first diagnostic criteria for pneumoconioses were developed in 1957 and it was revised consequently in 1963, 1986, and 1999.**

OCCUPATIONAL EXPOSURE LIMITS FOR DUSTS (GBZ 2-2002)

Categories of dusts	Concentration of silica (%)	TWA (total dust) (mg/m ³)	TWA of respiratory dusts (mg/m ³)
Silicon dust	50-80	0.7	0.3
	>80	0.5	0.2
	10-50	1.0	0.7
Coal dust	<10	4	2.5
Cement dust	<10	4	1.5
Welding dust		4	
Talcum dust	<10	3	1
Aluminum oxide		4	
Graphite dust	<10	4	2
Carbon black dust		4	
silicon carbide dust		8	4
Mica dust		2	1.5
Asbestos dust		0.8f/ml	

“EIGHT-CHARACTER GUIDELINE” FOR DUST CONTROL- AS PRIMARY PREVENTION

- watering for wet operation (shui-水)
- ventilation to discharge dusts (Fen-风)
- airtight operation to seal dusts off (mi-密)
- technical innovation and reform, (ge-革)
- personal protection (hu-护)
- Training and education in knowledge of health and safety (xuan-宣)
- maintenance and management of dust preventing facilities (bao-保)
- supervision and monitoring (cha-查).











