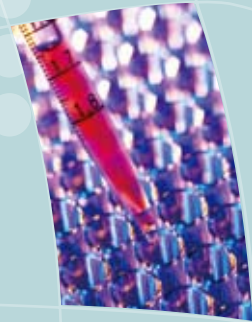


2008~2009

BUREAU OF HEALTH PROMOTION  
Annual Report



# Cherish Life Promote Health



# C O N T E N T S

Message from the Director General	4
-----------------------------------	---

Chapter 1 Introduction	7
------------------------	---

Chapter 2 Healthy Birth and Development	13
---	----

Section 1 Infant and child health	14
-----------------------------------	----

Section 2 Adolescent health	19
-----------------------------	----

Chapter 3 Healthy Aging	23
-------------------------	----

Section 1 Health policies for middle-aged and elderly citizens	25
--	----

Section 2 Prevention of major chronic diseases	27
--	----

Section 3 Cancer prevention and control	37
---	----

Chapter 4 Healthy Living	53
--------------------------	----

Section 1 Tobacco hazards prevention and control	54
--	----

Section 2 Physical activity	59
-----------------------------	----

Section 3 Unintentional injury prevention	61
---	----

Section 4 Visual health	65
-------------------------	----

Section 5 Hearing health	67
--------------------------	----

Section 6 Oral health	69
-----------------------	----

Chapter 5 Healthy Environment	71
-------------------------------	----

Section 1 Healthy cities	72
--------------------------	----

Section 2 Healthy communities	74
-------------------------------	----

Section 3 Healthy schools	79
---------------------------	----

Section 4 Healthy workplace	84
-----------------------------	----

Chapter 6 Special Health Topics	87
---------------------------------	----

Section 1 Women's health	88
--------------------------	----

Section 2 Health of minority groups	94
-------------------------------------	----

Section 3 Health of oil disease patients	102
--	-----

Chapter 7 Health Promotion Infrastructure	103
---	-----

Section 1 Health communications	104
---------------------------------	-----

Section 2 Health surveillance	110
-------------------------------	-----

Section 3 International cooperation	113
-------------------------------------	-----

Appendix	115
----------	-----

Appendix 1 2008 Government Publications of the Bureau of Health Promotion	116
---	-----

Appendix 2 2008 Chronology of the Bureau of Health Promotion	118
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# Preface

## Message from the Director General



In public health, the “three-stage, five-level” preventive medicine framework serves as the guiding principle. In particular, the implementation of health promotion strategies in keeping with environmental changes, as well as individual changes in behavior and attitude, with the aim to actively promote overall public health, is considered the best way forward in public health operations.

When the World Health Organization (WHO) made “Health for All (HFA)” its ultimate objective, it proposed certain health promotion strategies which would extend the responsibility and effort of maintaining public health into political, cultural, economic, environmental and ecological sectors while pursuing health equality for all. The 1978 Declaration of Alma-Ata stressed health as a fundamental human right, while the 1986 Ottawa Charter aimed to attain Health for All by proposing five action plans for health promotion: building healthy public policy, creating supportive environments, strengthening community actions, developing personal skills and reorientating health services. Furthermore, the Bangkok Charter for Health Promotion of 2005 has declared that the world is facing an increasing number of emerging infectious diseases and chronic illnesses. Therefore, governments, international organizations, nongovernmental organizations (NGOs) and private businesses should all pledge more effort toward the promotion of health.

Of the ten leading causes of death in Taiwan, chronic illness is presently the number one threat to public health. In response to a rapidly aging population, the Bureau of Health Promotion (BHP) has drawn up with an “Elderly Health Promotion Project (2009-2012)”. In addition, public health policy is facing many new challenges due to an aging population, lower birth rates, globalization, as well as political, social, economic, environmental and cultural changes. Major public health topics proposed by the WHO include physical fitness, obesity, tobacco control, accident and injury, sex education and environmental health. Thus BHP seeks to fulfill its mission and raise overall health standards by improving national lifestyles, dietary habits, health-related behavior and health literacy.

Looking back at policy making and implementation in 2008, BHP has completed three major missions:

1. Amendment to the Tobacco Hazards Prevention Act and implementation of the new regulations: To promote health and comply with international trends in accordance with the principles of the WHO “Framework Convention on Tobacco Control” (FCTC), the “Tobacco Hazards Prevention Act” was amended and passed in 2007 with the addition of eight new regulations. Additionally, the items pertaining to Tobacco Health and Welfare Surcharges were removed from the Tobacco and Alcohol Tax Law for inclusion in the amended Tobacco Hazards Prevention Act. Based on the tobacco pricing strategy of the Act and its subsequent amendment in 2007, the Tobacco Health and Welfare Surcharges, which increased from NT\$10 to NT\$20 per cigarette pack, was eventually passed by the Legislative Council on January 23rd, 2009.

In preparation for the promulgation of the amended Tobacco Hazards Prevention Act on January 11th, 2009, various print and electronic media were used to publicize the new regulations so as to prepare any venues or individuals





whose operation or daily habits might be impacted. Furthermore, meetings, promotion and educational training concerning the new regulations were provided to central and local administrative units, professional and trade unions and labor groups, and tobacco importers and distributors. The regulations which influence the public the most were the smoking ban on indoor public areas and on indoor offices of three employees or more, labeling of health warnings images and text on tobacco product containers, and display of pictorial health warnings on tobacco-selling premises. For the smooth implementation of the new regulations, BHP held drills with local health bureaus to simulate possible emergency scenarios during inspections. Moreover, a contingency team was set up to oversee the execution and progress of the tasks. The amended Act received strong support from the public. Based on telephone polls three months after the enactment, over 90% of the public was aware of the new regulations and thought that it contributed to improving the environment.

2. Formulation of a National Cancer Control Program and an HPV Vaccine Policy: In response to President Ma Ying-Jeou's political vision for lowering the cancer mortality rate, a second phase of the National Cancer Control Program has been planned (2010-2013). After two cancer control policy advisory committees and five expert consultation meetings, it was decided that the second phase of the program should focus on cancer screening. In order to formulate the HPV policy, a civic group forum was held to discuss whether to use public funds to subsidize HPV vaccination. In addition, a telephone survey was conducted to gather the view points of parents. Finally, an assessment report of the HPV vaccine policy was completed.



3. Innovation of preventive health services: Amendments were made to the “Guidelines for the Preventive Health Care Services Provided by Medical Institutions”. In order to facilitate the analysis and follow-up of screenings, medical care institutions are required to electronically register the results of preventive health services for adults. With the aim to improve quality control, a fee deduction principle is to be applied to National Health Insurance claims where Pap smear samples and pathology tests fail to meet established standards. Moreover, in order to provide a higher quality of preventive health services for both adults and children, a reassessment based on empirical studies is being conducted on screening items, frequency and target groups for the purpose of developing new service programs.

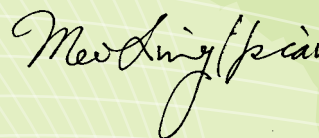
In international cooperation, US health officials and experts were invited to take part in the “2008 Health Promotion Forum” for the first time, an event which strengthened the interaction between the two sides. BHP also attended the third session of the Conference of Parties of the WHO Framework Convention on Tobacco Control. Wishing to contribute to ongoing negotiations and protocol documents, BHP provided a review and recommendation on the drafts for a “Protocol on Illicit Trade in Tobacco Products” and guidelines concerning “Tobacco Advertising, Promotion and Sponsorship” – the documents, which were well received by the representatives, were written in English in collaboration with the Asian Center for WTO & International Health Law and Policy (AWCH) of the College of Law of National Taiwan University.

Additionally, a new edition of the “Women’s Health Policy” was completed and ratified by the Executive Yuan’s Committee of Women’s Rights Promotion in its 28th council meeting on March 5th, 2008. The “Five Year Oral Health Plan for the Physically and Mentally Disabled” was also completed and ratified by the Department of Health. Furthermore, BHP coordinated with pertinent units in the Department of Health on the planning and implementation of a three-year chronic kidney disease prevention and control research program.

The above-mentioned policies are being jointly promoted and implemented by central and local government authorities and units, while involvement by Taiwan-based NGOs and communities is actively encouraged. Through strong partnerships, limited resources may yield optimal benefits that will provide the public with improved health services, a higher quality of living, and better health and welfare.

The mission of BHP is to build a healthy environment for the people of Taiwan by offering pertinent knowledge and concepts that permeates the communities, schools and workplaces to bring about healthy living. Through health education and the establishment of healthy lifestyles nationwide, with the ultimate objective of attaining Health for All in view, it is hoped that progress can be made in the prevention and decrease of diseases and that the vision of “Cherish Life and Promote Health” can become a reality. The 2008-2009 Annual Report is different from that of the preceding years in that it has a special focus on cancer prevention. BHP hereby presents our achievements of the past year with the hope that the people of Taiwan and our friends from abroad can gain a better understanding of our experiences and efforts in health promotion as a member of the international community.

Director General  
Bureau of Health Promotion



September 2009

# Chapter 1

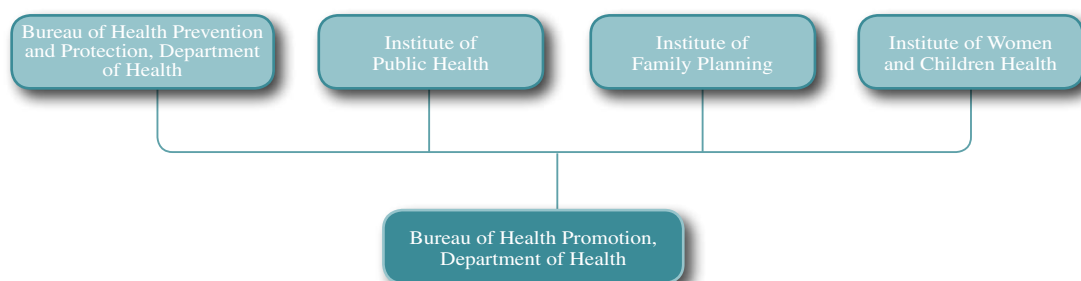
## Introduction



## I. Background

In order to meet operational needs, the Department of Health (DOH) established the Bureau of Health Promotion (BHP) on July 12th, 2001 after restructuring and merging the former Bureau of Health Prevention and Protection under the DOH, the Institute of Public Health, the Institute of Family Planning and the Institute of Women and Children Health (Figure 1-1).

Figure 1-1 Bureau of Health Promotion (before and after DOH reform)



## II. Organizational structure

BHP is headed by the Director General, who supervises the work of the entire bureau. Beneath her are two Deputy Director Generals and one Secretary General. The planning of operations, which corresponds to the human life cycle, is complemented by a supportive environment and national health information databases. BHP is made up of five divisions and two centers, with the administrative units responsible for the planning and implementation of health promotion policies (Figure 1-2).

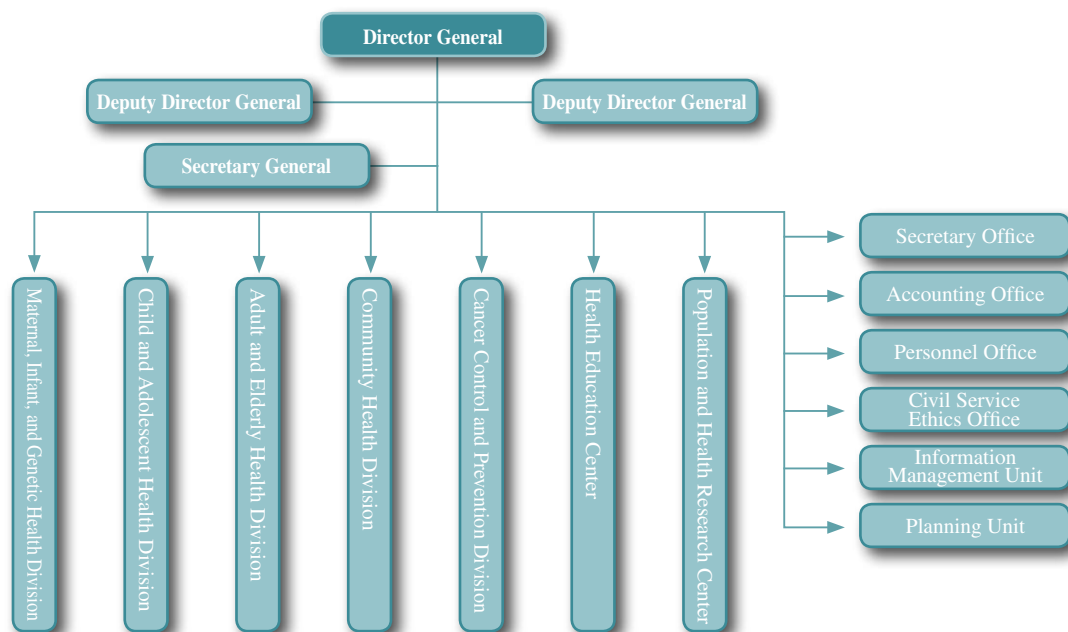
The mission of BHP is to advocate health promotion through the use of a national database of basic health information to formulate a suitable national health policy; to enhance grassroots health care efforts and create a supportive environment to strengthen community action; to enhance the ability of the public through health education to make the right choices for individual health management; to coordinate with county and city health bureaus, medical institutions at all levels and nongovernmental organizations (NGOs) to collectively enforce government health policies in creating a quality healthy environment for all.

BHP's main operations include:

1. Stipulating national health policies and drafting regulations.
2. Planning and promoting community health.
3. Planning and promoting national nutrition.
4. Planning and promoting cancer prevention and control.
5. Planning and promoting maternal and infant health and reproductive health care .
6. Planning and promoting child and adolescent health care .



Figure 1-2 Organizational chart of BHP



7. Planning and promoting health care for middle-aged and elderly people.
8. Planning and promoting prevention and control of special injury and disease.
9. Supervising and auditing local health authorities in their implementation of BHP projects.
10. Overseeing national health matters and international cooperation and exchange.
11. Drawing up and implementing tobacco hazards prevention plans.
12. Promoting other pertinent matters relating to national health.



### III. Health Promotion – Vision and Challenges

To respond to major social changes in Taiwan such as an aging population, declining birth rates and immigration in recent years, there is an urgent need to develop localized national health indicators to accurately assess the health of our citizens. BHP has conducted a number of health surveys and research to establish a database of indigenous empirical data which covers the current condition of national health as well as long-term trends. The database provides crucial information for developing a suitable health promotion model for Taiwan.

It is worth mentioning that the scope of health promotion is vast and cannot merely rely on government efforts. In order to produce the desired results, a collective effort needs to be made among the public business sector, workplaces and government authorities, as well as through international cooperation.

Additionally, Dr. Gro Harlem Brundtland, former Secretary-General of the World Health Organization (WHO), emphasized in the “2000 World Health Report” that the promotion of public health should be integrated with existing medical and health systems in order to enhance its efficiency. He also stated that efforts should be rooted and empowered in the communities which would then bring health promotion into areas such as the workplace, schools and the military.

In response to the WHO's strategy for promoting health equality, BHP has made considerable progress along these lines and will continue the efforts in the future by emphasizing health equality in all its health promotion strategies.

