



Chapter 3.

# Health Promotion and Protection



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# Health Promotion and Protection

A healthy population is part of the national competitiveness; it is also an important promoting power for the sustainable development of a nation. Along with the drastic changes in lifestyles and population structure in Taiwan in the past decades, the elderly population is growing sharply, and health problems of the population have shifted from acute communicable diseases to chronic diseases. Like the European countries and the US, the leading causes of death in Taiwan in the recent years have been malignant neoplasms, chronic diseases, and accidents and injuries. Besides environmental and genetic factors, the major causes are primarily personal lifestyles such as smoking, exercise, food habits and receiving regular screening for diseases.

The World Health Organization advocates that health is not merely the absence of illnesses; it should be the development of the overall health. The main focus of the Department of Health in the last years, thus, is on the health promotion strategies of primary and secondary disease prevention to build healthy life, to improve self-management of health, and to cultivate healthy lifestyles. In coordination with the practice of early screening and adequate treatment, the occurrence of chronic diseases and their complications can be reduced. Furthermore, it can reduce rates of sickness, disability and death and to promote the health for all and the the quality of life.

### Section 1. Community Health Building

The Alma-Ata Declaration of the World Health Organization in 1978 stresses the importance of health promotion through primary health care to attain the goal of health for all. The Department began in 1999 to promote "community health building" programs with a view to utilize community resources to help the public identify health problems of the community, reach consensus, and establish an autonomous community health building mechanism to resolve community health problems jointly.

#### 1. Community-Based Healthy Life

The "community-based healthy life" project was integrated in March 2005 in the six-star plan for healthy communities in Taiwan, social welfare and medical care plan. for active implementation throughout townships and districts. Major activities include:

- 1) Actively establishing an autonomous community health building mechanism: in 2005, 216 communities were subsidized to set up each a community health building center (not including tribes and offshore islands). Of them, 56 have been upgraded to professional promotion centers to supervise neighboring communities 1,718 times (including on-spot supervision and telephone counseling). Training of volunteers has been organized 356 times for 6,984 person-times; and 204,679 person-times of community residents have been encouraged to participate in the promotion of community health.
- 2) Inviting county/city health bureaus and scholars and experts to supervise community health building centers; actively developing professional manpower for community health building; training of health bureau staff in community health building; organizing workshops for experience-sharing; establishing a community health building network to serve as a platform for information and communication in community health building.
- 3) Actively promoting healthy cities, beginning with Taipei, Kaohsiung and Tainan cities; in collaboration with Tainan City, indigenous healthy city indicators have been developed and a healthy city whitepaper has been produced; the Tainan Healthy City Promotion Committee was approved through review and admitted in July 2005 a member of the WHO Western Pacific healthy city alliance.
- 4) Using the healthy life of the people as a starting point, and through the process of improving the environment of the community, to encourage the public to construct a healthy environment, and to

promote healthy environment and space building. Thus far, 93 communities in 23 counties and cities throughout the country have participated in the building of healthy environment.

- 5) Beginning in July 2002, four different types of community security projects, "the urban type project in the Neihu District of Taipei City", "the township type project in Tungshi Township of Taichung County", "the mountain area indigenous-people type project in Alishan of Chiayi County", and "the coastal area indigenous-people type project in Fengpin Township of Hualien County", were promoted. These projects have passed the international certification of the WHO. The four projects will be used as a promotion platform to extend to other communities in the country.
- 6) Actively promoting health fitness to advocate the concept of "ten-thousand steps a day for good health", and to stress that "healthy life begins with a simple walk"; activities such as "virtual hiking for 180 days around the Island" and "challenging 1,000 kilometer hiking in 30 days around the Island" have been organized.

## 2. Promotion of Occupational Health

There have been rapid changes in Taiwan in working environment as a result of changes in industries, the globalization of enterprises, and the diversities of employment; the dimensions of healthy worksites should also be adjusted. The promotion of occupational health has, thus, been extended from the prevention and control of occupational diseases to health promotion at worksites; from the negative control of occupational diseases to the active promotion of the health of employees.

- 1) To promote the health of employees and to prevent occupational hazards, two occupational health centers have been set up in the Kao-Ping area and the central area to set up cross-county occupational health medical care networks for counseling, to supervise medical care institutions designated for the health examination of employees, and to produce occupational health-related educational materials.
- 2) To encourage medical care institutions to provide occupational health services, 15 institutions have been subsidized to promote occupational medicine and to provide counseling and

healthcare services by visiting medium and small-size industries or occupational associations.

- 3) Subsidies have been made to 30 worksites to implement health promotion at worksite projects. Employees are encouraged to assess the health needs of worksites and to build a healthy worksite environment meeting the needs of the employees.
- 4) To understand the occupational disease conditions of employees, a reporting system for occupational diseases has been set up. Physicians are encouraged to early report occupational diseases and injuries and thus to help identify early new types of occupational diseases and injuries.
- 5) Training of professional personnel in occupational health and prevention of occupational diseases has been organized; manuals such as "health examination for some common health hazards and their management", "occupational health assessment of problems and medical care services in industries" have been developed to assist medical and nursing personnel in their practice, and to upgrade the quality of health examination and health promotion for employees.

## 3. Health Promoting Schools

To respond to the WHO ideals of using schools as a healthy life environment, the Department has collaborated with the Ministry of Education to formulate a "four-year plan for health promoting schools". Thus far, 210 primary schools, 69 junior high schools and 39 senior high schools have participated in the plan. The idea is to encourage schools to propose action plans to meet their different health needs.

- 1) A teaching resource development center has been established; assessment of needs for teaching resources for health promoting schools has been completed; a teaching manual for teachers of health promoting schools and a booklet on the current international status of health promoting schools have been produced; a health promoting school digital learning platform (<http://www.allschool.com.tw>) and a single entry counseling line (02-23693105) have been set up.
- 2) 35 scholars and experts have been invited to serve as supervisors of health promoting schools. They visit schools for supervision; they also provide online supervision through the health promoting school network. Thus far, four regional

demonstration schools have been visited to share experience.

- 3) Training of principals, administrative staff and school nurses of participating schools and personnel concerned of health bureaus and education bureaus has been organized. Some 1,000 people have participated in the training. One workshop on life skills for some 100 seed teachers has been conducted.
- 4) Voting for the logo of health promoting schools has been organized and the results presented. The health promoting school plan has been promoted in 17 counties and cities. Mayors and magistrates of nine counties and cities, Taoyuan County, Taipei County, Taichung City, Chiayi City, Tainan City, Pingtung County, Hualien County and Taitung County, have joined their school masters to declare the intention of promoting the health promoting school plans. The plan has met the general recognition and appreciation of all.

#### 4. Improving the Efficiency of Health Stations

To improve the service efficiency of health stations, and to provide the public with a clean, safe and high-quality community healthcare service environment, the Department has taken active action to reconstruct and expand health stations and to upgrade their service quality. Important activities include:

- 1) 38 health stations providing primary care have been subsidized for either reconstruction or expansion of their buildings. In 2005, 12 more health stations had been subsidized to provide the public with a safe, health-promotional, convenient, and comfortable community healthcare service environment.
- 2) To improve the service quality of health stations and in coordination with the reform measures of the National Health Insurance, the Windows version of the health station information system has been renewed. Their functions have been added and revised along with the promotion of the IC card.
- 3) Presentations of achievements in upgrading the service quality of health stations have been organized. Taipei County, Hsinchu County, Taichung County, Yunlin County, Chiayi County, Tainan County and Hualien County health bureaus each shared their experience with other health

bureaus on issues such as "principles on the allocation of incentive bonuses", "establishing learning models in health stations", "pilot project on the establishment of care centers for health", and "assessment of community health". To help health station directors understand skills of leadership and management, a booklet, "A Quick Way to Leadership and Management in Health Stations", has been produced and distributed to all health bureaus and health stations.