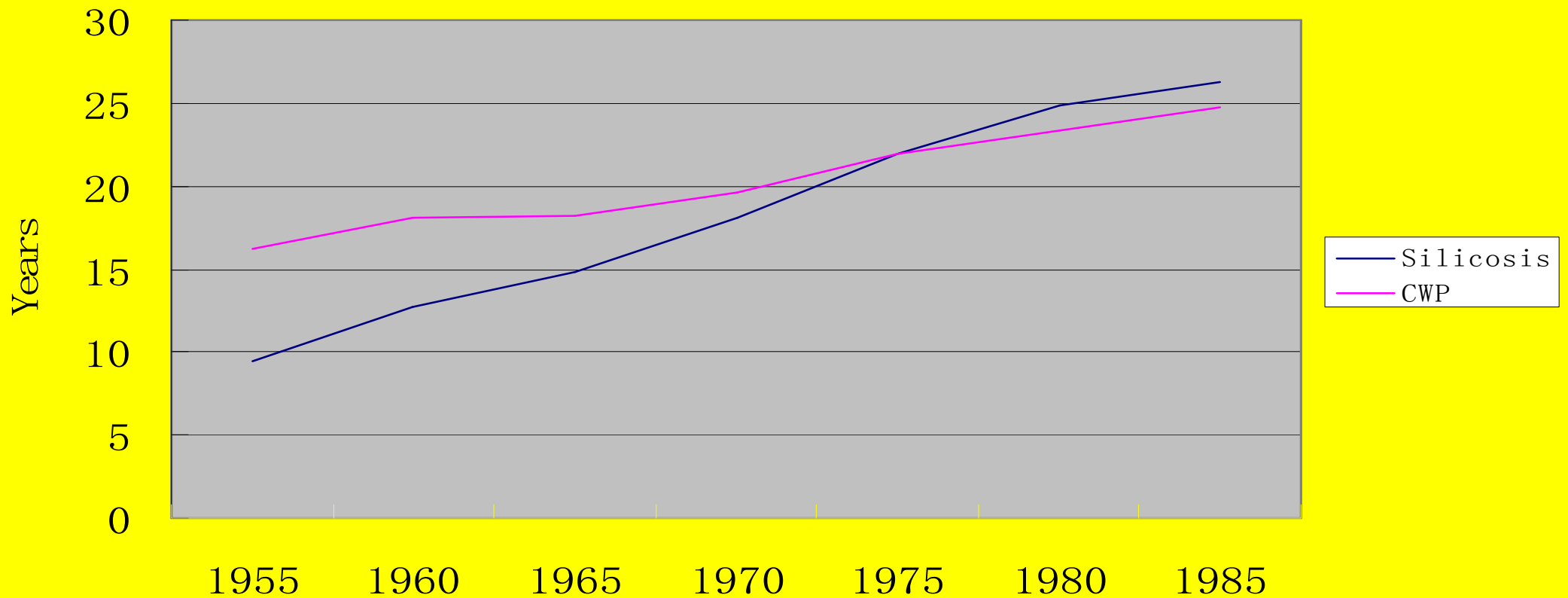




ACHIEVEMENTS AFTER THE ADOPTION OF COMPREHENSIVE DUST CONTROL MEASURES

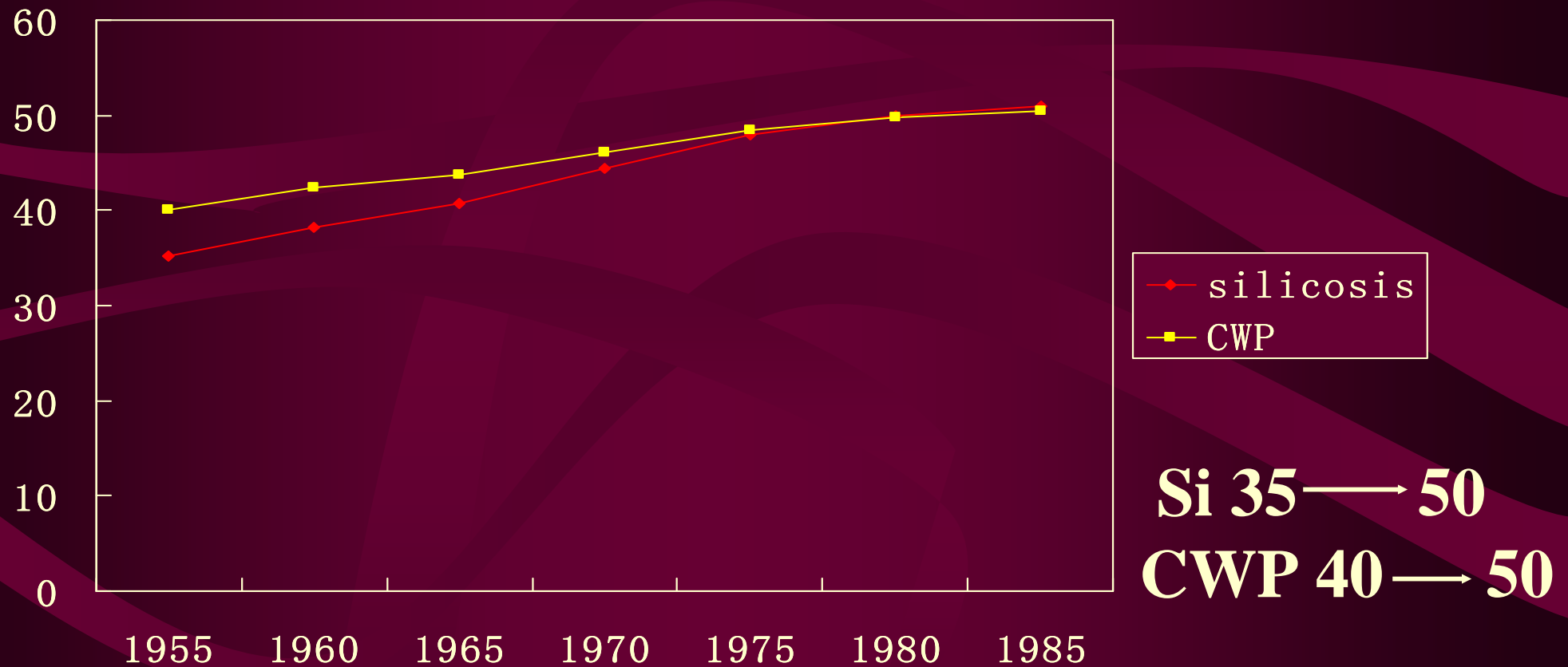
- **About 70% workplaces compliance with the health standard in state-owner enterprises**
- **Dust concentration were extremely decreased
1118mg/m³ ~ 1.93mg/ m³ 1957-- 1967 in Yaogangxian**
- **No case of silicosis occurred after wet operation since
1963 in Dongfen mine**