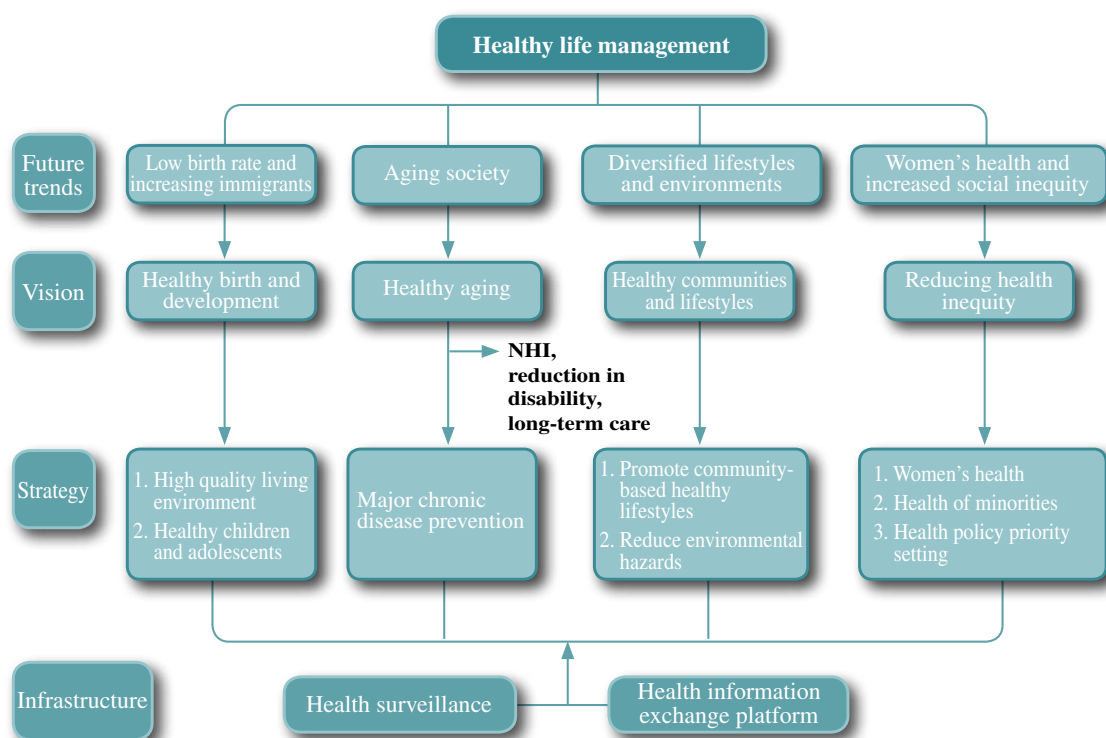
Cancer has become the biggest killer in Taiwan, and BHP hopes that through initiatives such as promoting a non-smoking environment and reinforcing tobacco prevention and control, improvements can be made to public health. Efforts are also being made to build a quality reproductive health environment and strengthen preventive health services to enhance overall national health. By constructing healthy communities, schools, workplaces and cities, and promoting health education and healthy lifestyles, the goal is to gradually lower and prevent the incidence of diseases and realize the vision of “Cherish Life and Promote Health.”

Healthy citizens are an important asset in maintaining the competitiveness of any nation as well as a driving force behind sustainable development. Thus the quality of health care becomes an important indicator of the development of a nation. In order to meet the four major challenges of health – declining birth rates and immigration, an aging population, the diversification of the environment and lifestyles, and the increasing gap in health disparities for women and minority groups, BHP has drawn up the following visions, objectives and strategies (Figure 1-3).

#### 1. Healthy birth and development

- (1) Establishing a substantial network of maternal and child health services, including continued screening of newborns, to enhance the quality of reproductive health services.
- (2) Collaborating with relevant departments in creating a breastfeeding-friendly environment in the workplace and an overall supportive environment for breastfeeding.
- (3) Providing prenatal checkups for expectant mothers as well as preventive health services for children, including topical fluoridation of teeth, to ensure the health of mother and child with early detection and timely treatment.

Figure 1-3 BHP vision and strategies



- (4) Working with the Ministry of the Interior and Ministry of Education to build safe campuses to promote both the physical and mental wellbeing of Taiwan's children and adolescents.

## 2. Healthy aging

- (1) Planning and implementing a Elderly Health Promotion Project (draft) , establishing a system for chronic disease prevention and control, as well as raise the public's awareness and self-care abilities.
- (2) Strengthening community-based health promotion about chronic kidney diseases and integrating a chronic kidney disease care resource system.
- (3) Encouraging consolidation of local medical resources in counties and cities, which incorporates existing screening items such as adult preventive health services and cancer screenings into an integrated community screening service to enhance the detection, referral and following up of patients with chronic diseases or cancers, thereby increasing the overall efficiency of preventive health services.
- (4) Promoting the screening of major cancers and enhancing the quality of cancer diagnosis and treatment; optimizing the use of private resources in establishing support groups for cancer patients while promoting the use of hospice palliative care to enhance the quality of life for cancer patients.

### **3. Healthy communities and lifestyles**

- (1) Promoting the pursuit of healthy living in communities by enhancing the quality of services of local health bureaus; building healthy communities to resolve health problems; establishing a nationwide network of healthy communities, healthy cities, safe communities, healthy workplaces and health promoting hospitals.
- (2) Promoting collaborations between ministries and interdepartmental administrative systems in the central government and relevant units in the local government to work collectively on problems such as environmental pollution and health hazard incidents and to conduct health risk communication.
- (3) Planning health education and promotion programs to encourage the public to adopt healthy lifestyles.
- (4) Amending the Tobacco Hazards Prevention Act and pertinent regulations to provide varied smoking cessation services, as well as subsidizing and auditing the efforts by local governments to promote tobacco hazards prevention as well as prevention and education of health hazards on betel nut chewing in an effort to establish a supportive environment that is free of smoke and betel quid.

### **4. Health equality**

- (1) Providing menopause health promotion and supplying accurate and practical health information through medical institutes, NGOs and information hotlines.
- (2) Enhancing health care services for minorities or special groups in order to lessen the disparity in the level of health.
- (3) Evaluating health policy priorities and allocating resources and funds.

### **5. Health promotion infrastructure**

- (1) Continuing to gather information on health indicators such as health status and trends for specific populations (infants, children, adolescents, middle-aged and elderly people, and women) through the use of surveillance systems in order to improve research and development, methodologies in inspection and data quality.
- (2) Researching and developing health promotion and advocating health service models; conducting health promotion policy evaluation and health-related studies on special groups.
- (3) Establishing a health information network to serve as a platform for information exchange.
- (4) Working on matters concerning international collaboration and exchange.

The "2007 Bureau of Health Promotion Annual Report" recorded the major health promotion activities of the year. BHP adopted the name "annual report" after referencing major institution in Taiwan and abroad and evaluating the feedback from different sources. The content of the "2008-2009 Bureau of Health Promotion Annual Report" includes the major efforts and results during this period. BHP gives heartfelt appreciation to a number of sectors for their suggestions and hopes this report offers both the government and society at large a reference material of value.

Promote Health

# Chapter 2

## Healthy Birth and Development





## Section 1 Infant and child health

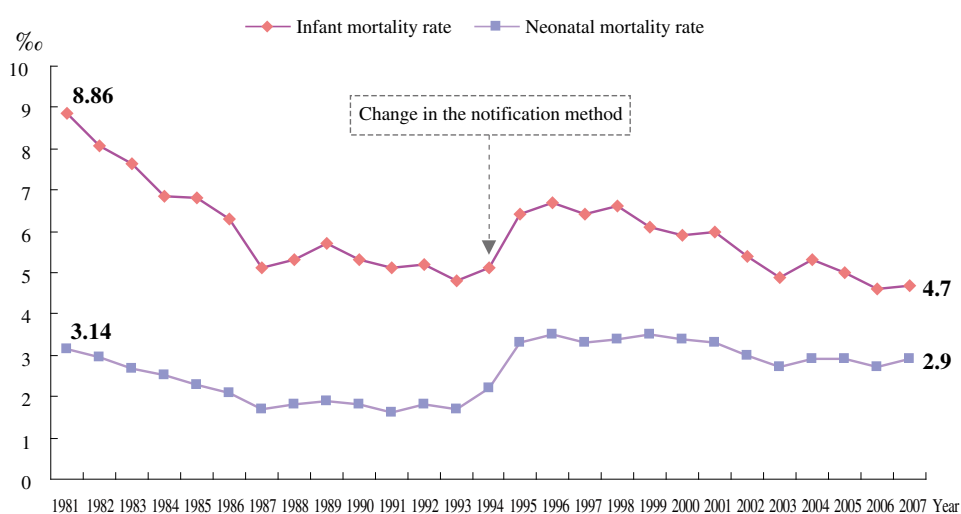
### Current status:

The main cause of death in newborns and infants less than 1 year is conditions originating in the perinatal period. Thus the neonatal and infant mortality rates have always been considered as important indicators in evaluating the quality of maternal and child health in a nation or region. Taiwan's neonatal mortality rate has dropped from 3.1% in 1981 to 2.9% in 2007, and the infant mortality rate from 8.9% in 1981 to 4.7% in 2007 (Figure 2-1).

Although these two indicators have gradually declined over the years, the incidence of premature birth keep unchanged. Instead, it has increased from 3.8% in 1989 to 9.53% in 2007. The incidence of premature babies with low birth weights (less than 2,500 grams) has also risen from 4.4% in 1989 to 8.45% in 2007. In 1995, after the implementation of the National Health Insurance (NHI), the universal health care system in Taiwan, prematurity were included in the category of catastrophic illnesses. Subsequently, the survival rate of premature babies with very low birth weights (less than 1500 grams) rose from 60.0% in 1995 to 83.2% in 2006.

Child developmental delay is associated with low birth weight or congenital metabolic disorders, while early detection and early intervention reduce the possibility of long-term physical and mental disabilities. Currently the coverage rate of newborn neonatal screen in Taiwan is over 99%. However, the number of reported cases of developmental delay is relatively low. In 2007, the number of cases reported of children between 0-6 years old was 14,250, among which 7,637 cases were reported by medical institutions and 2,410 cases by social welfare institutes. Of the reported cases, 51% were children between 3-5 years old. Moreover, the prevalence of bilateral congenital hearing impairment in

Figure 2-1 Neonatal mortality rates and infant mortality rates in recent years



Source: Statistics Office, Department of Health

newborns is approximately 3%. According to a survey conducted in September 2007, there is total 1,248 institutions where prenatal services are available. Up to 28.69% delivery institutions (163 out of 568) are able to provide the service of hearing screen for newborns. In recent years, the coverage rate of hearing screen for pre-school children has reached 76.2%.

To promote healthy growth and development of infants and children, BHP has actively advocated a policy of breastfeeding. The exclusive breastfeeding rate in the first month has increased from 5.4% in 1989 to 54.3% in 2008. Total breastfeeding rate in the first month has also increased from 26.6% in 1989 to 72.9% in 2008. Both indicators have improved significantly.

In order to promote the healthy growth and development of infants and children, a comprehensive health care system is mandatory aside from preventive care programs. Therefore, there needs to be continuous efforts in providing a complete health care system. To this end, we have drawn up the following major objectives:

### Objectives:

- (1) Neonatal screening rate for congenital metabolic disorders to achieve over 99%.
- (2) The utilization rate of preventive health services for children to reach 67% with development screening rate for children under 3 years old to reach 30%.
- (3) Breastfeeding rate: Adopting the recommendations of the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), exclusive breastfeeding should be initiated timely and continues for the first six months of life. At six months, appropriate foods should complement breastfeeding for up to two years or more. The following targets are set for completion by the end of 2010: the exclusive breastfeeding rate gross breastfeeding rate in the first month up to 60% and 80% respectively, and the exclusive breastfeeding rate and gross breastfeeding rate in infants less than 6 months up to 20% and 40% respectively.

### Policy implementation and results:

The health issues for infants, children and adolescents of next generation will be more diversified and complex. In policy planning, the characteristics of each target group should be taken into account. We attempt to integrate resources and to establish a comprehensive health care system, aiming to build a healthy, safe and supportive environment. The directions of planning include the following:

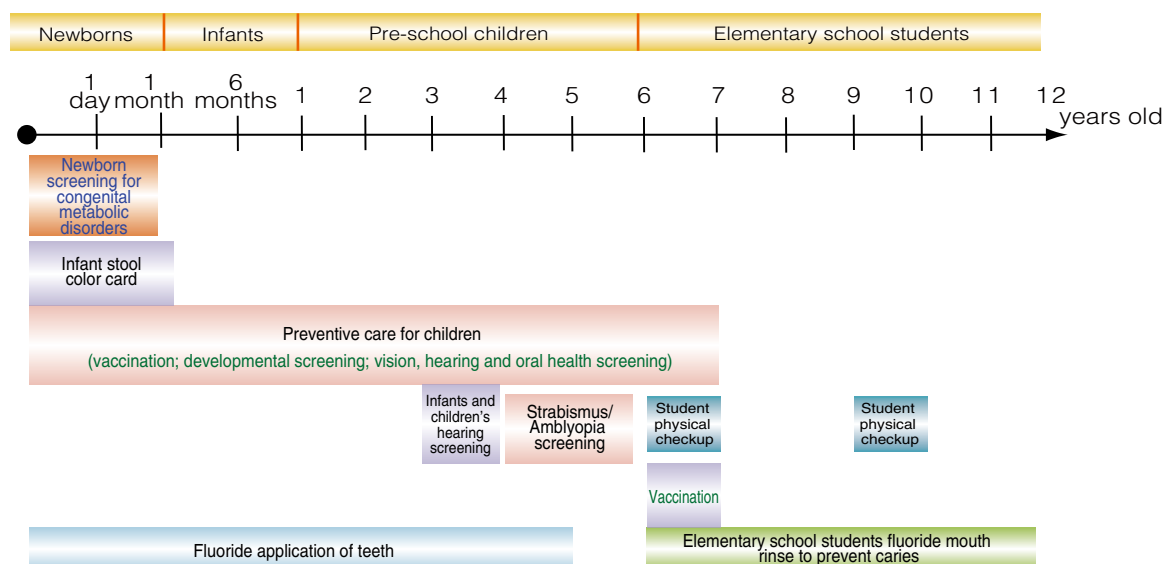
#### 1. Integration of organizations and resources:

On March 29th, 2006, the "Children's Health Promotion Council of the Department of Health" was initiated to develop prospective health policies for children as well as facilitate communication and integration between the government and NGOs. The Council's primary goals include assessing and developing health policies for children; coordinating across ministries and departments regarding children's health policies; reviewing children's health priorities; reviewing improvements in children's health and safety network; propagating children's health education; and encouraging researches and new technology development for child health.

#### 2. Construction of comprehensive health care services

A summary of major child health policies in Taiwan is presented (Figure 2-2) with selected services detailed as follows:

Figure 2-2 Preventive care for Infant and children



### (1) Implementing birth notifications

Birth notification facilitates prompt, accurate and comprehensive understanding of the changes in births and population, enhances the efficiency of maternal and infant health care services as well as increases the accuracy of demographic data concerning newborns. Since 1995, Taiwan has implemented a nationwide birth notification policy; by 2004, this reporting system is operation electronically. To maintain information security and safeguard against hackers, Healthcare Certification Authority (HCA) has been incorporated into the "Online Birth Reporting System."

Presently Taiwan's birth notification rate has reached 99.9%; according to birth notification system data as of January 15th, 2009, there were 198,551 births in Taiwan in 2008 with 196,372 live births and 2,179 stillbirths. These data can be used as reference for planning reproductive health policies, strategies and services.

### (2) Newborn screening services

Since 1985, there has been nationwide promotion of newborn screening services; during 1997-2007, the annual screening rate was over 99%, enabling timely treatment and genetic counselling, as well as subsequent prevention of permanent sequelae. In 2008, 196,234 newborns were screened (coverage rate 98.7%), and cases with following diseases were screened out: 3,829 cases of glucose-6-phosphate dehydrogenase deficiency (G6PD, also known as favism), 180 cases of congenital hypothyroidism, 34 cases of congenital adrenal hyperplasia, 6 cases of phenylketonuria (PKU), 2 cases of homocystinuria, 1 case of isovaleric acidemia, 0 case of maple syrup urine disease (MSUD), 4 cases of galactosemia, 4 cases of methylmalonic acidemia, 13 cases of Type I glutaric acidemia and 9 cases of medium-chain acyl-CoA dehydrogenase deficiency (Table 2-1).

**Table 2-1 2008 Newborn screening abnormal cases (196,234 cases screened)**

Screening item	Incidence	Number of abnormal cases
Glucose-6-Phosphate dehydrogenase deficiency (G-6-PD)	1 : 61	3,829
Congenital hypothyroidism (CHT)	1 : 2,067	180
Congenital adrenal hyperplasia (CAH)	1 : 9,440	34
Phenylketonuria (PKU)	1 : 31,415	6
Homocystinuria (HCU)	1 : 127,056	2
Isovaleric acidemia (IVA)	1 : 67,131	1
Maple Syrup Urine Disease (MSUD)	1 : 302,091	0
Galactosemia (GAL)	1 : 272,262	4
Methylmalonic acidemia (MMA)	1 : 151,046	4
Type 1 glutaric acidemia (GA I)	1 : 33,566	13
Medium-chain Acyl-CoA Dehydrogenase deficiency (MCAD)	1 : 67,131	9
Total		4,082

### (3) Child preventive health care services

For comprehensive health care and for early detection of diseases, BHP annually subsidizes medical institutions to provide periodic preventive care services for children under 7 years of age. Since 2002, the utilization rate of child preventive health care services were approximately 70%, 50% in primary care clinics and the remaining 20% in medical centers, regional hospitals and local hospitals. In 2008, an estimated 1.2 million person-times received these services, accounting for 66.4% of qualified person-times for examination.