- 4) Websites for online public services have been set up in health bureaus and health stations. A portal site for public service on matters concerning health and health promotion was set up by the Department and put to use in October 2004. The public service information systems for health such as the official document management systems of health bureaus and health stations, and the e-bulletins have been integrated and developed to help health bureaus and health stations expedite their services to the public through the Internet technologies. In 2005, work had been done to maintain the websites of 355 health stations; to complete the English version of web pages and their English translation for the convenience of alien mothers to access health information; to finish the online registration functions; and to integrate, add and revise health station information systems. By December 2005, 9,730,827 people had visited these websites.

## Section 2. Maternal and Child Health

Work has been done to construct a comprehensive maternal and child health and genetic health service system, to care for patients of rare diseases and other less privileged groups, to help pregnant women maintain good health, to assure healthy development of each child born, to respect the value of life and dignity of women, to provide women with a friendly medical care environment, and thus to enhance work in maternal and child health to improve the health of mothers and young children.

### 1. Health Promotion for Pregnant Women, Infants and Young Children

The number of spouses of foreign origins and

mainland-China has increased sharply in the recent years. For differences in education, age and language, some dangers in reproductive health and child-rearing have been noted. They have become new problems in the healthcare of mothers and young children. In view of this, the Department, in addition to the routine promotion of the healthcare for mothers and children, has included in the healthcare programs spouses of foreign origins and mainland-China to protect their health.

- 1) To strengthen the healthcare of pregnant women, infants and young children, several operational procedures and educational materials have been developed. A booklet designed for the newlyweds has been distributed through household registration offices. A health management model for pregnant women in community and a health management model for infants and young children in community have been developed. These models will be tested out in two or three counties and cities in 2006.
- 2) A project to screen preschool children 0-6 years for development and follow-up management of abnormal cases has been carried out by county/city health bureaus. Thus far, some 586,200 person-times have been screened to identify 1,980 suspected abnormal cases and an additional 1,628 cases reported and referred. The use of stool identification card for the screening of infants has been actively promoted. In 2006, the various colors of stool will be presented on the immunization information management system to alert health care providers.
- 3) A breast-feeding environment has been set up all around. Work continues in the supervision and certification of baby-friendly medical care institutions, and 81 institutions have passed the certification. Establishment of the breast feeding-friendly environment at worksite has been promoted to encourage private sector organizations and companies to set up breast-feeding (collection) rooms. A pilot project to train community breast-feeding education volunteers has been tried out in the Taipei Mothers and Children's Hospital, Hsinchu City, Hualien County, Pingtung County, Tainan City and Taichung County. Support groups have also been organized.
- 4) To strengthen the care of spouses of foreign origins for their reproductive health, a project on the management of the reproductive health of spouses of foreign origins have been formulated. Each spouse of foreign origin is set up a health-card for management, and more than 90% of them have been registered. They can apply to the care and supervision fund for spouses of foreign origins of the Ministry of the Interior for subsidies for fertility regulation and prenatal care. A booklet, "reproductive health for spouses of foreign origins", another booklet in several languages, "child care", a leaflet, "knowing premature birth", and a video, "reproductive health series", have been produced.
- 5) The proportion of spouses of foreign origins to the total number of marriages had increased from 7.1% in 1998 to 15.5% in 2004; and the number of children born to them accounted for 13.2% of total births. To overcome language barriers of primary care personnel in the communication with spouses of foreign origins, a project to train volunteers of the spouses of foreign origins was tried out in Hsinchu County, Yunlin County, Taipei County, Nantou County, Changhua County, Chiayi County, Tainan City and Kaohsiung City.

## 2. Genetic Health

Genetic health is a science using medical technologies to intervene at different stages of pre-marital, pre-pregnancy, prenatal and post-natal life cycles on the principles of preventive medicine to avoid as much as possible the births of congenitally defected children. Since the promulgation of the Genetic Health Act in 1985, the Department has taken active action to promote genetic health and to conduct screening and services for various genetic diseases.

- 1) The Genetic Health Act has been in practice for more than 20 years. To attain its goals, the Department has actively promoted throughout the country genetic health programs and screening and services for various genetic diseases including, premarital health examination, prenatal genetic diagnosis, screening of the newborns, and genetic counseling (see Table 3-1). The rate of the screening of the newborns for congenital metabolic disorders has reached more than 99%

Table 3-1 Genetic Health Services

Item	Services Offered at	Services Offered to
1. Clinical genetic counseling, diagnosis and treatment of genetic diseases 2. Genetic health examination	1. Accredited medical centers or provisional medical centers 2. Referral hospitals for screening of the newborns	1. Individuals who themselves or relatives within four degrees are verified of suspected genetic or psychiatric diseases 2. Pregnant women whose fetuses are prenatally diagnosed with anomalies. 3. Abortion that needs further confirmation
3. Premarital health examination	Public or private hospitals with family medicine or health promotion departments	Unmarried or married men and women without children
4. Prenatal genetic diagnosis ---- Ultrasound examination ---- Amniocentesis ---- Amniotic fluid analysis	1. ObGyn hospitals and clinics 2. DOH accredited amniotic cytogenetics laboratories	Pregnant with following conditions: 1. Aged 34 and above 2. Baby of this pregnancy may have congenital anomalies 3. Have previously delivered babies with congenital anomalies 4. He/she or spouse has genetic disorders 5. Family member(s) has genetic disorders 6. Habitual abortion
5. Screening of the newborns ---- Specimen collection ---- Laboratory testing ---- Follow up for re-testing ---- Diagnosis and treatment	Hospital and clinics 1. Delivery in the screening system and local health stations and health rooms 2. Referral hospitals designated by DOH	All newborns.

Figure 3-1 Screening of the Newborns for Congenital Metabolic Disorders



Table 3-2 No. of Newborns with Congenital Metabolic Disorders

Disorder	G-6 PD deficiency	CHT	PKU	HCU	GAL
No. of Cases	1,790	72	1	0	0

(Figure 3-1) to detect 1,863 abnormal cases (Table 3-2). 22,378 women have accepted prenatal genetic diagnosis; of them, more than 89.8% of women above the age of 34 years have gone through amniocentesis examination. 12,349 cases suspected of genetic diseases in them or in family members have undergone further genetic examination.

- 2) The number of items for the screening of the newborns has increased from 5 to 11. In coordination with this change, a project to understand the confirmation diagnosis, treatment methods and gene mutation for CAH, MSUD, MCAD, GAI, IVA and MMA has been carried out with a view to establish standard operational procedures for confirmation diagnosis, treatment models and differential diagnosis to effectively prevent and control genetic and rare diseases.
- 3) Certification of genetic health counseling centers has been conducted to assure the quality of their services. Thus far, 11 medical centers have passed the certification.

### 3. Prevention and Control of Rare Diseases

In the past, patients of rare diseases belonged to the less privileged groups of the society. Their medical care, medication, life and care are often overlooked by the government and the society as a whole. Since the promulgation of the Rare Disease Control and Orphan Drug Act in 2000, improvement has been made. The Department has, ever since, announced relevant laws and regulations, and set up genetic health counseling

centers, hoping to provide patients of rare diseases with more improved care services.