latency of working period for occurrence of silicosis and CWP

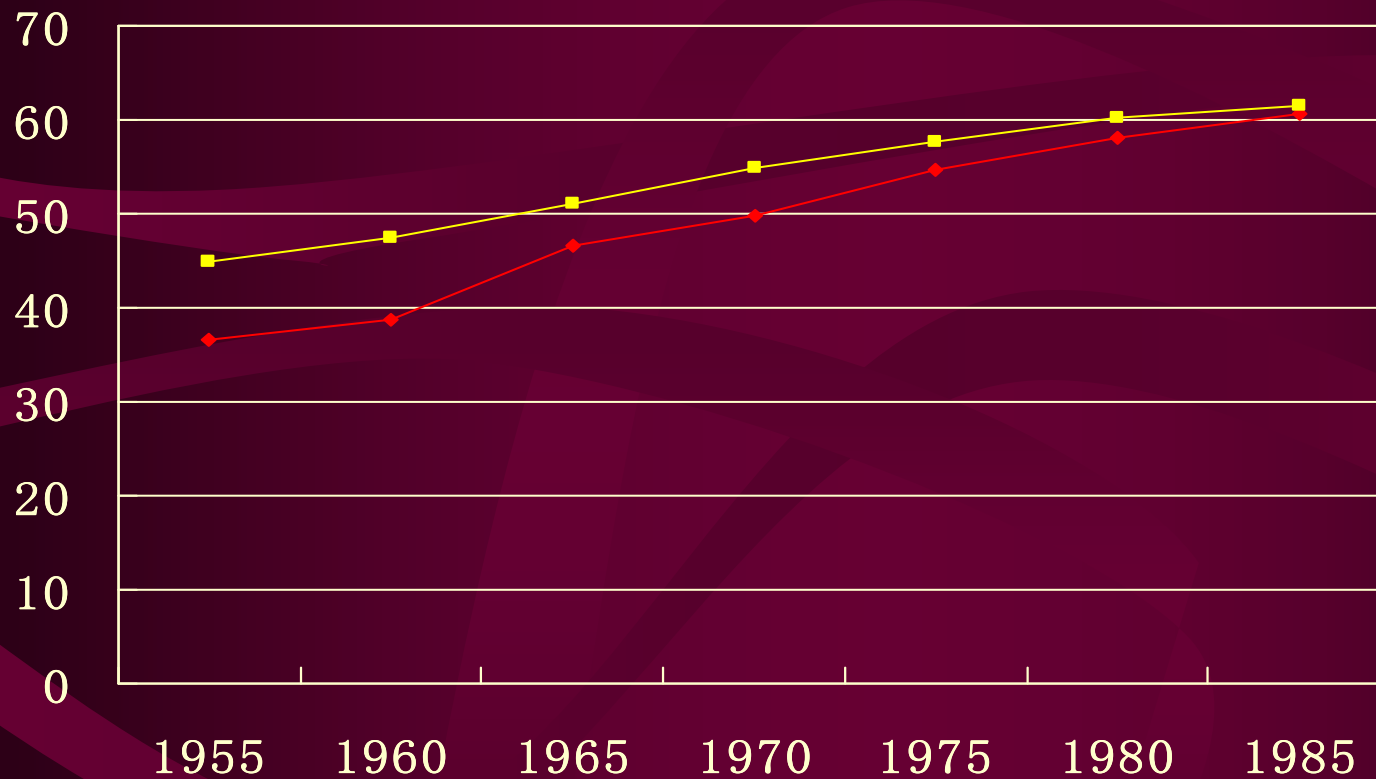


Silicosis 9 —→ 26 CWP 16 —→ 25

Age of occurrence of silicosis and CWP



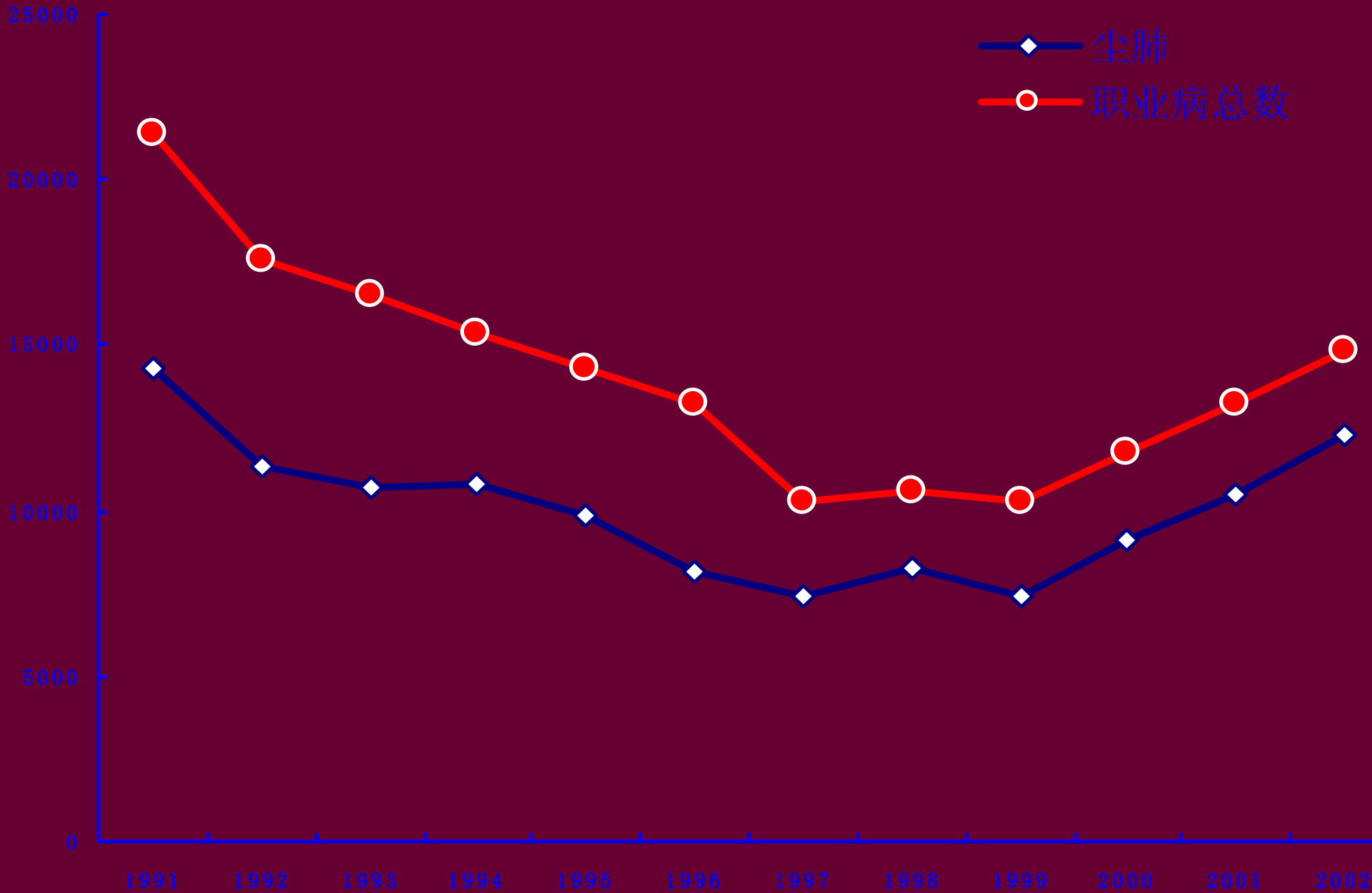
Age of death for silicosis and CWP patients with calendar



—♦— silicosis
—■— CWP

Si 37 → 60

CWP45 → 62



MEDICAL SCREENING AND HEALTH SURVEILLANCE as secondary prevention

Medical screening examination started in 1951 and has become a routine work in the country. According to an analysis of data in recent years, the annual rate of medical screening covered about 30% of workers exposed to dust, and newly detected cases of pneumoconiosis are 10-15 thousand every year.