To improve the utilization and quality of child preventive health care services, BHP has drawn up a "New Generation Child Preventive Health Care Service Program." The program aims to review the less frequently used items and service timeline in order to strengthen child development screening, and to integrate the medical resources of primary care in order to provide more diversified services. Additionally, the Program approves city and county health bureaus to set up preventive health care outreach services for kindergartens and preschools in order to provide periodical surveillance and statistical analysis of the outcomes of child preventive health care services. In the future, institutes which refer suspected cases with developmental delay would be awarded after diagnosis of developmental delay.

### (4) Child Developmental Screening and Case Management Plan

Since 2003, county and city health bureaus have been assigned to conduct Child Development Screening and Case Management Plan." In 2008, a total of 323,929 person-times were screened with the percentage of 0-3 year olds tested at 53.4%. The number of probably delayed cases was 4,754

(1.4%), and 3,574 were referred for further assessment. Additionally, a pilot study was conducted to encourage primary physicians in local Community Medical Group to participate the services of child preventive care and to improve the quality of developmental screening.

#### (5) Establishment of a breastfeeding-friendly environment to increase breastfeeding rate

- a. Establishing Baby-Friendly Hospital Initiative (BFHI) Accreditation to alter the operation and practices of health care facilities, including putting an end to the supply of low-cost or free formula milk to create an environment where breastfeeding becomes the norm so as to provide newborns with the best possible start in life. The number of Baby-Friendly Hospital Initiative receiving accreditation jumped from 38 in 2001 to 94 in 2008. In certified medical institutions, the rate of exclusive breastfeeding one month after birth increased from 27.4% in 2002 to 44.7% in 2008 (Table 2-2).

Table 2-2 Results of accreditation for mother-infant friendly hospital

Item \ Year	2001	2002	2003	2004	2005	2006	2007	2008
Number of Hospitals passing certification	38	58	74	77	81	82	94	94
Breastfeeding rates, 1 month *(%)	—	69.0	69.8	77.3	79.7	82.1	81.9	84.0
Exclusive breastfeeding rates, 1 month**(%)	—	27.4	22.8	35.1	37.0	39.9	41.8	44.7
coverage rates of BFHI (%)	—	—	—	39.2	40.8	41.3	47.4	46.3

**Note: \* Percentage of one-month old babies still breastfed (includes exclusive breastfeeding or a mixture of breastfeeding and formula milk) of subjects surveyed.**

**\*\* Percentage of one-month old babies exclusively breastfed (fed only breast milk and vitamin, mineral or medicines are allowed) of subjects surveyed.**

- b. Setting up an information hotline (0800-870870) for questions related to breastfeeding. In 2008, a total of 7,051 calls were made to the hotline. Additionally, a breastfeeding website has been set up to provide both medical professionals and the general public with information concerning breastfeeding. The number of hits so far stands at 396,251, while 13 new counselors have received basic training to answer the hotline.
- c. Training seed instructors on breastfeeding knowledge to improve the professional technique of medical personnel in educating mothers on breastfeeding. In 2008, a refresher course was held for instructors. Three sessions were held with the participation of 60 seed instructors in all.
- d. Continuing to strengthen the collaboration across ministries and departments to create breastfeeding-friendly workplaces, such as working with county and city health bureaus to assist companies to set up breastfeeding rooms. In 2008, BHP and the Council of Labor Affairs jointly held "Gender Equality in Employment Law and Sexual Harassment Prevention Seminars" to establish a friendly breastfeeding environment in the workplace; a total of 20 sessions were held with 1,973 participants.

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## Section 2 Adolescent health

### I. Sex education

#### Current status:

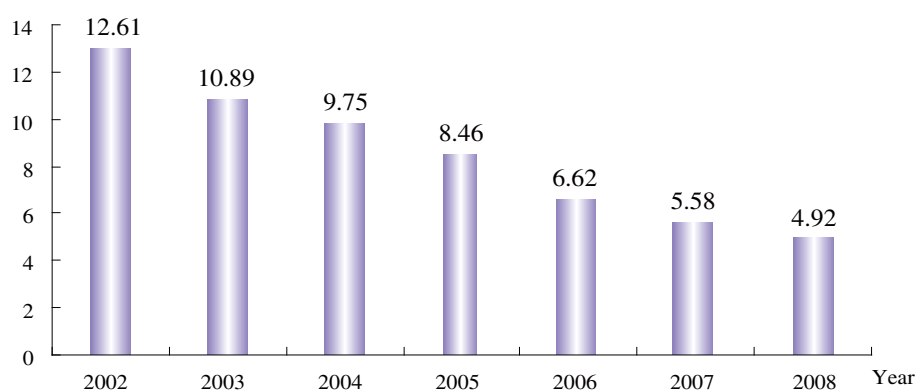
With the advent of better socio-economic conditions, rapid transmission of information and changes in values, adolescents in Taiwan are engaged in an increasing number of behaviors that are detrimental to their health, including smoking, teenage pregnancy and abortion, drugs, sexually transmitted diseases such as AIDS, and obesity as a result of improper diet.

As part of the “Teenager Affairs Promotion Task Force of the Council of Social Welfare of the Executive Yuan,” BHP is the contact window for the DOH in promoting adolescent health issues among other ministries and departments; BHP is also the authority in charge of issues regarding the sexual health of adolescents and tobacco hazards prevention. Notably, studies conducted by BHP have shown that two top problems among the adolescents of Taiwan in the recent years are a more liberal attitude toward sex and an increased incidence of pregnancies out of wedlock.

According to a 2007 survey on the health behavior of senior high school, vocational school and junior college students, the percentage of using contraception when recently engaged in sexual intercourse was 68.9% for males and 76.5% for females. Moreover, according to surveys conducted by BHP in 1995, 2000 and 2007, the incidence of sexual intercourse on campus among senior high school, vocational school and junior college students was 10.4% (1995), 13.9% (2000) and 14.7% (2007) for males and 6.7% (1995), 10.4% (2000) and 12.7% (2007) for females. These numbers clearly indicate an upward trend in sexual activity among adolescents. According to the 2007 statistics by the Ministry of the Interior, adolescent fertility rate among girls 15-19 years of age was 5.6‰, which was a significant drop from 13‰ in 2002.

Early sexual activity may lead to unexpected pregnancies for adolescents, who are not yet financially stable, or physically and emotionally mature. For adolescents to have children may influence personal development as well as produce an adverse effect on child-raising and family structures. Thus underage pregnancy is an important health issue that cannot be ignored.

Figure 2-3 Fertility rate (‰) of 15-19-year-old adolescent in Taiwan



Source: Population Statistics by the Ministry of the Interior

## Objectives:

In the sexual health of adolescents, fertility rate among old girls 15-19 year and the use of contraception by adolescents are important indicators. The objectives are to progressively reduce the child-bearing rate among girls 15-19 years of age by 0.05‰ per year, and progressively increase the rate of contraception among adolescents by 1% per year.

## Policy implementation and results:

Subtle physiological and psychological changes take place in the transformation from adolescence into adulthood. At this juncture, it is important for qualified professionals to provide complete physical and mental health care services that include diagnosis and treatment, referrals and counseling as a way of expressing proper concern for the health and development of adolescents with the hope that it may lower the incidences of underage pregnancy and increase the use of contraception.

Related strategies and results are briefed in the following:

1. Adolescent physical and mental health consultation and counselling services: Through 13 hospitals and the service sites of the Teacher Chang Foundation in eight counties, physical and mental health care, diagnosis and treatment, and consultation and counseling services are provided to adolescents, with the utilization at 4,666 person-times. A total of 135,038 person-times attended 945 rounds of community health education seminars.
2. Adolescent reproduction health consultation and counseling "Teen's Happiness No. 9" :10 hospitals are involved in the program, including the Taichung Hospital. A total of 1,156 adolescents received the outpatient services, while 874 utilized the phone services.
3. Adolescent Sex Health Teaching Resource Services, Website and Management Program
  - (1) "Young website" – a website for adolescents (<http://www.young.gov.tw>): The website has received 400,000 hits since its inception. BHP also offers two hours of online consultation via e-mail and instant messenger (MSN), which has served 1,210 person-times.
  - (2) Training and campus tours: Training for sex health seed instructors called "Taking Control of Desire" was held in northern, central and southern Taiwan, which trained 355 perporis. Thirty sessions of "Parent Sex Health Campus Tour Seminar" were held around Taiwan in which 2,361 parents participated.
4. Adolescent web Counseling Service Program: web counseling services on sex education for adolescents are being offered for the first time. The utilization of the services was 2,035 person-times. Three rounds of the video counselling workshop were held in northern, central and southern Taiwan and 15,000 leaflets were distributed to schools at all levels.
5. "Community Pharmacy Adolescent Sex Health Consultation Service Program": Pharmacists from 150 community pharmacies underwent the training which enabled them to provide consultation on sex education and related information to adolescents. A total of 300 educational seminars were also held in elementary schools, junior and senior high schools, and vocational schools as well as in local communities.
6. Personnel training: The fourth "Teenage Sex Education Seminar" was held to help local county and city health bureau workers gain a better understanding of sex education; a total of 35 people took part.

## II. Campus tobacco hazards prevention and control

### Current status:

In 2006, the smoking rate among junior high school students was 7.49.% (9.68% for males and 4.66% for females), and the rate for first to the third year students (seventh to ninth graders) was 5.3%, 7.9% and 9.2%, respectively. There is an obvious upward trend in the smoking rate as the year increased. In 2007, the smoking rate among senior high school and vocational school students stood at 14.8% (Table 2-3) (19.27% for males and 9.12% for females) which shows a tendency to decrease compared to the numbers in 2005; however, the smoking rate among teenage girls has increase. Moreover, with 35.2% of senior high schools and vocational schools and 23.3% of junior high schools exposed to second-hand smoke, efforts still need to be made in establishing smoke-free campuses.

Table 2-3 Comparison of historical records on smoking rates of teenagers

Youth Survey		Junior high school students		Senior high and vocational school students	
		2004	2006	2005	2007
Smoking rate	Overall	6.6%	7.5%	15.2%	14.8%
	Male	8.5%	9.7%	21.1%	19.3%
	Female	4.2%	4.7%	8.5%	9.1%

### Objectives:

For detailed information, please refer to I. Health promoting schools under Section 3 Healthy schools in Chapter 5 Healthy Environment: Section.

### Policy implementation and results:

#### 1. Promotion of smoke-free campuses through Health Promoting Schools:

- (1) In 2007, a total of 773 schools participated in the Health Promoting School plan to promote smoke-free campuses. In 2008, the smoking ban was expanded to include all schools at the senior high school and vocational school level and below in coordination with the plan to advocate Health Promoting Schools. Through the health promoting school platform, a pilot plan for campus tobacco hazards prevention and control was set up in five elementary, junior high, senior high and vocational schools in two counties and cities to establish a model for promoting smoke-free campuses.
- (2) Strategies adopted by schools to promote tobacco hazards prevention on campuses include the following:
  - a. School tobacco hazards policies: setting up tobacco hazards prevention promotion task forces, banning smoking for students, faculty and other individuals.
  - b. Tobacco control health services on campuses: providing smoking cessation services and information for students and staff.
  - c. Tobacco hazards health curriculum and activities: encouraging teachers to develop teaching materials and aids for tobacco hazards prevention as well as designing anti-smoking curriculum for the school setting for incorporation with the teaching activities of different subjects.

- d. Community integration: forming alliances amongst caring businesses to refuse tobacco sales to adolescents, educating parents on the hazards of tobacco use, promoting smoke-free homes and community alliances.
  - e. Physical environment of campus tobacco hazards prevention: posting “No Smoking” signs on campus, designating restrooms as non-smoking areas, building tobacco control education databases and improving teaching facilities.
  - f. Social environment of campus tobacco hazards prevention: forming anti-smoking student clubs and organizations, advocating the idea of anti-smoking ambassadors, and enhancing counseling and support for individual smoking cases.
- (3) Analysis of tobacco hazards prevention promotion on campus for the academic year 2007-2008 by level of schools (see figure below):

	Survey on student smokers (%)	Survey on student smoke cessation (%)	Percentage of student smokers joining smoke cessation programs (%)		Percentage of teachers and staff joining smoke cessation programs (%)	
			Before	After	Before	After
Elementary school	44.4%	20.0%	5.62	6.84	18.44	27.75
Junior high school	43.8%	31.0%	59.92	68.05	16.01	31.43
Senior high and vocational school	29.3%	24.2%	65.39	67.56	---	---

## 2. Implementation results of tobacco hazards prevention by model schools following the campus tobacco hazards prevention pilot plan:

- (1) In preparation for the new Tobacco Hazards Prevention Act which was promulgated on January 11th, 2009, advocacy campaigns were conducted on campuses in advance through the use of LED signs, periodicals and the Internet, as well as promotions during administrative meetings to give teachers, students and visitors a clear understanding of the amended Act.
- (2) No-smoking signs and anti-smoking posters were put up in conspicuous locations such as on school entrances, offices, meeting rooms and training facilities.
- (3) Tobacco hazards prevention advocacy activities were held, including speeches, testimonials by people who successfully quit smoking, academic contests (anti-smoking essay and story-telling contests), CO detection activities, lung capacity checks, poster designs, anti-smoking rallies, pan-Taiwan smoke-free environment support run, cycling groups for anti-smoking rides and a tobacco control advocacy bicycle clothing design competition.
- (4) Community relations were reinforced: Activities that were held included parent-teacher conferences, symposiums for parents and parent life skills workshops for the purpose of soliciting support from parents for the certification of smoke-free homes, establishing alliances for a smoke-free community alliances and holding community awareness activities.
- (5) A four-level smoking counseling system for students was set up: Under this system, schools provide counseling to students caught smoking on campus instead of giving demerits. In the first three instances that the student is found smoking, records are made; upon the fourth occurrence, a demerit is given.
- (6) Based on an assessment of needs, as well as smoke-related knowledge, attitudes and behavior of students and teachers, activities related to tobacco hazards prevention are to be held during the semester.
- (7) Parent-child reading materials related to tobacco hazard control were developed.

# Chapter 3

## Healthy Aging





The WHO advocates “active aging” with the aim of making the aging process a positive experience by encouraging elderly citizens to not only pay attention to their health but also pursue spiritual growth by staying active in social, economic and cultural affairs. Active aging allows the retired elderly and disabled elderly to continue to take part in family, peer and community activities to maintain an active lifestyle.

Since 1993, Taiwan has officially become an aging society, with 7.1% of the total population aged 65 or older; since 2008, the number of elderly citizens has reached 2.402 million or 10.43% of the total population. As the number of the elderly rapidly increases and the number of middle-aged citizens steadily climbs year by year, the status of their health produces a wide impact on society; thus health promotion and disease prevention issues for the middle-aged and elderly population are gaining prominence. It is hoped that by decreasing the incidence of diseases among the middle-aged and elderly population, the threats and other negative influences caused by diseases can be controlled or reduced so that the middle-aged and the elderly can enjoy a better quality of life and continue to contribute to the society.

Mortality as a result of aging: According to statistics, among the 10 leading causes of death in Taiwan in 2007 (Figure 3-1), chronic diseases such as malignant neoplasms, heart diseases, cerebrovascular disease, diabetes, nephritis, nephritic syndrome, nephrosis and hypertensive disease are all common problems encountered in the aging process. These diseases account for around 60% of total mortality. Thus the government needs to heed the severity of the situation and provide health screenings, early detection of diseases and preventive measures for major chronic disease and cancer prevention, in order to proactively create a supportive environment for healthy aging in Taiwan.

**Table 3-1 Ten Leading Causes of Death in 2007**

Rank	Cause of death	Number of deaths	Crude mortality rate*	Percentage difference from last year
1	Malignant neoplasms	40,306	175.9	5.6%
2	Heart disease	13,003	56.7	5.4%
3	Cerebrovascular disease	12,875	56.2	1.8%
4	Diabetes mellitus	10,231	44.6	5.2%
5	Accidents	7,130	31.1	-11.4%
6	Pneumonia	5,895	25.7	8.8%
7	Chronic liver disease and cirrhosis	5,160	22.5	1.8%
8	Nephritis, nephritic syndrome and nephrosis	5,099	22.2	7.8%
9	Suicide	3,933	17.2	-11.1%
10	Hypertensive disease	1,977	8.6	8.4%

\*Mortality rate is measured in per 100,000 people.