- 1) The Rare Disease Control and Orphan Drug Act was implemented in August 2000, and amended on January 19, 2005. By 2005, 148 rare diseases in 128 categories had been recognized and announced; and reports of 2,276 rare disease cases had been received. The ten leading rare diseases reported from August 9, 2000 through the end of 2005 are shown in Table 3-3.
- 2) 75 orphan drugs for the care of rare diseases and their indications, and 40 special dietary foods for rare diseases and their indications have been announced. A supply center for special dietary foods and orphan drugs has been set up. Procurement and supply of 30 kinds of special dietary food have been made on a centralized basis; and 10 items of orphan drugs have been put on reserve.
- 3) To improve care of patients of rare diseases, funds of NT\$ 24.3 million have been budgeted to subsidize costs for disease diagnosis, treatment, pharmaceuticals and special dietary foods essential to life maintenance that are not reimbursable by the National Health Insurance. To reduce the financial burdens of families, the Department and the Taiwan Fund for Rare Diseases share 40% each of the costs of forwarding specimens for testing abroad.

### 4. Assisted Reproduction

Infertility can sometimes be identified their causes

**Table 3-3 Ten Leading Rare Diseases Reported**

Rank	Disease	No. Reported
1	Phenylketonuria	155
2	Amyotrophic lateralsclerosis (ALS; ^	137
3	Achondroplasia	125
4	Multiple sclerosis	114
5	Prader-Willi syndrome	101
6	Osteogenesis imperfecta	97
7	Mucopolysaccharidoses	90
8	Spinal muscular atrophy	75
9	Glycogen storage disease	63
10	Mitochondrial defect	46

easily and given effective treatment. It, however, requires infertility examination and assisted reproduction technology to help patients become pregnant. In the process of infertility couples undergoing assisted reproduction technology, in addition to the assistance of medical personnel, they also need support and care of families and friends as well. Action has, thus, been taken to formulate relevant laws and regulations, and to continue to assess medical care institutions providing assisted reproduction technology, to assure that infertility couples can access to correct information and diagnosis to help them regain hope for continuing the family line.

- 1) To facilitate legislation of the assisted reproduction act, the contentious issue of surrogate mothers has been separated for treatment from the draft act, and a new version of the Assisted Reproduction Act was formulated. For the issue of surrogate mothers, the National Chengkung University has been commissioned to, with reference to the consensus of "surrogate mothers will not be forbidden totally, but should be open on conditions" reached in September 2004 at the public reference group meeting on surrogate mothers, draft a surrogate mothers act. The draft act was completed in September 2005, and meetings will be held to discuss and review it.
- 2) To upgrade the quality of service and for the reference of infertility couples in selecting medical care, medical institutions providing assisted reproduction technology have been assessed. Thus far, 66 have passed the assessment.
- 3) A databank on assisted reproduction is maintained and Assisted Reproduction Technology Report is issued annually. The Taiwan Reproductive Medicine Association is commissioned to develop a manual on infertility and in vitro fertilization for the information of infertility couples.
- 4) To raise the fertility of women, action has been taken to promote the concepts of "reshaping values of fertility and family", "bearing jointly the responsibility of marriage and fertility by both sexes", and "cherishing life and respecting the carry-on of family line".

### Section 3. Health Promotion for Children and Adolescents

To allow children and adolescents access to adequate nutrition, health care, safety, protection, life guidance and school education, the Department has promoted programs on the prevention and control of accidents and injuries, hearing, oral cavity and vision health, and healthcare services for children and adolescents, hoping that every child and adolescent will enjoy normal and healthy life and physical and mental development.

#### 1. Prevention and Control of Accidents and Injuries

Vital statistics of the Department shows that in 2005, the death rate of accidents and adverse effects was 36.8 persons per 100,000 population, and was the fifth leading cause of death. Accidents and adverse effects are the first cause of death of children 1-14 years (accounting for 30.9%), and young people of 15-24 years (accounting for 52.5%); and is the second cause of death of young adults 25-44 years (accounting for 17.9%). Their impact on the potential loss of work years and on the national competitiveness should not be overlooked.

- 1) To prevent occurrence of accidents and injuries in children and adolescents, action has been taken to build safe environments. Thus far, 110 demonstration primary schools, kindergartens and nurseries have been supervised to improve their play facilities. In collaboration with private medical care institutions, life-saving organizations and other community resources, 10 dangerous waters have been improved of their safe environment and relevant websites are set up.
- 2) Through the 25 county/city health bureaus, home safety of 1,300 households with young children has been inspected and environment improved. Safe environment building and improvement are made on dangerous waters and high traffic-risk roads, and to educate the public on the dangers.
- 3) To make children and adolescents become more aware of the prevention and control of accidents and injuries, education on traffic safety and



drowning such as, setting up web pages, situation simulation for mutual game, multi-media teaching materials, posters, and advocacy on media, has been conducted. In addition, training of seed teachers on play facility safety has been organized for 326 persons. In collaboration with the Ministry of the Interior, a symposium on the home care of the elderly and prevention and control of accidents and injuries has been organized for 103 participants.

## 2. Hearing, Oral and Visual Health

Recent surveys of the Department show that in the entire Taiwan area, the prevalence rate of hearing impairment of the newborns is around 3 per 1,000; 81.78% of adolescents 15-18 years require treatment for periodontosis; the DMFT index of children 12 years of age is 3.31 teeth; and the average age of myopia for children is 8 years. They all indicate that more should be done in the areas of hearing, oral cavity and vision health. Activities promoted are as follows:

- 1) Hearing health: Infant and childhood is an important stage of development, and 0-3 years is the golden age for hearing and language development. Studies of the Department show that the prevalence rate of hearing impairment of the newborns is around 3 per 1,000; and that of young children (including impairment caused by otitis media) is around 2 per 1,000. For early detection and early correction, the following prevention measures have been taken:
  - (1) A hearing screening project for young children 3-4 years has been implemented. By the end of 2005, some 130,000 children had been screened and abnormal cases so detected were referred for correction. Ten parent-development groups meetings had been held and 119 volunteers had been trained. Toll-free lines, 0800-800832 and 0800-889881, are set up.
  - (2) Work has been commissioned out for the establishment of websites on hearing screening for the newborns and databanks on hearing screening. Cases have been followed-up. A manual, Guides to Hearing Screening of Infants and Young Children, has been produced. A Taiwan hearing screening for infants and young children website, <http://www.bhp.doh.gov.tw>, has been set up for counseling.
- 2) Oral health: The national survey in 2000 on the status of oral health for the 6-18 year olds conducted by the Department points out that as high as 81.78% of adolescents aged 15-18 years require treatment for periodontosis; and the DMFT index of children 12 years old is 3.31 teeth, higher than the WHO standard of three teeth. To improve oral cavity health, the following measures have been promoted:
  - (1) Children under 5 years are given two free topical fluoridations of teeth each year; the project, "mouth-rinsing with fluoridated water for the prevention of dental caries", has been promoted for 1.88 million schoolchildren in 2,646 primary schools in 25 counties and cities (see Table 3-4).
  - (2) Oral health contests for the elderly: 1,169 elderly participated in this activity; through a series of competitions, workshops and education, the public is informed of the importance of building up good lifestyles and diets in the early days of life so that when they are old, they can still maintain a good oral health.
  - (3) Training programs to train seed teachers for the oral health of the disabled have been organized for 1,047 dentists and 347 dental assistants. Educational materials for the prevention and control of periodontosis have been developed; and dentists have been trained in the prevention and control of periodontosis.
  - (4) Comprehensive oral health care models focusing on special groups such as an oral healthcare for patients under the diabetes shared care network have been developed.
- 3) Visual health: A survey in 2000 on the prevalence of myopia of schoolchildren 6-18 years shows that on average, ocular refraction turns into myopia at age 8 years, one year earlier over 1995, indicating a decline of the myopia age in the recent years. Along with the aging of population, needs for the care of eye and vision problems of the middle-aged and the elderly have increased. Visual health and blindness-prevention have become more important.
  - (1) Three community visual health centers and 12 community visual health networks have been set up to provide services in outpatient care, education and training, health counseling and publicity.