CURRENT SITUATION OF PNEUMOCONIOSIS IN CHINA

NUMBER OF CASES WITH PNEUMOXONIOSES BY THE END OF 2003

Cumulative cases	588741
Death cases	141024
Fatality	23.9%
Prevalence cases	446347
New cases/2002	12248
Case died/each year	3000- 5000

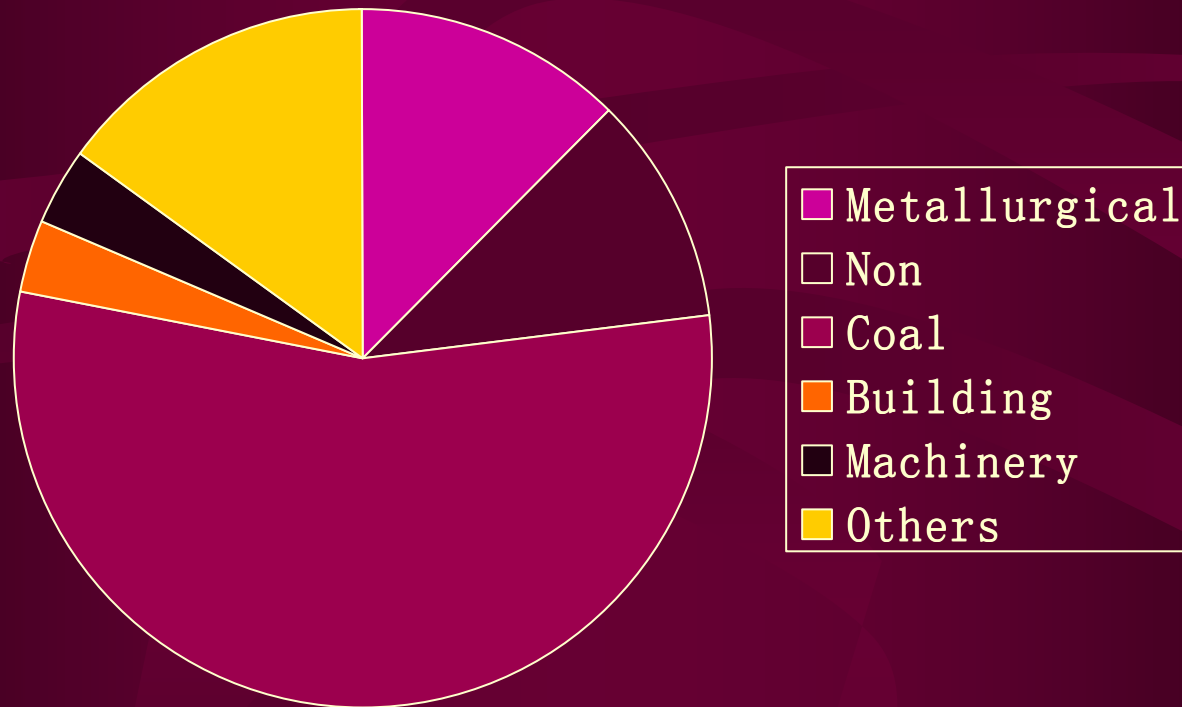
Number of cases different pneumoconiosis

• Silicosis	48.3%	} 88%
• CWP	39.6%	
• Others	12.1%	

NUMBER OF CASES IN INDUSTRIES

• Metallurgical	12.4%
• Non-ferrous metallurgical	10.3%
• Coal & coke	54.5%
• Building materials	3.5%
• Machinery	3.4%

Number of cases with pneumoconiosis in industries



THE KEY PROBLEMS FOR ELIMINATION OF PNEUMOCONIOSIS

- **Negligence of the occupational hazard control in Economic development**
- **Changes of economic and industrial structures**
- **Growing of SSEs, private enterprises and migrant workers rapidly**
- **Low education levels leading to unawareness and Lack of knowledge in protection**







HIGHLIGHTS FOR PNEUMOCONIOSIS ELIMINATION

- **Put the priority in prevention and control of pneumoconiosis as the policy of OH**
- **Enforce the inspection and management**
- **Pre-evaluation on occupational hazards as primary prevention**
- **Strengthening OHS, specially for SSEs and migrant workers-Risk assessment, Health surveillance, Health education & promotion**

OUR RESPONSIBILITY ON ELIMINATION OF PNEUMOCONIOSES

**It is our responsibility to respond to ILO/WHO
International Program on Global Elimination of
Silicosis.**

A long way to go for the goal

Thank

You