Source: Statistics Office, Department of Health

## Section 1 Health policies for middle-aged and elderly citizens

### Current status:

Health examinations or disease screenings are an effective way to detect diseases early on. Following the introduction of the National Health Insurance (NHI) system in 1995, adult preventive health examination was launched in 1996 which provided screenings for chronic disease, including diabetes, hyperlipidemia, hypertension, liver disease, and kidney diseases. To increase accessibility in recent years, BHP has expanded adult preventive health examination to on-site community service that combines cancer screening to provide integrated screening services with the aim of early treatment and reducing complications and mortality rates.

It is worth mentioning that since 2007, the budget for adult preventive health examination has been paid with the public financed budget of BHP.

On July 31st, 2007, BHP and the Ministry of the Interior issued the “Regulations of Health Examination, Health Screening and Follow-up Service for the Elderly” in accordance with the 2007 amendment to the Senior Citizen Welfare Law.

### Policy implementation and results:

For the early detection, intervention and treatment of chronic diseases, a policy for providing adult preventive health services as well as integrated screening services and blood pressure checks is being pursued. Moreover, in order to increase the public awareness of health promotion for the elderly, local health bureaus are integrating community resources to build working models for health promotion tasks and organize the community “Senior Health Forever Project.”

### Service outcomes:

1. Adult preventive health examination: Services are offered free of charge once every three years to people aged between 40-64 and once every year to people over 65 years old; the services include physical examination, blood test and urine tests, and health consultation. A total of 1.704 million people received the services in 2008 (including 850,000 people over 65 years old) (Figures 3-1 and 3-2). The rate of new detection of abnormal blood pressure, blood glucose and blood cholesterol was 22.7%, 7.8% and 13.1%, respectively. (New detection is defined as having no personal history of hypertension, diabetes or high cholesterol, but anomalies were found in the testing process.)
2. Integrated screening services: Since 2002, county and city governments have been encouraged to integrate regional medical resources through combining NHI with adult health preventive services, cancer screenings and existing screening items to promote integrated onsite community service. In 2008, twenty-one counties and cities have joined the service team and approximately 217,000 people received the services.
3. Blood pressure measurement services: Health bureaus in counties and cities were mobilized to combine regional resources and set up 395 blood pressure measurement stations in different types of locations in the community (e.g. administrative service units, community care sites, activity centers, pharmacies, shopping centers and workplaces). During the implementation period, the service was offered to an average of 90,000 person-times each month and 43,022 people were found with abnormal blood pressure, among which 12,330 (or 28.7%) people found for the first time that they had abnormal blood pressure. These numbers indicate that the blood pressure measurement stations indeed help people with the early detection of abnormal blood pressure.

Figure 3-1 Utilization of adult preventive health examination by gender

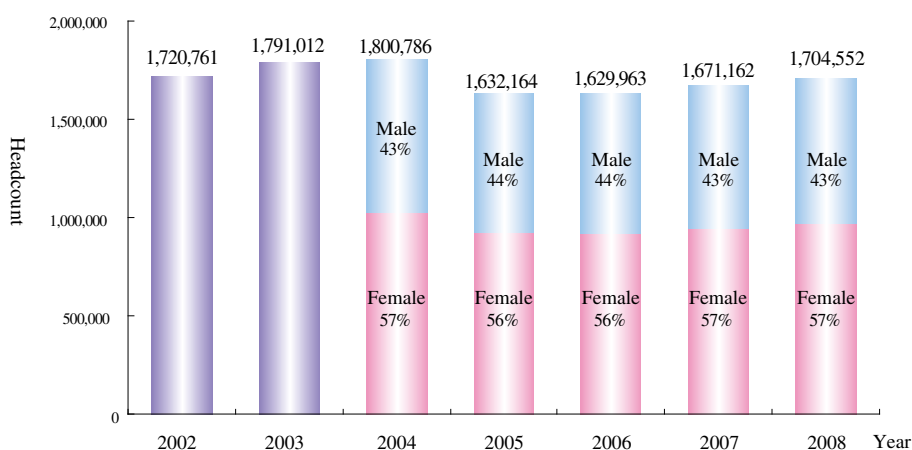
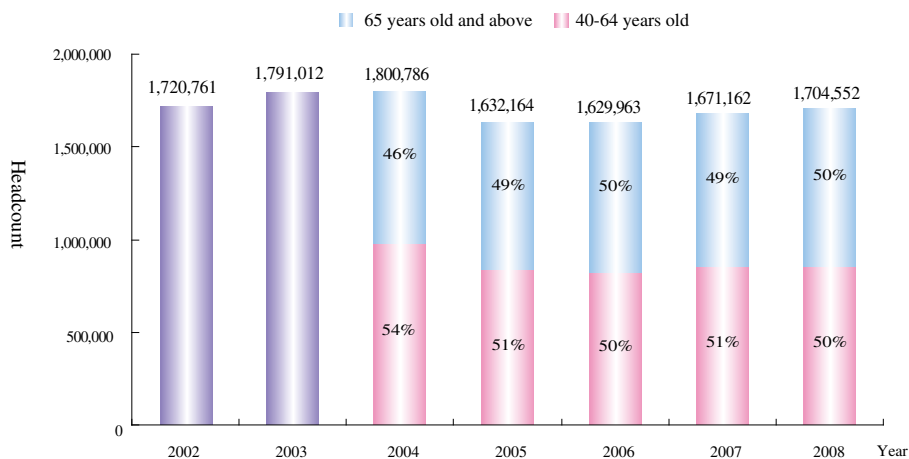


Figure 3-2 Utilization of adult preventive health examination by age



#### 4. Elderly health promotion:

- (1) Implementing elderly health promotion marketing plans: Activities included the broadcasting of 239 television shots, interviews on 2 success stories, and the organization of three "GO senior citizen creativity competitions" which attracted around 650 people.
- (2) Continuing the 2007 "Elderly Health Promotion Model" program, a working model of resource integration of community elderly health promotion was piloted in Taichung City and Changhua County:

- a. In Taichung City, the program was carried out by Central Taiwan University of Science and Technology, which focused on the issues of diet, exercise, oral health care and screenings by establishing assessment targets using a SMART (an acronym for simple and clear diagnosis, measurable results, acceptable content, real objectives and timely checks) program and designing slogans. The outcome demonstrated substantial improvement on various health promoting behaviors; in addition, the “Community Elderly Health Promotion Model Guidelines” handbook was created.
  - b. In Changhua County, the Changhua County Public Health Bureau focused on the issues of diet, exercise, fall prevention tactics and screening, and utilized a RE-AIM evaluation model that used seed personnel’s own experiences to expand the network. The program covered 27.5% of the elderly in the county (521 people) and 80% of the community organizations (16 groups), achieving a satisfaction level of 97% while contributing to the establishment of sustainable strategies, improved behavior and development of intervention tactics for each issue.
- (3) Subsidizing health bureaus in 14 cities and counties to organize Seniors Health Forever Project in 20 communities: In all, 220 groups were integrated to hold activities on topics such as diet, exercise, weight control, chronic disease prevention, medication and home safety, and screening. A total of 47 senior healthy living classes were held, attracting 4,155 people.

## Section 2 Prevention of major chronic diseases

### Current status:

Due to the changes in lifestyles in Taiwan and the westernization of dietary patterns, the prevalence of chronic diseases is gradually on the rise. These trends are demonstrated in two surveys conducted by BHP in 2002 and 2007 on the prevalence of hypertension, hyperglycemia and hyperlipidemia in Taiwan. The prevalence rates of hypertension, hyperglycemia, hyperlipidemia, kidney disease and metabolic syndrome all increase with age. Moreover, compared to men, 3H (hypertension, hyperglycemia and hyperlipidemia) is clearly higher in women over 50 years old. People with 3H have a higher risk of cardiovascular diseases, kidney diseases and death than normal people (Figures 3-3, 3-4 and 3-5).

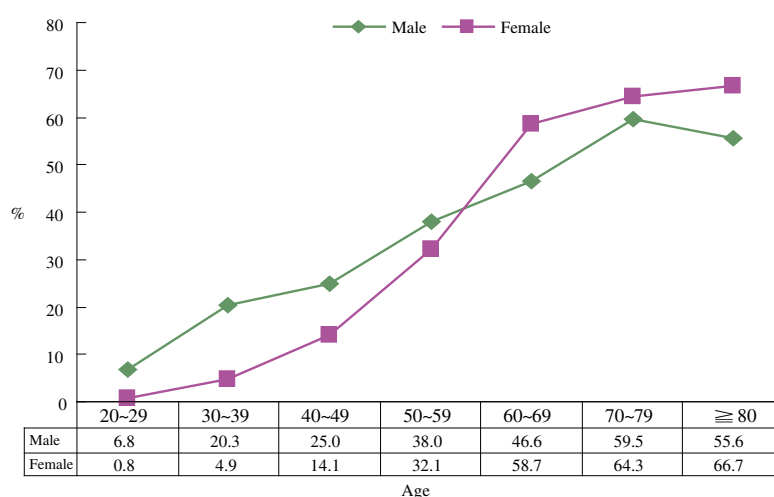
### Objectives:

BHP has classified diabetes, metabolic syndrome, cardiovascular diseases and kidney diseases as the focal point of chronic disease prevention and control, with the prevalence rates of hypertension, hyperglycemia, hyperlipidemia, metabolic syndrome and kidney diseases as objectives. Presently in Taiwan the prevalence people over 20 years old are 24% for hypertension, 8.0% for hyperglycemia, 18.5% for hyperlipidemia, 19.7% for metabolic syndrome and 9.8% for kidney diseases (Stage 1-5).

### Policy implementation and results:

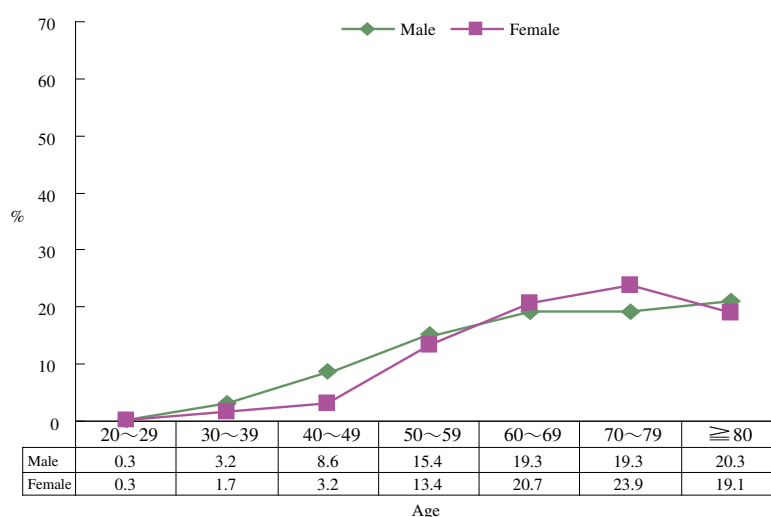
As the middle-aged and elderly population increases rapidly in Taiwan, the number of chronic disease patients rise substantially. While chronic diseases do not pose an immediate threat to life, they are the primary cause for early death. The causes of chronic diseases are diversified and complex, and the occurrence is usually a gradual process. Chronic diseases can happen at any stage in life, and the onset will be accompanied by physical restrictions or disorders, which can undermine the quality

Figure 3-3 Prevalence of hypertension by gender and age in Taiwan in 2007



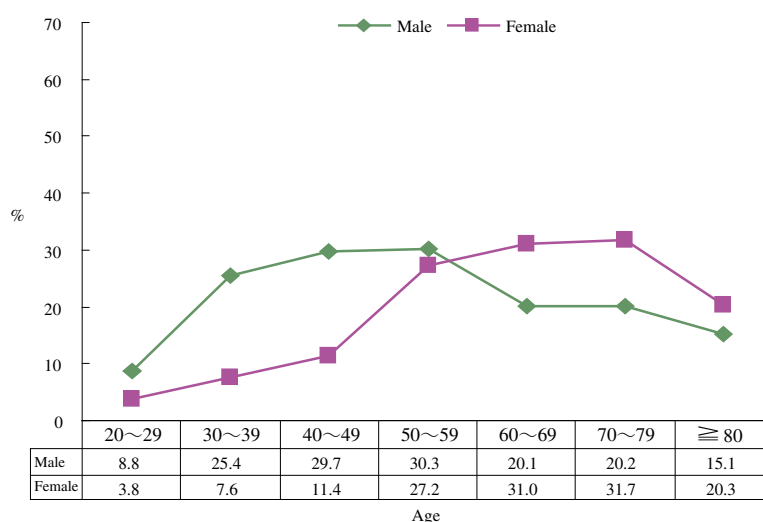
**Note: Definition of hypertension (high blood pressure):** A person who has systolic pressure greater than or equal to 140mmHg or diastolic pressure greater than or equal to 90mmHg or is taking medication for high blood pressure.

Figure 3-4 Prevalence of hyperglycemia by gender and age in Taiwan in 2007



**Note: Definition of hyperglycemia (high blood sugar):** A person with a blood sugar level greater than or equal to 126mg/dL after fasting more than eight hours or is taking medication to lower blood sugar levels.

Figure 3-5 Prevalence of hyperlipidemia by gender and age in Taiwan in 2007



**Note: Definition of hyperlipidemia (high blood lipids): A person who has a serum cholesterol level greater than or equal to 240mg/dL after or a serum triglyceride level equal to or greater than 200 mg/dL after fasting more than eight hours or is taking medication to lower blood lipid levels.**

of life and produce a long-term negative impact on health that deteriorates with time. Thus BHP has established important goals in the prevention of chronic diseases as follows:

1. To enhance and maintain health for the middle-aged and elderly people.
2. To prevent and delay occurrence of chronic diseases
3. To improve the life quality of patients, their families and caregivers

To achieve the goals, important chronic disease prevention policies were proposed based on the “three-stage, five-level” preventive medicine framework and health promotion concepts in public health. Apart from necessary health education and investigatory studies, other major prevention policies include the following:

### 1. Metabolic syndrome prevention and control:

- (1) To enhance public awareness and prevention of metabolic syndrome through promoting “waist circumference within a target range to prevent metabolic syndrome.”
- (2) To conduct metabolic prevention training for administration heads, nurses and dieticians in elementary, junior and senior high schools.
- (3) To assist community blood pressure measurement stations to incorporate waist circumference checks and to prevent metabolic syndrome.
- (4) To coordinate with the Bureau of National Health Insurance to encourage primary medical institutions to participate in the “National Health Insurance Metabolic Syndrome Care Program.”



## **2. Diabetes prevention and control:**

- (1) To hold health education promotional activities in coordination with the World Diabetes Day of the United Nations (UN).
- (2) To establish a diabetes health promotion institution certification system and empower the self care ability for both diabetes high risk groups and diabetes patients.
- (3) To assist diabetes patients self-help groups transform into diabetes supportive growth groups. To encourage diabetes high risk groups to join such organizations and work with the patients to improve self-care abilities.
- (4) To organize diabetes care training for nurses, dieticians and administration heads in elementary, junior and senior high schools.
- (5) To enhance the quality of medical personnel.
- (6) To assist counties and cities in the promotion of the diabetes share care networks in collaboration with the Bureau of National Health Insurance. To encourage medical institutions join the "Pay-for-Performance Program for Diabetes under the National Health Insurance" in raising the quality of care.

## **3. Cardiovascular disease prevention and control:**

- (1) To promote the prevention and control of hypertension by launching salt (sodium) reduction campaigns which educates the public on reducing the intake of salt in the daily diet.
- (2) To promote periodical self blood pressure measurement at home for pre-hypertention and hypertention patients.
- (3) To develop innovative working models by establishing a stroke registration system and using the data to create a patient-oriented integrated community care pilot model in order to prevent the reoccurrence of strokes.

## **4. Chronic kidney disease prevention and control:**

- (1) To raise public awareness of kidney disease and avoid harm caused by drug abuse.
- (2) To improve early detection of high risk groups and actively provide intervention treatment.
- (3) To assist chronic kidney disease (CKD) patients control their disease and help end-stage (uremia) patients to fully prepare for dialysis treatment.