**Table 3-4 Mouth Rinsing with Fluoridated Water for Schoolchildren**

Year	No. of County/City	No. of Schools	No. of Students	Coverage Rate
1997	10	34	40,640	2.13
1998	13	48	52,281	2.74
1999	16	368	457,773	23.75
2000	21	1,959	1,414,000	73.35
2001	25	2,429	1,819,495	94.47
2002	25	2,632	1,903,357	98.00
2003	25	2,627	1,883,509	98.20
2004	25	2,638	1,882,186	98.40
2005	25	2,646	1,880,000	98.50

(2) Screening of preschool children for strabismus and amblyopia and visual health, and vision screening of the elderly for healthcare in community have been promoted all around. Abnormal cases so detected are referred for correction, followed-up and case-managed.

### 3. Healthcare Services for Adolescents

Children in puberty develop delicate changes physiologically and mentally. Sex education and services through health clinics are made available to them through professional workers to care for the health and development of them.

#### 1) Sex Education and Reproductive Health

(1) Three youth health centers and 47 youth healthcare clinics have been subsidized to provide the youths with services in treatment, referral and counseling on matters related to sex, physiology, reproduction, safe sexual behavior and other physical and mental health issues. A total of 15,617 person-times of the youths have availed themselves to the services.

(2) In collaboration with four medical care institutions, a youth-friendly reproductive health outpatient clinic project has been promoted to help young girls in emergency contraception, and to resolve issues such as unexpected pregnancy jointly with parents.

(3) In collaboration with three medical care institutions, a pilot project on youth health center has been tried out to train workers, to provide sex education online, and to provide sex education to members of special ethnic groups.

2) The youth website has been revised to add online

counseling functions including a mailbox specifically designed for parents, a mailbox for teachers, and another mailbox for the youths. More comprehensive services are offered. Thus far, some 200,000 person-times have visited the site. A project to develop computer soft on sex education for the youths and their online publicity have been conducted.

3) Publicity on sex education for the youths has been held 631 times for 99,321 persons; a series of activities of parent development camps on sex education matters have been held five times for 1,200 participants. In addition, publicity of the computer game on sex education has been held; discs on games and educational materials have been produced. Four workshops on campus have been organized.

## Section 4. Control of Chronic Diseases

In the recent years, lifestyles of the population have, along with the global trends, moved toward less labor and westernized diets. The aging of population has also made disease patterns to shift from communicable diseases to chronic diseases. Diabetes, cardiovascular diseases, cerebral stroke, asthma and kidney diseases are some leading chronic diseases of the population. Early detection and early treatment is the key to the prevention and control of chronic diseases.

### 1. Prevention and Control of Diabetes

Research done in other countries shows that the annual change rate from pre-diabetes stage (fasting plasma sugar  $\geq$  110 mg/dl and  $\geq$  126 mg/dl) to diabetes

is 13.6-16.4% and that, if individuals of these diabetes high-risk groups had practiced health promotion behavior earlier in life, they could have delayed the occurrence of diabetes. The diabetes high-risk groups refer to individuals with family history of diabetes, women who have suffered from pregnancy diabetes and obese patients. The following measures have been taken to slow down the occurrence of this disease:

- 1) 25 counties and cities throughout the country have been supervised to promote the in-community three-in-one screening projects (for blood pressure, blood sugar and blood cholesterol). Thus far, some 410,000 people have accepted the screening. For the health promotion of diabetes high-risk groups, action has been taken to offer them periodical testing and examination, maintenance of blood sugar, blood lipid and blood pressure, and control of body weight, diet and exercise. 50 communities in 25 counties and cities have participated in this activity.
- 2) Diabetes shared care networks have been set up in 25 counties and cities (see Figure 3-2) for 352 townships, giving a coverage rate of 95%; 138 institutions for the health promotion of diabetes patients have also been set up to care for and prevent complications of diabetes; and surveys of the oral cavity health of diabetes patients have been

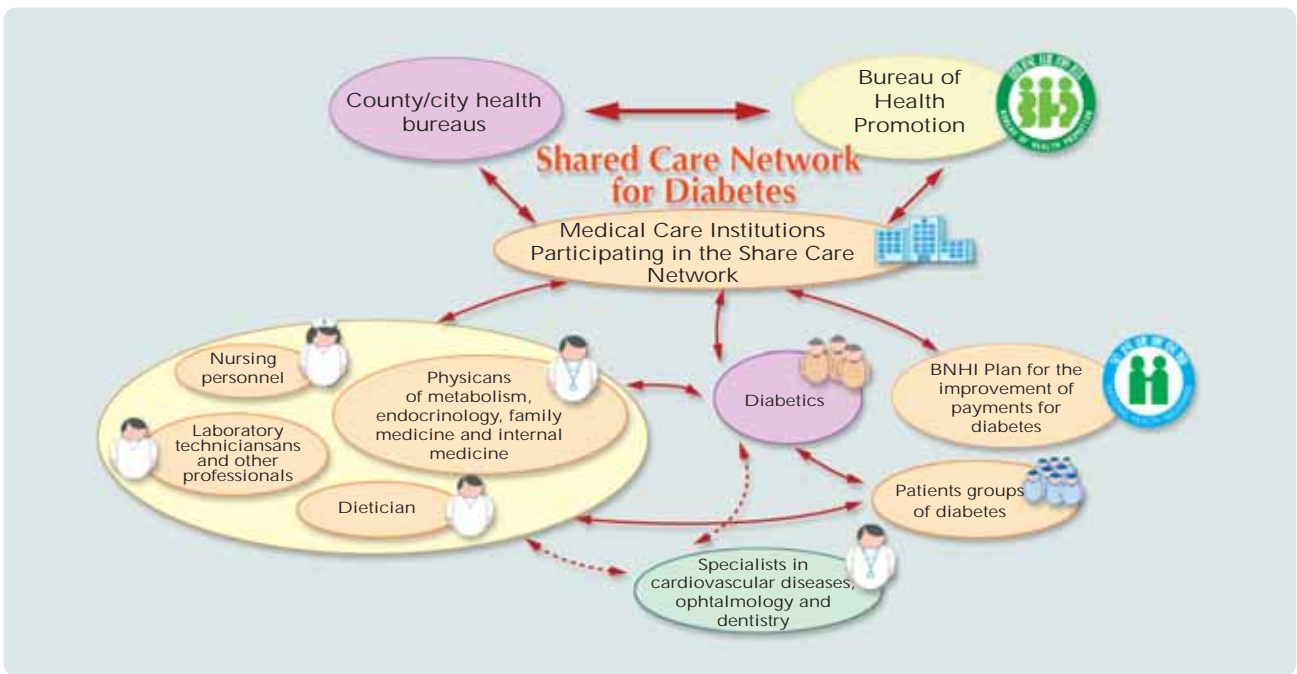
conducted. At the same time, different community care models for the oral cavity health of diabetes patients have been developed to improve the self-care skills and knowledge of diabetes patients.

- 3) Team work of physicians, nursing personnel and dietitians has been promoted and service quality upgraded. Collaboration is maintained with the National Health Insurance in the insurance payment improvement program and some 140,000 persons have received the team care. The quality of laboratory testing of medical care institutions for ALC has been improved, and 259 institutions have gone through external assessment for capacities.
- 4) To strengthen the adjustment to life and self-care of diabetes patients, a manual, Guides to Shared Care of Diabetes, is published; the manual, Guides on the Prevention, Diagnosis and Control of Diabetes, has been revised. 423 diabetes patient groups have been set up; 123 seed supervisors have been trained to strengthen the support systems; 6,092 medical personnel for the care networks have been certified.

**2. Prevention and Control of Cardiovascular Diseases**

Cardiovascular diseases have been, for many years,

**Figure 3-2 Shared Care Network for Diabetes**



the second and the third leading cause of death in Taiwan. Therefore, the early detection of cardiovascular disease patients and delaying the cardiovascular disease high-risk groups to develop diseases are some of the important tasks.

- 1) Since 2002, counties and cities have been encouraged to integrate community resources in health and medical care, to coordinate with the preventive healthcare services for adults of the National Health Insurance, and to utilize the existing health screening programs for cancer and others, to promote integrated preventive health service. Thus far, 20 counties and cities have joined the program; and some 800,000 persons have accepted the screening with an approval rate of more than 90%.
- 2) To construct a comprehensive cardiovascular disease care network, two counties and cities have been subsidized to promote a cardiovascular disease control pilot project to set up a mechanism for the prevention of risk factors and for the identification of high-risk groups, to intensify health education, and to promote an overall case management and care model.
- 3) Counties and cities are encouraged to use the set of educational materials on the prevention and control of cardiovascular diseases developed by the Bureau of Health Promotion of the Department in 2003 to conduct community health education intervention on cases of the cardiovascular disease high-risk groups identified through community screening. 22 townships in 10 counties and cities have participated in this health promotion program.
- 4) A pilot project on the prevention and control of stroke has been tried out in four institutions to assess the evidence data of various health education programs, screening, cross-disciplinary integrated treatment, training of medical and nursing personnel, and establishment of medical care service networks in community.
- 5) Two counties and cities have been subsidized to develop a pilot project on the health management of cardiovascular disease patients in community to establish models of health management of cardiovascular disease patients in community. The project will be extended to other counties and cities.

### 3. Prevention and Control of Renal Diseases

Statistics of the Department shows that nephritis,

nephrotic syndrome and nephrosis have been the 8th leading cause of death for many years. Changes in lifestyles and eating habits (eating outside) in the recent years have also brought about a higher prevalence of hypertension, diabetes and hyperuricemia. These diseases in turn bring about complications of renal diseases to increase the number of patients requiring hemodialysis. They all indicate the importance of the prevention and control of renal diseases to prevent their occurrence in the first place, and to control the deterioration of conditions.

- 1) Since 2003, renal disease healthcare demonstration institutions have been set up to build up a cross-disciplinary, cross-professional care model. Effective strategies on medical care, health education and diet guidance have been established based on the actual needs of patients. Ten such institutions have been set up.
- 2) A primary care renal disease case management project has been tried out. Health bureaus take the lead, using the integrated preventive health service as a platform, to detect renal disease high-risk groups and abnormal cases, to establish community renal disease case management and follow-up systems, to build models for informing and referral of cases to the medical schools and hospitals in the locality, to construct a comprehensive shared care network, and thus to provide care of all directions. The project was first tried out by the Kaohsiung City Health Department in 2005 and will be extended to other county/city health bureaus.
- 3) To prevent renal disease complications due to the abuse of drugs for diabetes, hypertension and gout, educational materials such as booklets, leaflets and videos have been developed by the Department for the public to encourage them to develop sound lifestyles, adequate exercise and smoke cessation, to avoid excess drinking and to develop good eating habits. For the early detection of congenital renal diseases, with the assistance of school nurses, urine screening of schoolchildren has been conducted. Abnormal cases thus detected are referred and followed-up.

### 4. Prevention and Control of Asthma

Both the incidence and prevalence of asthma have been increasing worldwide in the recent years, and

Taiwan is no exception. Asthma is a chronic inflammation of the respiratory tract requiring long-time drug control. With good care, asthma attacks can be avoided.

To provide asthma patients with correct information, a manual, *Self-Care of Asthma Patients*, has been produced to educate, step by step, asthma patients and families the disease itself, its examination and diagnosis, classification of the seriousness of asthma, and its treatment principles to help patients and families care for patients, and to build up a care plan most suitable for the patients, thus to reduce attacks, to protect life and to upgrade quality of life.

For medical care institutions that have participated in the Bureau of National Health Insurance's pilot project on the improvement of medical payments for asthma, training on the use of the educational materials for asthma has been offered. Educational materials on the self-care of asthma patients have also been made available. Teachers (masters) of kindergartens have been given education and training on the prevention and control of asthma to provide them with professional skills and knowledge in the care of asthma.

## Section 5. Prevention and Control of Cancer

Statistics of the World Health Organization shows that at least 10 million people worldwide are diagnosed cancer every year; and by the year 2020, the number of new cases detected each year will exceed 15 million. Each year, some 6 million people die of cancer, accounting for 12% of all deaths.

Since 1982, cancer has been the a leading cause of death in Taiwan, their incidence and prevalence has increased year by year. In the last 20 years (1984-2004), the leading causes of cancer death are, for males, liver cancer, lung cancer, stomach cancer, colon-rectum cancer and oral cavity cancer; and of them, except stomach cancer for which a slight decline has been noted, the rest continue to increase (see Figure 3-3). For females, they are lung cancer, liver cancer, colon-rectum cancer, cervical cancer and female breast cancer; and of them, only cervical cancer has shown significant decline (see Figure 3-4).

To help people develop healthy lifestyles, healthy diet, adequate exercise, and periodical screening for

cancer are some commonly recognized effective ways in the prevention and control of cancer. Various media and channels are thus actively used for education on cancer prevention and control. A national cancer control five-year plan has been formulated (2005-2009). The plan was approved for implementation by the Executive Yuan on July 11, 2005. Major achievements are illustrated as follows.

### 1. Periodical Screening for Cancer

For cancer that can be early detected through screening and treated effectively, screening services have been offered by the Department for such as cervical cancer, breast cancer, oral cavity cancer and colon-rectum cancer.

#### 1) Cervical cancer

- (1) Women, after age 30 years, should have at least one cervical Pap smear test every three years. Since 1995, cervical Pap smear test for women 30 years and above has been included in the National Health Insurance. By the end of 2005, the number of women aged 30 years and above who had accepted the test every three years had reached 3.4 million.
- (2) Although cervical Pap smear screening has been promoted for ten years, around 25% of women have never accepted the screening at all. For this, a pilot project for women who have not accepted cervical Pap smear screening for more than ten years to self-collect samples has been conducted in six counties and cities, Taipei City, Taoyuan County, Taipei County, Taichung County, Chiayi County and Tainan County, hoping to detect high-risk women of HPV positive for cervical Pap smear screening.
- (3) The practice of cervical Pap smear screening has been reflected in the decline of incidence and mortality rate of cervical cancer. The age-adjusted incidence (calculated based on the age structure of the standard 2000 world population) had declined from 23.9 per 100,000 in 1995 to 17.2 in 2002; the age-adjusted mortality rate (based on the age structure of the mid-year female population of 1981) had declined from 7.0 per 100,000 in 1995 to 4.4 in 2004.