## **Outcomes of individual promotion:**

### **1. Promotion of public health awareness**

#### **(1) Diversified health education – Developing health education materials and manuals:**

BHP developed leaflets, posters, self-care manuals, cardboard cutout human figures and DVDs, to promote prevention and control of metabolic syndrome, diabetes, coronary artery disease, hypertension, kidney disease, asthma, and chronic obstructive pulmonary disease. "Successful Aging" learning materials were also developed for the use of medical staff for educational and promotional purposes, as well as for the reference of the general public.

Additionally, as foreign caregivers and spouses are gradually becoming a major force of care providers in Taiwan for elderly citizens, stroke patients and patients with other related chronic diseases, BHP has published important health education materials on diseases of the middle-aged and elderly population in foreign-languages. Presently there are English, Vietnamese and Indonesian versions of “Diabetes and I,” “Stroke Prevention Guidelines,” “Kidney Disease Care Manual,” “Kidney Health Manual,” and “Chronic Obstruction Pulmonary Disease Self Care Manual.” These materials are available to foreign caregivers and spouses in Taiwan through distribution of health bureaus and medical institutions.

## (2) Diversified promotion channels:

On international chronic disease days such as World Diabetes Day, World Hypertension Day, World Heart Day, World Kidney Day and World Asthma Day, health bureaus, NGOs and community combined resources to hold press conferences, and large-scale promotional activities. Campaigns were carried out through schools, communities, the Internet channels, magazines, radio, television channels, vehicle ads and convenience stores.

Major activities included the following:

- a. On the second World Diabetes Day of the UN in 2008, BHP and the Diabetes Association of the Republic of China along with other groups held a week-long candle lighting activity at the National Taiwan Democracy Memorial Hall. Fairs were held in Taipei and Kaohsiung, which attracted 6,500 visitors. A photography competition was held, of which 23 photographs were selected for prizes and subsequently posted on the global websites of the UN and the International Diabetes Federation in the name of “Taiwan.”
- b. On the 2008 World Heart Day, BHP, the Taiwan Society of Cardiology and the Taiwan Heart Foundation jointly held the “Find Your Risk Factor, Protect Heart Health” activity to provide the public with correct health care concepts and methods with the aim of educating the public on the importance and knowledge of cardiovascular disease prevention and control. A total of 880 people participated in the event
- c. BHP promoted a nationwide salt reduction campaign, the “Excessive salt (sodium) is bad for health” plan, by advocating the notion of restricting daily dietary salt intake to six grams or less (no more than 2,400 milligrams of sodium). The campaign also reminded consumers to check the sodium content on packaged food products before buying. According to survey results of those participating in the campaign, 70% of the respondents said they will pay attention to their daily salt (sodium) intake, and 90% said they will check sodium contents on packaged food products before buying.
- d. In response to the World Kidney Day, BHP and the Taiwan Society of Nephrology held a series of activities across Taiwan on March 9th, 2008, under the theme of “love and protect your kidneys for a healthy life.” Urine screenings and blood pressure measurement, as well as entertainment-education in the form of games, were used to build public awareness of kidney health. A total of 5,729 people participated in the event. The results were posted on the website of the International Federation of Kidney Foundation (IFKF).

## 2. High-risk group health promotion and enhancement of healthy behavior and self-health management ability

### (1) Metabolic syndrome

BHP carried out a marketing campaign for metabolic syndrome prevention with 255 rounds of radio broadcast; a competition for “ideal adult waist circumference cognition” was organized

for school staff members, parents of students and adults to emphasize the importance of ideal waistlines, and seven schools including National Ta Chia Senior High School were awarded prizes; seminars were held for administration heads, nurses and dietitians in elementary, junior and senior high schools with 923 schools taking part (580 elementary schools, 165 junior high schools, and 178 senior high and vocational schools); BHP also assisted the health bureaus in 25 counties and cities to enhance health education for metabolic syndrome prevention by implementing waist circumference measurements at community blood pressure measurement stations.

## **(2) Diabetes high-risk group**

To increase the accessibility of health promotion resources for diabetes high-risk groups, guidance was offered to 436 diabetes patients self-help groups in 25 counties and cities throughout Taiwan, to include diabetes high-risk groups in working with diabetes patients to improve self-care abilities; 239 groups successfully transformed into diabetes support growth groups which are spread out in 229 villages, towns and cities covering 62.2% of Taiwan. Additionally, there are 136 diabetes health promotion institutions which provided services to high-risk groups. Improvements for each item are as follows: 6,774 people (65%) for pre-meal blood glucose, 6,011 people (52%) for blood pressure, 4,639 people (48%) for blood cholesterol, 4,074 people (44%) for waist circumference, 3,120 people for weight loss of two kilograms or more, 5,030 people for more than 30 minutes of exercise per day. Smoking cessation counseling for diabetes patients and high-risk groups is also provided. A total of 12,503 people received counseling.

## **(3) Kidney disease high-risk group**

BHP subsidizes the health bureaus in Taipei County, Changhua County, Tainan City, Kaohsiung County and Pingtung County to conduct community-based renal disease case management programs, which include educational training for staff and health promotion toward the public. Integrated preventive health care services are used as a platform to perform urine screenings for community residents, with referral and follow-up services for people found with abnormalities. There were 317 screenings performed with the participation of 49,342 people, among which 2,807 people (5.7%) were found with stages 1-5 of CKD with a referral rate of approximately 85%; among the 3,703 high-risk cases identified, 2,317 were successfully referred for treatment (a referral rate of 69.5%).

In addition, a Glomerular filtration rate (GFR) calculation tool was developed and a health education leaflet with detailed information about "kidney disease prevention and control" was produced in Paiwan language (an aboriginal language in Taiwan).

# **3. Promotion of patient self-disease-management knowledge and skills**

## **(1) Metabolic syndrome and diabetes**

BHP counseled 25 counties and cities in Taiwan with the promotion of metabolic syndrome and diabetes prevention and control, as well as assisted the Bureau of National Health Insurance to draw up a "National Health Insurance Metabolic Syndrome Care Program" while encouraging the participation of primary medical institutions. An international academic symposium was jointly held by BHP and the Taiwan Association of Diabetes Educators with approximately 7,000 medical practitioners as participants; diabetic care training sessions were organized for nurses and

dieticians in elementary, junior and senior high schools with 1,600 persons attending the training. A total of 136 health promotion institutions provided 812 educators with observation opportunities and internships, while 162,511 diabetes cases accepted in the NHI Pay-for-Performance Program for Diabetes care. BHP counseled diabetes support groups to form the “Taiwan Association for Diabetes Patients (TAPD),” as well as held group health behavioral improvement contests in which prizes were awarded to 37 groups. Around 15,909 diabetes patients improved their condition, 1,185 people practiced in self-monitoring of blood glucose, 1,009 people changed their diet, 1,027 people exercised daily, 808 people improved their blood pressure, 377 people reduced their waistline, 1,274 people lost two kilograms or more, 624 people achieved A1c 7% , and improve self care ability 496 people had A1c 9.5%. These results were shared with at the East Asian Congress of Health Promotion (EACHP) with countries including Japan and Korea and so on.

## (2) Cardiovascular diseases

- a. A stroke registration system was established, which consists of a platform, a standard registration flowchart and a registration information quality mechanism. The registration system was promoted at medical institutions as well as regional and local hospitals across all four regions of northern, central, southern and eastern Taiwan. Between 2006 and 2008, a total of 38 contract hospitals participated in the online registration and more than 30,000 case registrations were completed. Analysis of the user database shows that the confirmed transmission rate of the registrations for northern, central, southern and eastern regions was 98.4%, 93.0%, 99.3% and 97.9%, respectively, while the confirmed transmission rate for medical institutions and regional hospitals was 97.1% and 96.9%, respectively.
- b. To help the public form the habit of blood pressure self-measurement at home, a promotional program has been launched targeting hypertension and pre-hypertension patients to self-monitor blood pressure at home. Nearly 3,000 pre-hypertention and hypertention patients took part in a ten-day home-based self-measurement program; in addition, 650 people were recruited to participate in a four-month program to perform periodical blood pressure self-measurement at home. At the completion of the programs, there was obvious improvement in the knowledge of hypertension prevention and control among the participants, among whom the percentage of blood pressure self-measurement jumped from 19% to 87%, with over 90% (98.3%) expressing willingness to continue the self-measurement practice.

## (3) Kidney Diseases

- a. In an effort to slow down the progression of CKD and assist patients fully prepare for dialysis treatment, an interdisciplinary professional care team model has been established across departments and specialists. Since 2004, the Taiwan Society of Nephrology has been entrusted to operate the “Kidney Disease Health Promotion Institute” which was joined by 77 medical institutions in 2008 and received 14,068 newly enrolled patients. The proportion of the dialysis patients who initiate the treatment with established arteriovenous fistula, and the proportion of patients who receive dialysis as outpatients rather than through hospitalization, have both increased significantly. Moreover, promotion was made

for the Kidney Health Promotion Institute and diversified channels were used to educate the public about kidney disease prevention and control, such as by using television commercial spots and posters.

- b. A case management web system was established to provide patients' registration and treatment information, in addition to integrating CKD databases. By the end of 2008, there were 134 medical institutions and clinics using the system to help over 30,000 patients.

#### **4. Development of strong partnerships and integration with NGO resources in implementation of pertinent projects:**

To prevent the occurrence of chronic diseases and reduce their damage to health, BHP established strong partnerships with industry, other government sectors and academic circles in order to locate local resources with the aim of collectively implementing chronic disease prevention projects or activities. Schools and businesses are encouraged to include waistline measurement in physical checkups; campaigns were held with NGOs to promote cardiovascular disease prevention to heighten public awareness; BHP also works with diabetes support groups promote diabetes prevention and control programs, while encouraging diabetes patients, family members and high-risk groups to participate in the activities to increase their knowledge of diabetes prevention and control, and strengthen self-care abilities to delay the onset or reduce the severity of the disease.

#### **5. Promotion of disease prevention and control efficacy by conducting related investigations and research on major chronic diseases**

- (1) Conducted the "2007 Taiwan Area Hypertension, Hyperglycemia and Hyperlipidemia Follow-up Investigation and Study," which is a two-year investigation plan, targeting 6,600 interviewees who completed the "2002 Survey on the Prevalence of Hypertension, Hyperglycemia and Hyperlipidemia in Taiwan." The study investigated and followed up on family history to obtain the first representative statistics nationwide on the occurrence of 3H (hypertension, hyperglycemia and hyperlipidemia).

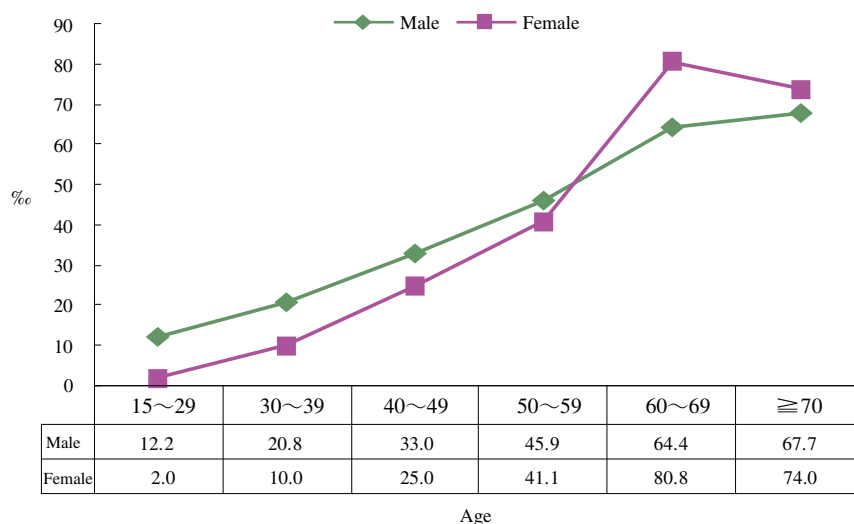
The study reveals the following:

- a. From 2002 to 2007, incidence of hypertension, hyperglycemia, and hyperlipidemia in people over 15 years old (adjusted age based on the 2002 Taiwan population standards ) was 27.5%, 7.1%, and 20.6%, respectively.
- b. In 2007, the prevalence of hypertension, hyperglycemia, total cholesterol (TC), low density lipoprotein-cholesterol (LDL-C), high density lipoprotein cholesterol (HDL-C), and triacylglycerol (TG) in people over 20 years old (adjusted age based on the 2007 Taiwan population standards) was 24.0%, 8.0%, 10.1%, 7.3%, 10.2%, and 14.2% respectively.
- c. Compared to people without 3H, the risk of individuals with hypertension, hyperglycemia or hyperlipidemia getting a stroke is 2.8, 2.9, and 2.4 times higher, respectively; the risks of heart diseases are 1.9, 1.5, and 1.8 times higher; and the chances of getting kidney diseases are 1.7, 2.4, and 1.6 time higher. (Figures 3-6, 3-7 and 3-8)

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- (2) To understand the outcome and quality of the preventive health services for adults, BHP was commissioned to conduct the “National Health Insurance Adult Preventive Health Care Quality Study and Results Analysis” from 2007 to 2008. The findings are as follows:
- Among the participants in the adult preventive health care services, 60% discovered at least one new abnormality, which establishes the effectiveness of the services in helping the public detect diseases early on. The cost of discovering suspected abnormalities is NT\$873 per person.
  - The satisfaction rate for adult preventive health care services was high, with the execution rate of blood and urine tests at 99%; for physical exams and health consultation, the execution rate was 89% and 82%, respectively; however, the execution rate for rectal-anal consultation and breast exams were relatively low.
- (3) An integrated three-year “Chronic kidney Disease Prevention and Control” is expected to be completed by 2011. The plan includes the following four parts: epidemiology research and risk factor monitoring project, early diagnosis technology and localized treatment standard research and development project, developing and establishing complete treatment methods and care models, and medical imbursement and kidney transplant system research.

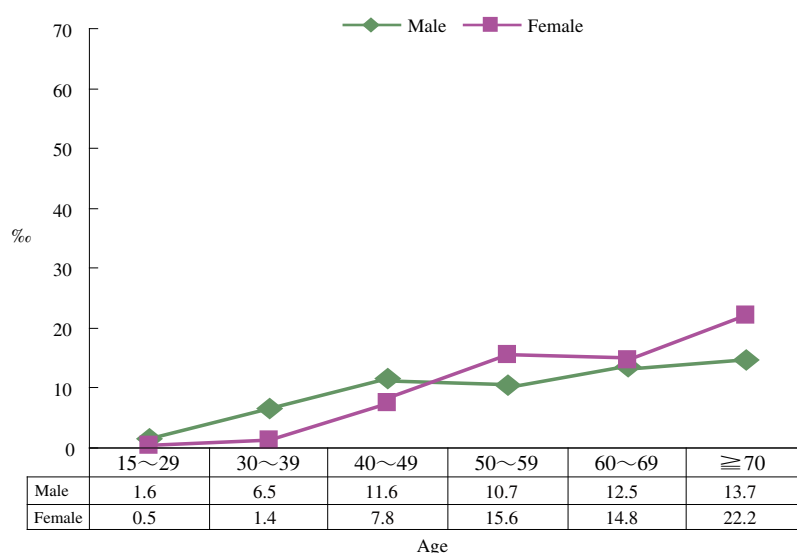
Figure 3-6 Incidence of hypertension by gender and age in Taiwan from 2002 to 2007



**Note: Definition of hypertension: A person who has systolic pressure greater than or equal to 140mmHg or diastolic pressure greater than or equal to 90mmHg or a survey respondent who admit to take medication for high blood pressure. NHI data for 2001-2006 include patients receiving outpatient services or under hospitalization who were reported with a high blood pressure code on record and were given medication for high blood pressure.**

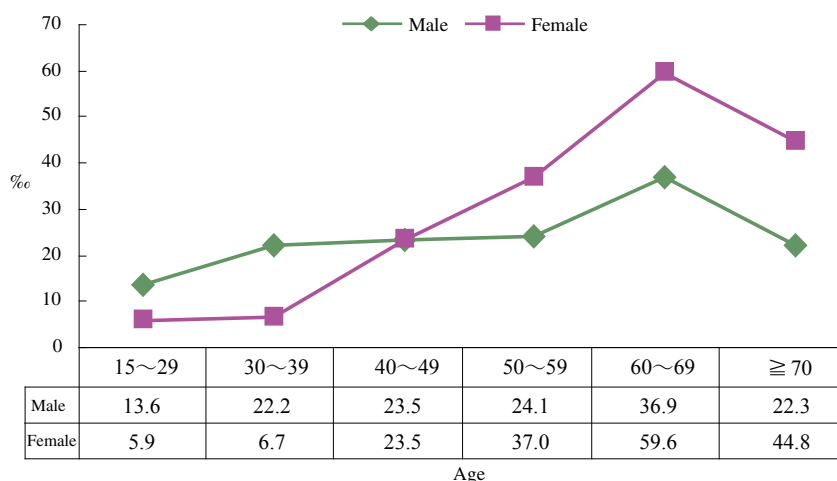


Figure 3-7 Incidence of hyperglycemia by gender and age in Taiwan from 2002 to 2007



**Note:** Definition of hyperglycemia: A person who has a blood sugar level greater than or equal to 126mg/dL after fasting for eight hours or a survey respondent who admit to take medication to lower blood sugar levels. NHI data for 2001-2006 include patients receiving outpatient services or under hospitalization who were reported with a diabetes code on record and were given medication for hyperglycemia.

Figure 3-8 Incidence of hyperlipidemia by gender and age in Taiwan from 2002 to 2007



**Note:** Definition of hyperlipidemia: A person who has a serum cholesterol level greater than or equal to 240mg/dL after or a serum triglyceride level equal to or greater than 200 mg/dL after fasting for eight hours or who admit to take medication for high blood lipids. NHI data for 2001-2006 include patients receiving outpatient services or under hospitalization who were reported with a hyperlipidemia code on record and were given medication for hyperlipidemia.

## Section 3 Cancer prevention and control

The “Cancer Control Act,” which came into effect in 2003, stipulates that BHP periodically convenes the Central Cancer Prevention and Control Conference as well as Cancer Prevention and Control Policy Consultation Commission meetings in order to facilitate vertical and horizontal coordination and communication of operations. BHP has also drawn up the “National Cancer Control Five-Year Program” as a working guideline for 2005 to 2009. The program involves collecting and integrating pertinent cancer prevention information, promoting cancer prevention publicity, conducting screening services, improving cancer diagnosis and treatment quality, and providing hospice and palliative care as well as cancer patient services. The long-term objective is to lower cancer incidence and mortality rates.

### I. Cancer incidence and mortality

In 1979, the DOH gave an executive order requiring hospitals with 50 beds or more to report the epidemiology as well as diagnosis and treatment summaries of new cancer cases in order to establish a cancer registry system. Article 11 of the Cancer Control Act stipulates that “In order to build up a databank related to cancer control, medical care institutions of cancer control shall submit information [relating to newly diagnosed individual cancer case and his/her stage as well as related diagnosis and treatment information] to academic research institutions commissioned by the central competent authority.” This article established the legal basis for a cancer registry.

#### (1) Cancer incidence

The 2006 cancer registry data shows that newly diagnosed cancer cases in that year were 73,293 (42,017 males and 31,276 females) with a crude incidence rate of 320.4 per 100,000 people (362.5 for males and 277.2 for females) and a standardized incidence rate of 268.8 per 100,000 people (309.7 for males and 228.8 for females) with a median age of 63 (65 for males and 59 for females). A comparison of the standardized incidences for cancers between the genders shows that males were 1.4 times more likely than females to develop cancer and were 10 times as likely to develop esophagus and oral cancer, as males were more likely to smoke or chew betel quids (Figure 3-9).

According to the standardized incidence rates, the top 10 cancers in 2006 for Taiwanese were (1) female breast cancer (2) liver cancer (3) colorectal cancer (4) lung cancer (5) prostate cancer (6) oral cancer (7) stomach cancer (8) cervical cancer (9) skin cancer and (10) uterus cancer. The rankings were the same as that of 2005 apart from cervical cancer and stomach cancer switching places (see Tables 3-2, 3-3 and 3-4 for cancer incidence data in Taiwan).

Figure 3-9 Gender comparison of age-standardized incidence rate for major cancers in Taiwan (2006)

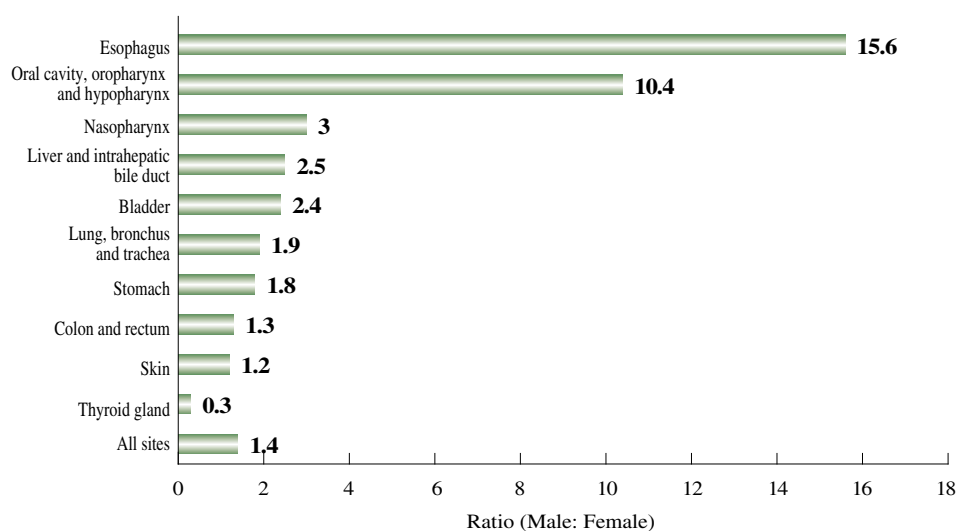


Table 3-2 Incidence of top 10 cancers in Taiwan in 2006

Rank	Primary site	Number of cases	Crude incidence rate	Age-standardized incidence rate
1	Female breast	6,895	61.1	50.0
2	Liver and intrahepatic bile duct	10,092	44.1	37.4
3	Colon and rectum	10,248	44.8	37.4
4	Lung, bronchus and trachea	8,748	38.2	31.4
5	Prostate	3,073	26.5	21.9
6	Oral cavity, oropharynx and hypopharynx	5,352	23.4	19.6
7	Stomach	3,794	16.6	13.6
8	cervix	1,828	16.2	13.2
9	Skin	2,457	10.7	8.9
10	Uterus	1,159	10.3	8.5
All sites		73,293	320.4	268.8

**Note:** 1. Items are ranked by incidence rates, of which the rate for liver cancer was 37.44 per 100,000 people and the rate for colon and rectum cancer was 37.35 per 100,000 people.  
2. Age-standardized rates were calculated by the 2000 world standard population.

Table 3-3 Incidence of top 10 cancers for males in 2006

Rank	Primary site	Number of cases	Crude incidence rate	Age-standardized incidence rate
1	Liver and intrahepatic bile duct	7,617	61.8	53.7
2	Colon and rectum	5,793	50.0	42.7
3	Lung, bronchus and trachea	5,756	49.7	41.5
4	Oral cavity, oropharynx and hypopharynx	4,879	42.1	35.9
5	Prostate	3,073	26.5	21.9
6	Stomach	2,455	21.2	17.6
7	Esophagus	1,624	14.0	12.0
8	Bladder	1,406	12.1	10.1
9	Skin	1,328	11.5	9.7
10	Nasopharynx	1,116	9.6	8.3
	<b>All sites</b>	<b>42,017</b>	<b>362.5</b>	<b>309.7</b>

Table 3-4 Incidence of top 10 cancers for females in 2006

Rank	Primary site	Number of cases	Crude incidence rate	Age-standardized incidence rate
1	Female breast	6,895	61.1	50.0
2	Colon and rectum	4,455	39.5	32.2
3	Liver and intrahepatic bile duct	2,925	25.9	21.6
4	Lung, bronchus and trachea	2,992	26.5	21.5
5	cervix	1,828	16.2	13.2
6	Stomach	1,339	11.9	9.6
7	Thyroid gland	1,257	11.1	9.5
8	Uterus	1,159	10.3	8.5
9	Skin	1,129	10.0	8.1
10	Ovary, fallopian tubes and broad ligament	1,000	8.9	7.5
	<b>All sites</b>	<b>31,276</b>	<b>277.2</b>	<b>228.8</b>

## (2) Cancer mortality

According to the DOH's statistics on causes of death, 40,306 Taiwanese died of cancer in 2007 (25,819 males and 14,487 females), accounting for 28.9% of all deaths. The crude cancer mortality rate was 175.9 per 100,000 people (222.6 for males and 128 for females) while the standardized mortality rate was 142.6 per 100,000 people (184.7 for males and 101.6 for females). The top 10 cancer causes of deaths in Taiwan for 2007 were (1) lung cancer (2) liver cancer (3) colorectal cancer (4) female breast cancer (5) stomach cancer (6) oral cancer (7) prostate cancer (8) cervical cancer (9) esophagus cancer and (10) pancreas cancer. The rankings were the same in 2006 (see Tables 3-5, 3-6 and 3-7 for cancer death data in Taiwan).

**Table 3-5 Top 10 cancer causes of death in Taiwan in 2007**

Rank	Cancer site	Deaths	Crude mortality rate	Age-standardized mortality rate
1	Lung, bronchus and trachea	7,993	34.9	27.9
2	Liver and intrahepatic bile duct	7,809	34.1	28.1
3	Colon and rectum	4,470	19.5	15.6
4	Female breast	1,552	13.7	11.1
5	Stomach	2,474	10.8	8.5
6	Oral cavity, oropharynx and hypopharynx	2,312	10.1	8.3
7	Prostate	1,003	8.6	6.7
8	Cervix	833	7.4	5.8
9	Esophagus	1,438	6.3	5.2
10	Pancreas	1,354	5.9	4.8
	<b>All sites</b>	<b>40,306</b>	<b>175.9</b>	<b>142.6</b>

**Note: 1. Items are ranked by crude mortality rates.**

**2. Age-standardized rates were calculated by the 2000 world standard population.**

**Table 3-6 Top 10 cancer causes of death for males in 2007**

Rank	Cancer site	Deaths	Crude mortality rate	Age-standardized mortality rate
1	Liver and intrahepatic bile duct	5,650	48.7	41.4
2	Lung, bronchus and trachea	5,458	47.1	38.4
3	Colon and rectum	2,558	22.1	18.1
4	Oral cavity, oropharynx and hypopharynx	2,152	18.6	15.6
5	Stomach	1,631	14.1	11.3
6	Esophagus	1,343	11.6	9.8
7	Prostate	1,003	8.6	6.7
8	Non-Hodgkin's lymphoma	801	6.9	5.8
9	Pancreas	776	6.7	5.5
10	Gallbladder	604	5.2	4.3
	<b>All sites</b>	<b>25,819</b>	<b>222.6</b>	<b>184.7</b>

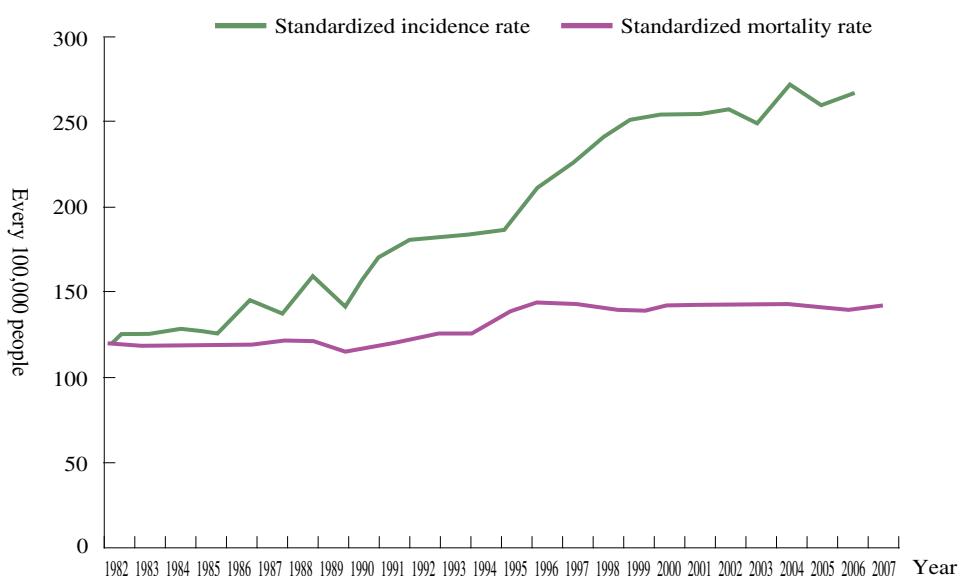
Table 3-7 Top 10 cancer causes of death for females in 2007

Rank	Cancer site	Deaths	Crude mortality rate	Age-standardized mortality rate
1	Lung, bronchus and trachea	2,535	22.4	17.6
2	Liver and intrahepatic bile duct	2,159	19.1	15.2
3	Colon and rectum	1,912	16.9	13.1
4	Female breast	1,552	13.7	11.1
5	Stomach	843	7.4	5.8
6	Cervix	833	7.4	5.8
7	Pancreas	578	5.1	4.0
8	Gallbladder	541	4.8	3.8
9	Non-Hodgkin's lymphoma	497	4.4	3.5
10	Ovary	405	3.6	2.9
	All sites	14,487	128.0	101.6

### (3) Cancer incidence and mortality rates over the years

The DOH statistics on causes of death show that cancer has been the leading cause of death in Taiwan since 1982. Using the year 2000 world standard population, it can be seen that the cancer standardized mortality rate for Taiwanese has risen year by year from 118 per 100,000 people in 1982 and reached a peak in 1997 at 144.3; in the following decade, the average was between 138 and 144, with the rate in 2007 at 142.6. The cancer standardized incidence rate rose from 111 per 100,000 people in 1982 to 268.8 in 2006 (Figure 3-10).

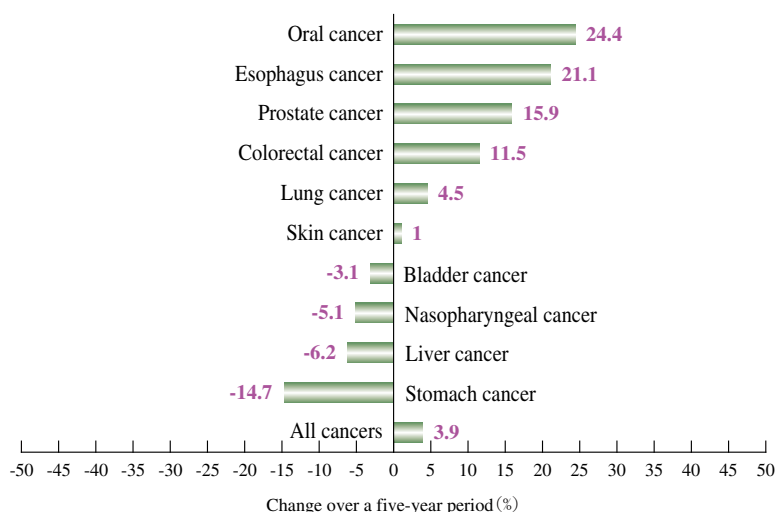
Figure 3-10 Long-term trends of standardized incidence rates and mortality rates for all cancers in Taiwan



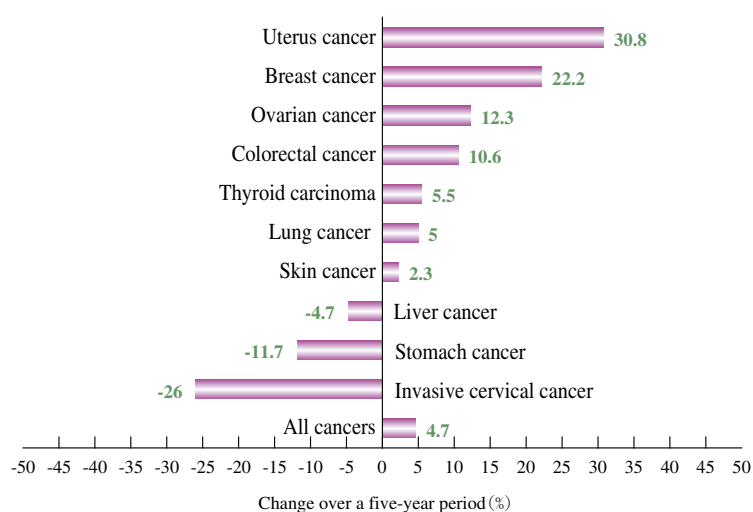


An analysis of the changes in the five-year period from 2002 to 2006 in the cancer standardized incidence rates reveals that all types of cancers for males rose by 3.9%, among which oral cancer (24.4%) and esophagus cancer (21.1%) saw the biggest increases while stomach cancer experienced the largest decrease at 14.7%. In the same period, all types of cancers for females rose 4.7% with uterus cancer (30.8%) and breast cancer (22.2%) seeing the biggest increases and cervical cancer the biggest drop at 26% (Figures 3-11 and 3-12).