#### 2) Breast cancer

Women should regularly self-examine breasts every month. They should accept examination by medical

Figure 3-3 Trend of Cancer Mortality for Men

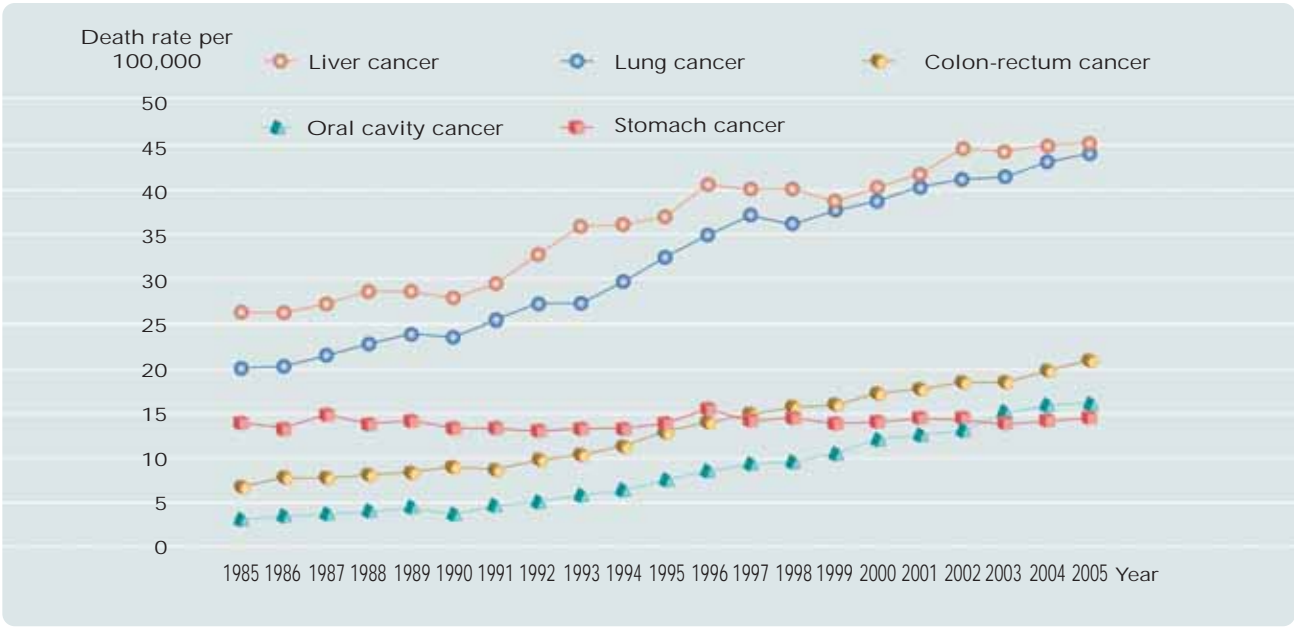
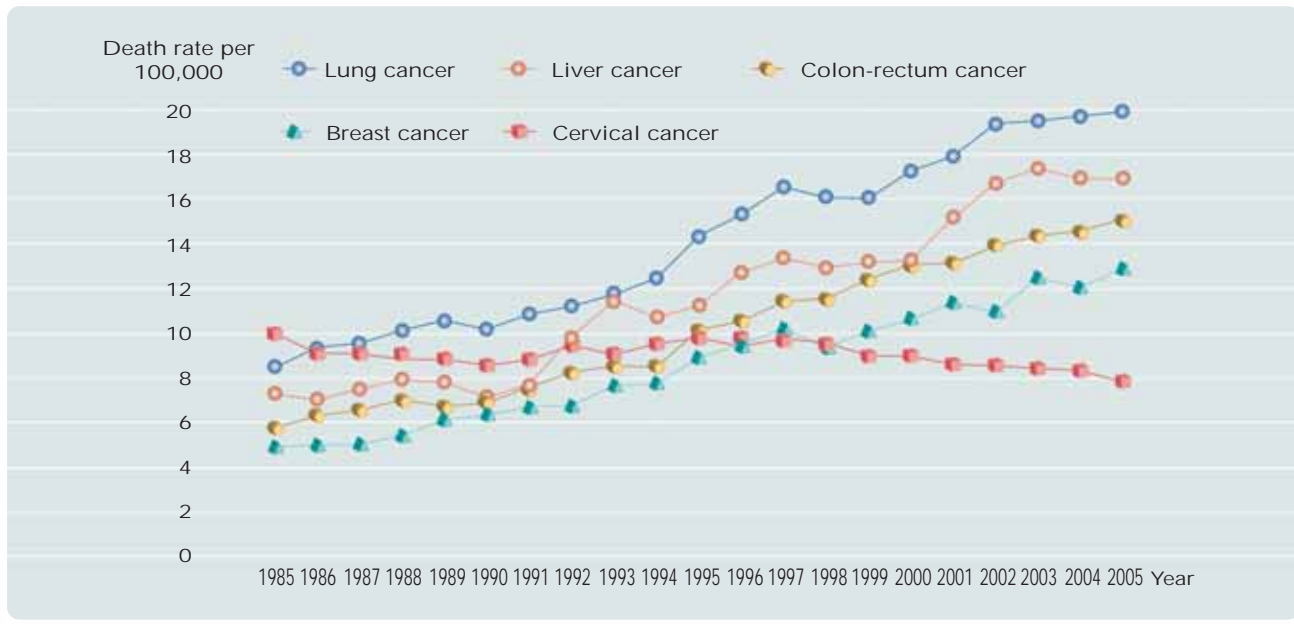


Figure 3-4 Trend of Cancer Mortality for Women



specialists after 35 years of age; and after 50 years of age, they should accept mammography once every 2-3 years. Since 2004, mammography for women 50-69 years has been included as one of the preventive health services of the National Health Insurance. Thus far, some 60,000 women have accepted the screening.

3) Oral cavity cancer

Individuals above the age of 18 years who are smoking or chewing betel-nut are subsidized for oral cavity mucous membrane screening. In 2005, some 360,000 smokers and betel-nut chewers had accepted the screening.

#### 4) Colon-rectum cancer

People of 50-69 years of age have been subsidized for fecal occult blood test; individuals in the high-risk groups with relatives of the first degree suffering from colon-rectum cancer are given rectoscope screening. Thus far, some 290,000 persons have accepted the fecal occult blood test, and 1,300 people of the high-risk groups have accepted rectoscope screening.

5) To provide the public with more access to screening services, in addition to contracted medical care institutions providing such services, local health bureaus and health stations also provide on-spot services on occasion of community affairs. 78 district and above hospitals have been subsidized to set up active reminding systems for cervical cancer Pap smear screening at outpatient clinics to integrate mechanisms in hospitals, to remind patients, and to offer high-efficiency cancer screening services.

## 2. Quality of Cancer Care

To effectively understand the current situations of cancer, and thus to establish a complete case management system, the Department began in 1979 the registration of cancer to serve as a reference for health authorities in the formulation of cancer control policies on one hand; and also to provide important data for academic institutions in epidemiological studies of cancer to identify risk factors, and to assess the survival rates of cancer. The following measures have been taken to provide cancer patients with adequate care.

#### 1) Upgrading the quality of cancer diagnosis and treatment

(1) The cancer registration data of 2002 shows that the five-year cancer survival rate of males is 32.9%, and 58.4% for females, both are lower than the 65% of the US. This difference could be due to screening, or difference in the sites of cancer; it could also reflect the fact that there are rooms for improvement in the quality of cancer diagnosis and treatment. In view of this, the Department has, acting on Article 15 of the Cancer Control Act, formulated regulations governing measures for the quality assurance of cancer diagnosis and treatment. The set of regulations was announced and implemented on March 10, 2005.

(2) A project to upgrade the quality of cancer

diagnosis and treatment in cancer control centers has been implemented. A total of 27 hospitals have participated in the project. The project requests hospitals to set up groups or committees on the medical care quality of cancer, to act on the regulations governing measures for the quality assurance of cancer diagnosis and treatment, and since 2005, to report the cancer stages, diagnosis and follow-up of six cancers newly diagnosed by the hospitals in 2004, namely, cervical cancer, breast cancer, lung cancer, liver cancer, oral cavity cancer and colon-rectum cancer, to set up a databank on the diagnosis and treatment of cancer.

(3) A research project on the integration of quality upgrading in cancer centers has been conducted to establish core measurement indicators for cervical cancer, breast cancer, lung cancer, colon-rectum cancer, and to set up the patient safety monitoring for chemotherapy, and multi-disciplinary team work approach models for cancer care.