**Figure 3-11 Age-standardized incidence of top 10 cancers for males over a five-year period (2002-2006)**

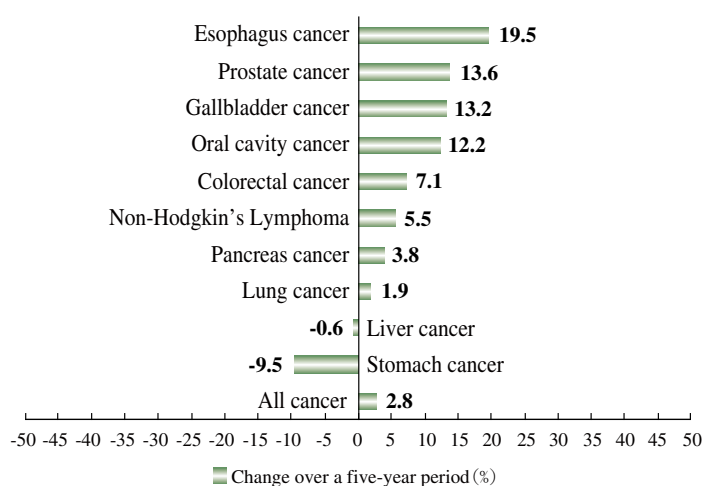


**Figure 3-12 Age-standardized incidence of top 10 cancers for females over a five-year period (2002-2006)**

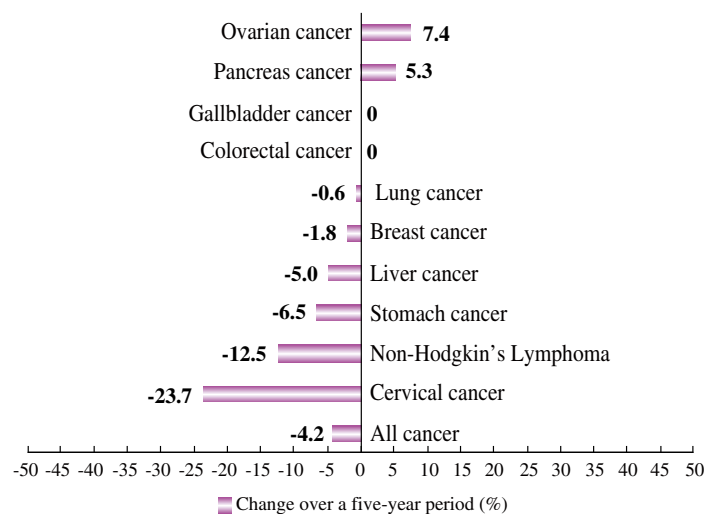


Additionally, the changes in the five-year period from 2003 to 2007 in the cancer standardized mortality rate saw an increase of 2.8% for all male cancer deaths, with esophagus cancer seeing the biggest increase at 19.5% and stomach cancer the steepest decline at 9.6%. In the same period, the rate of all cancer deaths for women dropped 4.2% with cervical cancer experiencing the biggest decline at 23.7% and ovarian cancer the biggest increase at 7.4% (Figures 3-13 and 3-14).

**Figure 3-13 Age-standardized mortality rate for top 10 cancers for males over a five-year period (2003-2007)**



**Figure 3-14 Age-standardized mortality rate for top 10 cancers for females over a five-year period (2003-2007)**



## II. Objectives

1. Decrease the betel quid chewing rate among males over 18 years old.
2. Increase cancer screening rate:
  - a. Rate of cervical cancer screening within three years for women aged 30 to 69.
  - b. Rate of mammography screening within two years for women aged 50 to 69.
  - c. Rate of colorectal cancer screening within two years for aged 50-69.
  - d. Rate of oral cancer screening within two years for smokers or betel quid chewers over 18 years old.
3. Increase the five-year survival rate of cancer patients.
4. Increase the rate of cancer patients receiving hospice and palliative care before death.

## III. Cancer prevention and control policy implementation and results

### 1. Betel quid hazards control

The International Agency for Research on Cancer has confirmed that betel nut is a Category 1 carcinogen, while domestic scholars constantly warn that betel chewing is the leading cause of oral cancer in Taiwan. Approximately 90% of oral cancer patients chew betel quids regularly; the risk of getting oral cancer from chewing betel quids is higher than that of smoking and excessive alcohol intake.

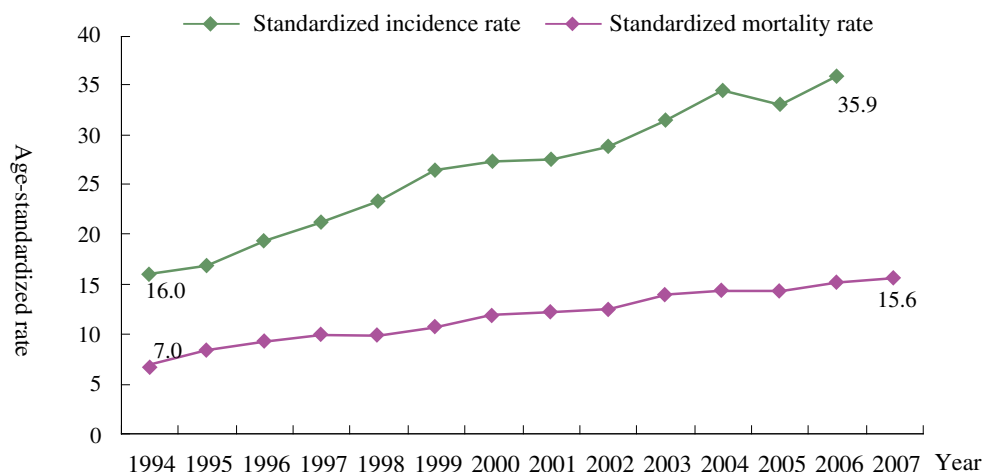
The number of betel quid chewers in Taiwan has already topped 1.5 million; male oral cancer has become the fastest growing cancer in Taiwan with the standardized incidence rate rising to 24% in the past five years, while the mortality rate also continues to climb (Figure 3-15). Oral cancer is the most common cancer among males between 25 to 44 years old with the average age upon death at least 10 years younger than that of patients with other cancers. In an effort to reduce the threat of oral cancer in Taiwan, major publicity campaigns were launched in 2008 in an extensive effort to lower the betel quid chewing rate among our citizens.

### Policy implementation and results:

Past efforts in combating the hazards brought about by betel quids: Government ministries and departments simultaneously implemented a five-year "Management Plan for the Control of the Betel Quid Problem" in 1997. Meanwhile, the Executive Yuan adopted suggestions from NGOs to set December 3rd as "Betel-Chewing Control Day." In 2008, efforts continued from all governmental levels to expand media campaigns and related activities throughout Taiwan as well as involve the cooperation of more government ministries and departments and NGOs to promote betel quid control in all fields. The efforts have paid off with a 15% decrease in betel quid chewing rate among Taiwanese males over 18 years old in 2008.

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Figure 3-15 Long-term trends of incidence rate and mortality rate for oral cancer from 1994 to 2007



A summary of betel quid control efforts is as follows:

### (1) Discouraging betel quids

#### a. A soft approach: oral cancer patients share their stories

To help the public gain a clearer understanding of the sufferings caused by oral cancer, the first oral cancer patient documentary was filmed in 2007, "The Lost Smile." The film, which was shown on television and the Internet in 2008 and distributed to medical institutions, schools, communities, workplaces and national defense posts for screening reinforced public awareness that chewing betel quids can result in cancer. The film won a 2008 government publications award of excellence. Additionally, an "Oral Cancer Patient Life Documentary Workshop" was held in northern, central, southern and eastern Taiwan to train patients and family members as grassroots instructors to help promote and increase effectiveness of betel quid control efforts.

#### b. Close connection with the community and the application of new communication channels

An anti-betel quid campaign has been launched throughout communities and workplaces in Taiwan's counties and cities by leveraging the influences of grassroots level health centers, medical institutions and communities. A traveling exhibit chronicling the achievements of the 10-year effort to control betel quids was also organized. Moreover, to touch base with more target groups, promotional flyers have been handed out at gas stations since 2007, an effort which has received an enthusiastic response from local health centers and the general public. In 2008, the campaign was expanded to cover 3.6 times more distribution posts compared with 2007.

#### c. Schools

After the screening of the "The Lost Smile" documentary across Taiwan, a post-viewing essay contest was held in schools as an educational device to give students a better understanding of the health hazards involved with chewing betel quids. More than 1,600 students in over 300 schools took part, helping the anti-betel quids drive to take root on campus.

#### d. International exposure

Taiwan's unique betel quid culture has received international attention and in order to raising the awareness of the health hazards posed by betel quid consumption. In 2008, BHP collaborated with Taiwan Panorama magazine and the Japanese television station NHK for the first time to produce a series of reports on betel quids by probing into the situation from environmental, social, economic, cultural and health perspectives. Taiwan's efforts at betel quid control and education were also documented, bringing international exposure to the health hazards of betel quids.

### (2) Building Betel-Quid-Free communities and workplace

#### a. Anti-betel quid efforts through stronger partnership with NGOs

In order to more effectively utilize community resources, county and city health bureaus served as platforms to integrate NGOs devoted to preventing and controlling hazards brought about by betel quids, such as the Sunshine Social Welfare Foundation, Taiwan Cancer Society and the Kimma Chang Foundation, as well as over 50 community organizations in Taiwan. Through drawing up community parts (such as the one with Long Chi township in Tainan County), holding betel quid abstinence classes and setting up betel-quid-free hospitals (114 throughout Taiwan), anti-betel quid values and supportive environments were established in communities and the workplace.

#### b. Promotion of inter-ministerial action and expansion of oral cancer screening services

Breakthroughs in inter-ministerial and inter-departmental cooperation in 2008: BHP coordinated with the Council of Agriculture to classify the betel nut as an agricultural product and assist betel palm farmers in changing crops. Through regular meetings with the DOH, Council of Agriculture and Environmental Protection Administration, relative administrative units in their jurisdiction were coordinated to work with health departments in holding betel quid hazards control publicity campaigns and providing oral cancer screening services. Moreover, negotiations were undertaken with the Council of Labor Affairs to make oral cancer screening part of labor health examination packages, thus expanding the target groups for screening.

### 2. Formulating an HPV vaccine policy

Studies have confirmed that cervical cancer is caused by infection of the human-papilloma virus (HPV). In 2006 and 2008, two HPV vaccines, Gardasil and Cervirax vaccines were approved respectively by the government for the market in Taiwan. But as the vaccines were expensive and the long-term effects still undetermined, there was some debate on whether the vaccines should be subsidized by public funds. Consequently, the DOH undertook the following

tasks in 2008 to help the public gain a better understanding of the link between HPV and cervical cancer and to formulate an HPV vaccine policy:

(1) HPV and Cervical Cancer Prevention Education:

- a. Conducting public advocacy education
  - i. Cervical cancer prevention and knowledge about HPV were publicized through mass media such as television, news articles, magazines and radio broadcasts.
  - ii. A theme pavillion on the HPV vaccine was set up on the "Health 99" website for providing pertinent information.
  - iii. A pamphlet entitled "Secret Notes--33 Questions on Cervical Cancer" was produced for distribution to the public and for advocacy use.
  - iv. Subsidies were provided to NGOs for advocating cervical cancer prevention and setting up blogs.
- b. Making cervical cancer prevention and vaccine advocacy part of sex education efforts
  - i. An educational DVD entitled "Firefly Love" and an educational presentation file entitled "Cervical Cancer Prevention: How Much Do You Know about Sex?" were produced for advocacy use in conjunction with sex education in collaboration with health promoting schools and local county and city health bureaus.
  - ii. A pamphlet entitled "Secrets to Distancing Yourself from HPV" was created to explain the link between cervical cancer and HPV and how to prevent cervical cancer, especially for young girls.

(2) Relevant surveys:

- a. A telephone survey was conducted to understand the willingness of parents to have their 9 to 15 year-old daughters receive the HPV vaccine; in addition, a questionnaire survey was conducted to determine the level of knowledge and attitudes of parents toward HPV vaccination for their junior high school daughters.
- b. A cost-benefit analysis was undertaken for an HPV vaccine policy in Taiwan.

(3) Motion for subsidizing the HPV vaccine: A motion was raised for discussion during the meeting of the Infectious Disease Prevention Commission (ACIP) on July 16th, 2008 on whether to use public funds to subsidize HPV vaccination for teenage girls. The commission suggested that HPV vaccines should be included in the national inoculation system and should set seventh grade female students as the target group.

(4) On November 29th, 2008, a civic group forum was held with parents, teachers, medical professionals, women's groups and social groups to discuss whether to use public funds to subsidize HPV vaccines. Opinions on HPV vaccines were collected from the representatives of the various organizations as reference for formulating relevant policies.

(5) Experts were invited to complete an "HPV Vaccine Policy Assessment Report."

### 3. Promoting major cancer screenings

Studies have confirmed that extensive Pap smear screening can lower the incidence and mortality rates of cervical cancer by 60-90%, while undergoing a mammography once every one



to three years can reduce breast cancer mortality rate for females between 50 and 69 years old by 21-34%. Undergoing a fecal occult blood test (FOBT) once every one to two years can lower the colorectal cancer mortality rate for people between 50 to 69 years old by 15-33%, while a visual inspection of oral mucosa once every three years for males over 35 years old who smoke or drink regularly can lower the oral cancer mortality rate by 43%. In view of these findings, the DOH has been offering Pap smear once a year for women over 30 years old since 1995 and oral cancer screening once a year for betel quid chewers or smokers over 18 years old since 1999. Mammography has been offered once every two years for women between 50 and 69 years old since 2002, while IFOBT once every two years has been provided to people between 50 and 69 years old since 2004.

Major cancer screening results for 2008 are summarized as follows:

### **(1) Cervical cancer screening**

Cervical cancer is one of the most common cancer for women in Taiwan, with roughly 2,000 women developing invasive cervical cancer every year. Extensive Pap smear screening in advanced nations and research analysis have revealed that high coverage of Pap smear can lower the incidence and mortality rates for cervical cancer by 60-90%.

Policy implementation and screening results:

Since 1995, the NHI has provided women over 30 years old with Pap smear once a year. Results of BHP telephone surveys in 2008 show that 70% of women between 30 and 69 years old underwent Pap smears within the past three years. According to an analysis of the Pap smear screening report database, approximately 86.7% of women had Pap smear at least once as of 2008 with 56% having had one within the past three years.

Between 1995 and 2008, there was a marked decrease in the standardized mortality rate for cervical cancer, with 11 deaths per 100,000 people in 1995 down to 5.8 deaths per 100,000 people in 2007, which is a decrease of 47%. After the implementation of a national Pap smear screening program, the age standardized incidence rate for invasive cervical cancer dropped from 24 cases per 100,000 people in 1995 to below 13 cases per 100,000 people in 2006, which is a decrease of 46%. These results show that the long-term promotion of Pap smear screening has successfully translated into a reduction in the mortality and incidence rates of cervical cancer.

### **(2) Breast cancer**

Breast cancer has the highest cancer incidence rate and the fourth highest mortality rate for women in Taiwan. According to statistics from the cancer registry, the number of people suffering from breast cancer jumped from 2,838 in 1995 to 6,895 in 2006, which is an 82% increase in the standardized incidence rate. The number of deaths from breast cancer also increased from 918 in 1995 to 1,552 in 2007, which is a 14.4% increase in the standardized mortality rate. In Europe and the United States, mammography has been used as a screening tool for a number of large-scale random clinical studies which have shown that receiving mammography once every one to three years can reduce the breast cancer mortality rate by 21-34% in women between 50 to 69 years old.