#### 2) Promotion of hospice care

(1) To alleviate pains of cancer patients and their symptoms, and to upgrade quality of life, the Department began in 1995 to promote hospice palliative medical care of cancer. In addition to the active promotion of hospice palliative care, hospice and palliative care in hospitals and under home care has, since 2000, been included in the pilot payment project of the National Health Insurance. Thus far, 25 hospitals are providing hospice care in hospital service; and 54 institutions are providing hospice home care services. From statistics of the National Health Insurance, it is noted that in 2004, 15.5% of patients had availed themselves of hospice care either under hospital care or home care.

(2) To encourage cancer patients to accept hospice palliative care services, 34 hospitals have been subsidized to carry out the hospice shared care project to provide services in hospice care to some 8,000 cancer patients.

(3) A project to upgrade service quality for cancer patients has been implemented in collaboration with cancer-associated not-for-profit organizations or supportive groups to provide cancer survivor or families with information, visit, facilities or care

management. Some 40,000 person-times have joined the project; nine workshops have been organized for families; and 1,000 person-times have participated in the spiritual workshops or lectures. In addition, 20 patient support groups have met, and psychological counseling services have been offered 154 person-times. Services in case management and home visits have also been provided. Training and supervision of volunteers have been organized. It is hoped that through professional knowledge on the physical and mental care of cancer patients, and discussions on disease-informing, ethics or legal issues, a comprehensive care network for cancer can be established.

## Section 6. Control of Tobacco Hazards

Research findings are that in 2004, the smoking rates for male and female adults were 42.78% and 4.54% respectively (see Figure 3-5). At these rates, the smoking population aged 18 and above is estimated to be 4.13 million; and more than 18,800 persons have died of smoking-associated diseases. The medical costs for the treatment of smoking-induced diseases are as high as NT\$ 300 billion a year. In 2002, a health and welfare tax was levied on tobacco products, and 10% of the revenue is allocated specifically for the prevention and control of tobacco hazards. Major activities in reducing smoking rates, improving smoke-cessation rates, and preventing second-hand smoking are illustrated as follows.

### 1. The Tobacco Hazards Prevention Act

The Tobacco Hazards Prevention Act has been amended following the standards set aside by the Framework Convention on Tobacco Control (FCTC) passed by the World Health Organization in May 2003, to increase the health and welfare tax on tobacco products, to ban sales promotion of tobacco products, to enforce labeling cigarette packs, to expand no-smoking areas, and to increase fines. The amended draft has been submitted to the Legislative Yuan for review and approval. The part on the increase of health and welfare tax on tobacco products was passed by the Legislative Yuan on January 3, 2006, and implemented on February

16. To enforce the Act, local government in 2005 made 390,000 inspections and levied 5,691 penalties.

### 2. Smoke-Free Environment

To protect the health rights of the many non-smokers, a project to say no to second-hand smoking has been promoted to create a smoke-free environment in communities, schools, worksites and the army.

- 1) Restaurants are supervised to create a smoke-free environment. They are assessed and encouraged. Thus far, more than 10,000 restaurants in 25 counties and cities throughout the country have participated in this smoke-free restaurant project.
- 2) A smoke-free campus project has been promoted in collaboration with the Ministry of Education, local health bureaus and education bureaus. Thus far, 222 senior high and vocational schools and under, 318 health promoting schools, and 34 colleges and universities have participated in this project. The project aims at disseminating in college and university students knowledge on the prevention and control of tobacco hazards, to encourage them to place more attention on non-smoking, and thus to create a smoke-free healthy environment.
- 3) To protect the health of workers, owners have been assisted in the formulation of non-smoking policies to create a smoke-free environment, and to provide counseling on smoke-cessation. Thus far, 1,703 enterprises have joined the project.
- 4) To reduce smoking rates and to improve the effect of smoke-cessation in the armies, since 2003, a project on the prevention and control of tobacco hazards in the army has been promoted in collaboration with the Ministry of National Defense, hoping to create a smoke-free environment in the armies.

### 3. Tobacco Control Services

A pluralistic smoke-cessation service network has been established. In January 2003, a special line on smoke-cessation, 0800-63-63-63, was set up to provide professional counseling on smoke-cessation. A total of 85,521 persons have called; and the one-year cessation rate is 25%. Smoke-cessation classes have been set up in medical care institutions in 25 counties and cities. Medical professionals of all kinds have been trained as seed teachers on smoke-cessation to upgrade service quality.



A project to subsidize the smoke-cessation services of medical care institutions has been intensified. Thus far, 2,020 medical care institutions have participated in the project. The coverage rate of smoke-cessation services at clinics has reached 97% to offer services to 127,293 persons.

Research on the prevention and control of tobacco hazards has been conducted. A survey on the smoking behavior of adults and students of senior high and vocational schools has been conducted. Information on sales of tobacco products has been surveyed and analyzed and databank of the information set up. Workshops on quality management of projects on tobacco hazards control in counties and cities have been organized to upgrade the skills and quality of the tobacco hazards control workers and to design control projects most adequate to the local conditions.

## Section 7. National Nutrition

Unbalanced diet is strongly associated with chronic diseases such as cancer, stroke, cardiovascular diseases, diabetes and hypertension as a risk factor. National nutrition surveys conducted by the Department show that for the population in general, the intake of fat is excessive and the intake of fibers is insufficient. To build a healthy diet concept in the population, to practice healthy eating habits, and to reduce the occurrence of chronic diseases are some of the major tasks of today that are to be actively promoted.

### 1. National Nutrition Surveys

To periodically monitor the status of nutrition and health of the population, in the period 2004-2008, the Academia Sinica has been commissioned to conduct the Third Survey on the Changes in the Status of Nutrition and Health for a national sample of all people aged 0 and above (in age groups 0-3,4-6,19-30,31-44,45-64 and 65+). Through questionnaire interview on diet, the KAP (knowledge of, attitudes toward, and practice of) of nutrition, and various nutrition-associated diseases, and nutrition problems of different age groups as well as physical examinations are performed to help in the formulation of nutrition improvement action plans, and to formulate future nutrition policies. Household interview and physical examination began in July 2005.

A publication on the current status of nutrition of the

elderly based on the findings of the Second Survey on the Changes in Nutrition and Health focusing on the elderly 65 years and above and children 6-12 years has been published and posted on the DOH website, <http://www.doh.gov.tw>, for the reference of all interested parties. Another publication on the nutrition status of schoolchildren is to be released in 2006.

### 2. Nutrition Labeling for Packaged Food

In the recent years, people have become more health-minded. For this, many developed countries have practiced the labeling of nutrition on packaged food. To meet the demands of consumers, to help consumers establish proper knowledge on the nutrition labeling of food, and to provide information for reference in selecting and buying food, a set of regulations governing nutrition labeling for packaged food has been formulated and enforced.

Since 1991, the Corporate Food Industry Research and Development Institute has been commissioned to conduct a six-year study to analyze the ingredients of foods in the Taiwan area and to gradually establish a databank of the nutritional ingredients of food items in preparation for the nutrition labeling. In 2000, the Food Industry Research and Development Institute was commissioned again to conduct a study on the nutrition values for labeling and to supervise industries to enforce the labeling system.

To encourage the voluntary labeling by industries and to promote this system step by step, a set of Regulation Governing Nutrition Labeling for Packaged Foods was implemented on January 1, 2002, requiring all packaged foods on market that make nutrition claims to carry nutrition labeling. Beginning January 2003, beverages and dairy products were asked to practice the nutrition labeling; fat and ice products in January 2004; and bakery and cereals in January 2005. To make the nutrition labeling system more perfect, the dehydrated and preserved packaged food product industries have also been supervised and educated to develop their capability in building data for nutrition labeling.

### 3. Healthy Body

Obesity of adults is assessed primarily by the body mass index (BMI) and the waistline. When the BMI is between 18.5 and 24, the body weight is considered normal; when it comes between 24 and 27, it is

considered heavy; and when it is higher than 27, the person is considered obese (see Table 3-5). The waistline is significantly associated with metabolic diseases. When the waistline of an adult male is larger than 90 cm (35.5 inch), and for an adult female, more than 80 cm (31.6 inch), they are also considered obese.

To help people know correctly about the normal range of their body weight, a registration of body weight of the entire population is conducted, and a five-year project, "Challenging 1824: Healthy BMI for Adults", has been promoted to reach the ideal of BMI 18.5-24 through correct body weight control methods, to reduce hazards of chronic diseases likely to be brought about by overweight or obesity, and thus to attain the goal of "controlling BMI to march toward health".

Adjustment of diet, increasing physical activities or building up good habit of regular exercise are keys to the success of body weight control. For this, the Department has actively organized activities such as weight control classes, food sanitation in schools, and national examination for food handlers to promote the knowledge of the public on food safety and national nutrition, and thus to establish correct concepts on diet and body images. Thus far, some 1,500 lectures on weight control, and 250 classes of weight control have been held. A total of 6,000 people have reduced some 10,300 kg of body weight. Activities related to the "1824" project have been held for 2,100 times for 25,000 people to

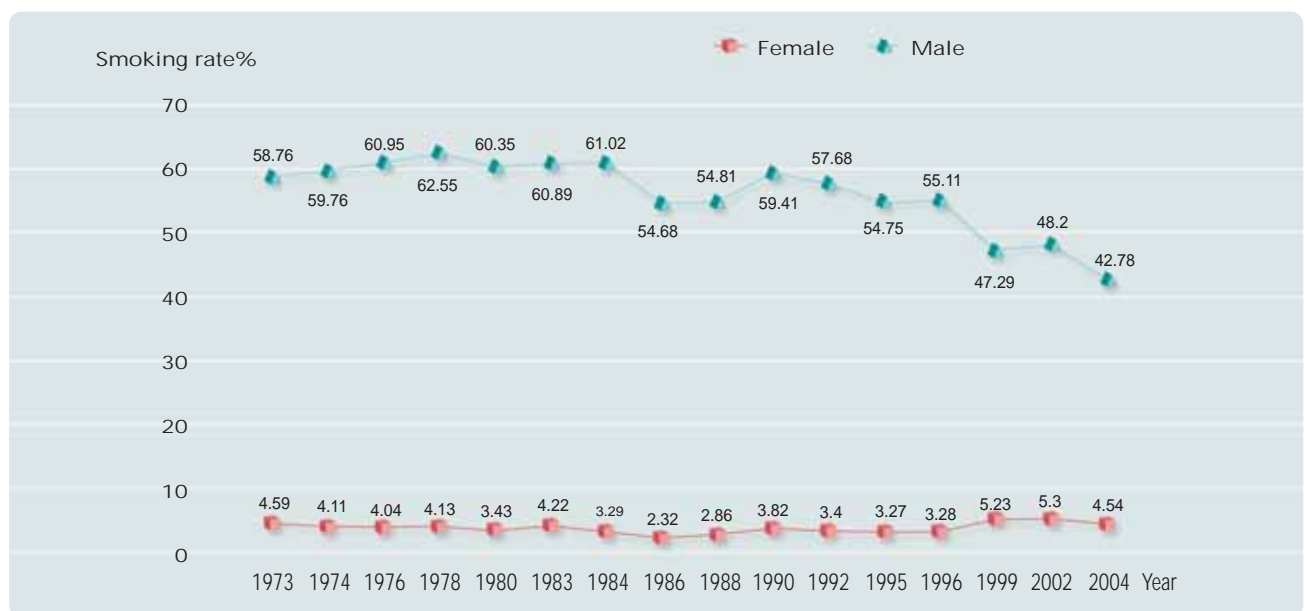
register their body weight. Mobile activities in local areas and communication on mass media have also been held.

## Section 8. Health Education

The major factor that affects health is lifestyle; medical care is only a secondary factor. For this, the Department has actively promoted various health education programs through mass media such as TVs, radios, newspapers, magazines, public transportation means and websites, to systematically disseminate to the public with, by way of clear, lively and vivid approaches, correct information on health and medical care, hoping that every citizen will, in his/her daily life, develop healthy behavior. Through families, schools and the community, a sound foundation for health and happiness is built. Some major achievements are as follows.

1. A health education theme for each month of the year is decided, focusing on important issues such as safe drug use, control of drug abuse, healthy diet, safe sex, cancer screening, and preventive healthcare. Activities are promoted to help the public understand and accept the issues advocated, and to improve their self-care for health.
2. A health education platform is established. In collaboration with the Ministry of Education, a health promoting school project has been promoted.

Figure 3-5 Smoking Rate for Population 18 Years and Above



- Through various activities jointly organized by the Ministry of Education and the Department such as, healthcare administration lectures for college students, health ambassadors, training of seed teachers for health education, and reporting of communicable diseases on campus, mutual liaison and cooperation is strengthened.
- On important occasions and following the themes of the World Health Organization such as, the women's day, mothers' day, fathers' day, the World Tuberculosis Day on March 24, the World Asthma Day on May 7, the Kidney Health Month in June, the Cardiovascular Health Month in September, the World Osteoporosis Day on November 12, the World Diabetes Day on November 14, and the World AIDS Day on December 1, a series of activities have been held.
  - A health education resources website, <http://health99.doh.gov.tw>, has been set up. There are on the website, houses for dynamic life, tobacco hazards control, SARS control, sex education for the youths and cancer prevention. Over 2,000 educational materials have been provided to the general public.
  - Various educational materials have been extensively used to promote the "pro-reproduction advocacy", to urge the public "to reshape the values of reproduction and family", "to share the burdens of marriage and reproduction by both sexes", and "to cherish life and respect the carry-on of family line".
  - An E-Q playhouse (E for epidemics) has been set up. In addition to routine exhibits, following the important issues of disease control of the year, special exhibits are held (including innovative health education materials, prevention and control of emerging communicable diseases and prevention of influenza). Exhibits of interesting and interactive educational materials have attracted some 3,000 audience each year.
  - In collaboration with the Taiwan Science Education Hall of the Ministry of Education, a special area on disease control is installed in the Hall to provide the public and schoolchildren with information. A total of 609,857 people have visited the exhibit during the year. Three camps on disease control have been held to train young "soldiers" in disease control. In collaboration with the Kaohsiung Science and Arts Museum of the Ministry, exhibits on avian flu have been held to build the concepts of disease control deeply in the minds of the public.
  - To safeguard the safe use of Chinese medicines and to assure their quality, an exhibit on the safe use of Chinese medicine and medicinal and poisonous plants was held in September 2005. In November, another exhibit on "visiting qualified Chinese medicine institutions for Chinese medicine care" was held in the MRT building to advocate correct concept on Chinese medicine care.
  - Booklets, manuals and leaflets on major issues such as cancer, diabetes, hypertension, high blood fat, AIDS, enterovirus, safe use of drugs, food safety, nutrition labeling of food have been produced for the general public, and for medical personnel in conducting health education programs.
  - To assure the reliability and correctness of the health and medical care information on websites, the Department has, since 2002, conducted assessment of health information websites. In 2005, the relevant information thus collected was placed on the health information portal of the Department. Through a series of activities, the managers of health information websites are reminded to pay more attention to the contents of the websites to provide the public with correct information, and thus to promote their health physically and mentally.

**Table 3-5 Body Mass Index (BMI)**

Physical Status	BMI=Body Weight(kg)/Height (m <sup>2</sup> )
Light	BMI < 18.5
Normal	18.5 ≤ BMI < 24
Abnormal	Over Weight ; ≥24 ; BMI < 27
	Slightly obese ; ≥27 ; BMI < 30
	Moderately obese ; ≥30 ; BMI < 35
	Extremely obese ; ≥BMI < 35