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Policy implementation and screening results:

In response to the sharp rise in the breast cancer incidence rate, BHP piloted a two-stage breast cancer screening program in July 2002 for women aged 50 to 69. The first stage used questionnaires to select high-risk groups, who were referred for mammography in the second stage. Effective from July 2004, women aged 50 to 69 were covered by NHI to receive mammography once every two years; in 2006, mammography was changed to be financed by BHP with appropriations from the public budget. By 2008, the number of women in the 50 to 69 age group who had undergone mammography within the past two years reached 288 thousand which is a screening rate of 12%. The screenings found that roughly over 50% cases of breast cancer were in stage 0 or stage 1, which is higher than the 37% registry rate in the cancer registry, a clear indication that screening helps the early detection of breast cancer.

### (3) Colorectal cancer

Colorectal cancer has the third highest cancer incidence and mortality rates among Taiwanese people. It became the cancer with the highest number of newly diagnosed patients for the first time in 2006. Studies indicate that undergoing a FOBT once every one to two years can reduce the mortality rate of colorectal cancer in people aged 50 to 69 by 15-33%.

Policy implementation and screening results:

In order to achieve early detection of colorectal cancer cases and lower the incidence rate, free FOBT has been offered once every two years for people between 50 and 69 years old since 2004. In the past two years 480 thousand have undergone the tests with a screening rate of 10%. The screenings found that around 40% cases of colorectal cancer were in the stage 0 or stage 1, which is higher than the 19% registry rate in the cancer registry, a clear indication that screening helps the early detection of colorectal cancer.

### (4) Oral cancer

In the past decade, the number of newly diagnosed oral cancer in Taiwan has jumped from 1,700 to 5,352, with the number of deaths rising from 1,000 to 2,312. Oral cancer is the fastest growing cancer among males in Taiwan both in incidence and mortality rates.

A WHO research conducted in India shows that oral visual inspection every three years for people over 35 years old who smoke or drink regularly can reduce 43% the mortality rate. The objective of oral cancer screening is not to find cancer but to find precancerous lesions (such as non-homogenous leukoplakia or oral submucous fibrosis), which can effectively be prevented from progressing to oral cancer through education, quit chewing betel quids and treatment.

Policy implementation and screening results:

In order to expand oral cancer screening to more high-risk groups, BHP in cooperation with the Taiwan Dental Association initiated a project of oral visual inspection training for dentists, otolaryngologists and other physicians in 2008. Twenty-three sessions were held to improve the quality of oral cancer screening. The number of betel quid chewers or smokers over 18 years old who underwent screening was around 1.04 million (a screening rate of 25%) with 632 diagnosed with oral cancer in the past two years.

**Table 3-8 Screening Results**

Item	Subject	Screening Policy	2008 Screening Results
Cervical cancer	Women over 30 years old	At least one Pap smear every three years	<ul style="list-style-type: none"> <li>56% of women aged 30-69 had a Pap smear within three years</li> <li>70% of women interviewed by telephone had a Pap smear within three years</li> </ul>
Breast cancer	Women between 50-69 years old	One mammography every two years	12% of women aged 50-69 had a mammography within two years
Oral cancer	Betel quid chewers or smokers over 18 years old	Oral visual inspection	25% of betel quid chewers or smokers over 18 years old had an oral visual checks inspection within two years
Colorectal cancer	People between 50-69 years old	One fecal occult blood test every two years	10% of people aged 50-69 had a fecal occult blood test within two years

#### **4. Cancer diagnosis and treatment quality**

##### **(1) Enhancement of screening quality**

To improve the quality of each cancer screening item, BHP authorized the Taiwan Society of Pathology to organize cervical cytopathology diagnosis unit certification and a Pap smear quality enhancement program. Moreover, the Radiological Society Republic of China was commissioned to organize a mammography medical institution certification and mammography image quality enhancement program, and the Breast Cancer Society of Taiwan was authorized to organize a mammography quality enhancement program, while the Taiwan Dental Association was authorized to organize a screening training program.

##### **(2) Accreditation of diagnosis and treatment quality**

As the quality of cancer treatment and care greatly impacts the survival rate of patients, BHP commissioned the National Health Research Institutes in 2005 to establish an accreditation system for cancer diagnosis and treatment quality. On October 4th, 2007, the "2008 Cancer Diagnosis and Treatment Quality Accreditation Criteria and Evaluation Guidelines" and the "2008 Cancer Diagnosis and Treatment Quality Accreditation Procedures" were officially announced. From 2008, the criteria were used on hospitals with 500 or more newly diagnosed cancer cases to carry out diagnosis and treatment quality accreditation in order to elevate the level of diagnosis and treatment in Taiwan, thus ensuring cancer patients a quality treatment environment that is safe and effective.

In 2008, 22 hospitals passed the accreditation. Accreditation results will be included in the hospital overall evaluation and medical center task indicator evaluation to ensure that hospitals enforce the "Regulations for Cancer Care Quality Assurance Measures." The results will also be posted online for public reference.

## 5. Cancer patients and hospice care services

### (1) Services to cancer patients

As medical technology advances, cancer patients have been surviving longer, which has brought about the need for more continuous and multifaceted integrated care services. To assist cancer patients cope with physical, mental, family and social problems, BHP has implemented a cancer patient service plan since 2003.

In 2008, BHP subsidized 13 medical institutions and NGOs in carrying out a direct services program which provides cancer patients with direct services that allow the patients and family members to receive comprehensive cancer support and care. Service content includes telephone education and consultation, voluntary hospital visits, psychological counseling, study camps for new patients, team work, physical and mental rejuvenation travel, volunteer training and pertinent educational materials, which served 113,723 person-times.

In order to establish a cooperative mechanism between hospitals and NGOs, BHP subsidized a cooperative project between the Hope Society for Cancer Care and hospitals in 2008 to create a “cancer resource One-Stop-Service” which allows professional caregivers or social workers to follow a standardized service procedure in providing cancer patients and family members with quality resources and information that meet their demands in a prompt manner. Amidst the turmoil brought about by cancer, the service portals helps patients and family members regain a control of their lives and start the treatment in the shortest time possible, while serving as a bridge of communication between the patients and medical facility staff. The ultimate goal is to assist patients and their family achieve a smooth transition back into society after treatment.

### (2) Hospice care services

The DOH has been promoting hospice services since 1996 and in 2000 came up with a pilot program to include hospice in the NHI. In the same year the “Hospice Palliative Care Act” was enacted, making Taiwan the first Asian nation with a natural death legislative bill. In order to provide hospice services to cancer patients who are not in a hospice ward, BHP began cooperating with the Taiwan Hospice Organization in 2004 in a pilot program with eight hospitals to provide joint hospice care network. The program was expanded with subsidies provided to 34 hospitals in 2005. Analysis of death records and NHI reports show that the number of patients who used hospice services in the year before their demise (including hospice hospitalization, hospice home care and hospice care shared) increased substantially from 7.4% in 2000 raised to 31.8% in 2007 (Figure 3-16).

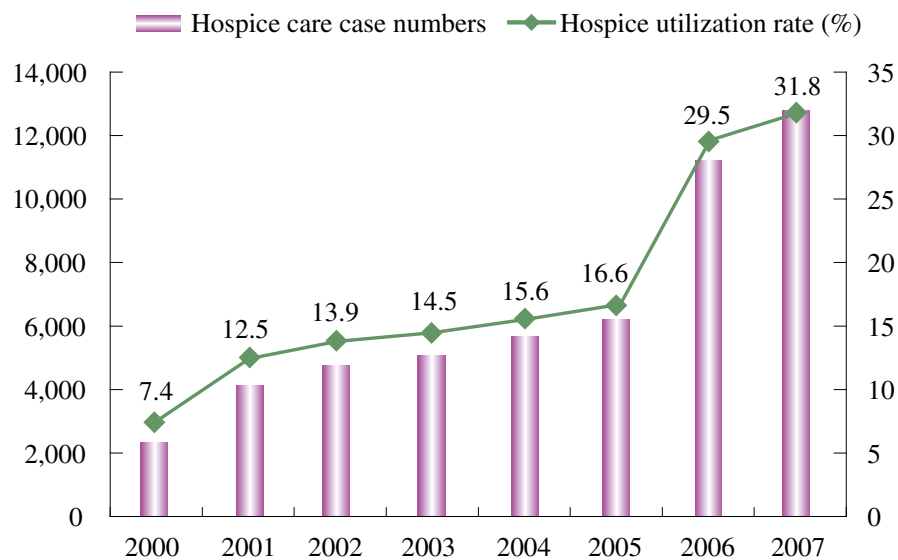
By the end of 2008, a total of 34 hospitals provide hospice hospitalization services, 59 provide hospice home care services and 65 provide services via the hospice care shared. In 2008, the number of patients using the hospice care network was 13,900, marking a significant increase in the utilization rate of cancer patient hospice care services.

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To assist clinical care professionals fulfill their responsibilities in informing patients of their condition while giving due respect to the right to autonomy of terminally ill patients, BHP commissioned pertinent experts to prepare the "Guidelines for Truth-telling of Terminal Illness (for Cancer)" as a reference for medical personnel in communicating with patients.

In an effort to enhance the quality of hospice care, the Taiwan Academy of Hospice Palliative Medicine was commissioned to organize hospice care institution accreditation and hospice care program evaluation and counseling under a palliative care in the quality monitoring plan.

Figure 3-16 Cancer patients who utilized hospice services in the year before death



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# Chapter 4

## Healthy Living



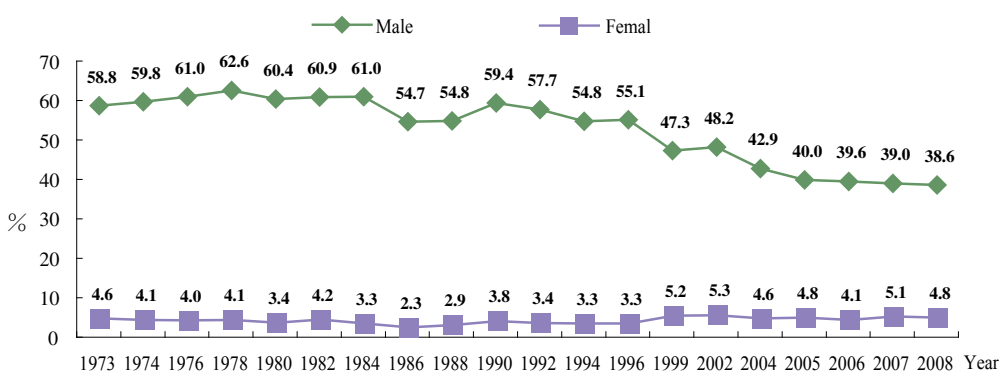
## Section 1 Tobacco hazards prevention and control

### Current status:

In 2008, the smoking rate for Taiwan adults over 18 years old was 38.6% for males and 4.8% for females. Surveys over the years show that the smoking rate for adult males has declined, although the rate of decline has eased in recent years; the trend for adult female smokers requires further observation (Figure 4-1). The smoking rate among junior high school students was 6.6% in 2004 (8.5% for males and 4.2% for females) and 7.5% in 2006 (9.7% for males and 4.7% for females). Among senior high school and vocational school students, the smoking rate was 15.2% in 2005 (21.1% for males and 8.5% for females) and 14.8% in 2007 (19.3% for males and 9.1% for females). The results clearly indicate that the smoking rate of teenagers rises with age, and the increase of the smoking rate for teenage girls requires particular attention.

The Tobacco Hazards Prevention Act, which was enacted in 1997, was reviewed and amended throughout three terms of the Legislative Council over 10 years; the Tobacco Hazards Prevention Act Amendment passed the third reading at the Legislative Yuan in 2007 and was promulgated on January 11th, 2009. The amendment sets up a mechanism for the increase of Health and Welfare Surcharges of tobacco products, regulates the labeling of health warning images and text on tobacco product containers, requires the reporting of the contents and additives of tobacco products, bans the advertising of tobacco products, restricts the display of tobacco products,

Figure 4-1 Smoking rates of adults 18 years of age and older by year in Taiwan



- Notes:** a. 1973-96 information provided from surveys by Taiwan Tobacco & Wine Monopoly Bureau.  
b. 1999 information provided from a survey by Professor Lee-Lan.  
c. 2002 information provided in the Bureau of Health Promotion's 2002 Survey of Knowledge, Attitude, and Behavior toward Health in Taiwan.  
d. 2004-08 information provided by the Bureau of Health Promotion's Adult Smoking Behavior Survey.  
e. 2002-08, a current smoker, according to the U.S. CDC's definition, is one who has smoked in excess of 100 cigarettes (5 packs) and has used tobacco products during the past 30 days.



protects of the health of unborn children and teenagers, and imposes a smoking ban on indoor public areas and in workplaces. It is hoped that the amendment to the Act will connect Taiwan to the world in the effort for better tobacco control, in compliance with the principles of the WHO “Framework Convention on Tobacco Control (FCTC).”

Action items in 2008 include the following:

1. Amendment of relevant regulations
2. Creating smoke-free environments
3. Diverse smoking cessation services
4. Tobacco control surveillance and research
5. Development of manpower and promotion of international cooperation
6. Promotion the Tobacco Hazards Prevention Act

Detail description of each items are presented in Policy implementation and results.

### **Objectives:**

A reduction of 0.3% per year in the smoking rate among adults.

### **Policy implementation and results:**

#### **1. Amendment of relevant regulations**

In accordance with the principles of the Tobacco Hazards Prevention Act with reference to relevant regulations in Canada, the European Union and the United States, as well as guidelines or drafts of the WHO on tobacco control, eight new regulations were drawn up in 2008 to govern the following: distribution and utilization of Tobacco Health and Welfare Surcharges, authorities for implementing smoking cessation education and subjects, rewards and target groups for smoking cessation services, restriction and testing on the maximum nicotine and tar content in tobacco products and labeling of tobacco product containers, pictorial health warnings and label size on containers, the establishment of indoor smoking rooms, position and amount of tobacco products on display on tobacco-selling premises, and collection and utilization of tobacco health and welfare surcharges. In order to promote the openness and transparency of information related to tobacco products, the government is exerting direct control over tobacco products for the first time by requesting manufacturers and importers to provide data on the contents, emissions and toxicological information of their products.

Regulatory stipulations must not only be consistent with legislative intent but also be feasible. Thus the authorization of the new regulations of the Tobacco Hazards Prevention Act involved the input of legal experts, as well as intensive discussions and numerous meetings with interest groups, retailers, antismoking NGOs, construction industry and related professional organizations, law enforcement agencies, elected representatives, and legal experts and scholars, which led to the stipulation and announcement of the following eight regulations.

Regulations Authorized under the Tobacco Hazards Prevention Act	Date of Announcement
Regulations of Tobacco Health and Welfare Surcharges Distribution and Utilization	Signed and announced by the Department of Health (DOH) and the Ministry of Finance on October 11th, 2007 Signed and announced the amended Regulations on April 17th, 2009
Regulations on Subsidizing and Rewarding Smoking Cessation Services	Announced by DOH on February 22nd, 2008
Regulations on the Implementation of Smoking Cessation Education	Announced by DOH on February 22nd, 2008
Regulations on Testing of Nicotine and Tar Content in Tobacco Products and Labeling of Tobacco Product Containers	Announced by DOH on March 27th, 2008
Regulations on the Establishment of Indoor Smoking Rooms	Announced by DOH on May 29th, 2008
Regulations on Labeling and Display of Tobacco Products on Tobacco-Selling Premises	Announced by DOH on June 23rd, 2008
Regulations on the Collection and Utilization of Tobacco Hazards Prevention and Health Care Funds	Reported to the Executive Yuan for Announcement on August 21st, 2008
Regulations on Reporting the Contents of Tobacco Products	Announced by DOH on December 4th, 2008

## 2. Creating smoke-free environments

BHP is presently organizing 30 "Smoke-free Community" projects, conducting tobacco hazards prevention initiatives in the military, and urging schools at all levels to implement the "Campus Tobacco Hazards Prevention and Control Plan" to create smoke-free campuses by circulating official announcements through the Ministry of Education. Through collaborations with counseling groups to promote tobacco hazards prevention initiatives in the workplace, on-site guidance has been provided to 74 enterprises in establishing smoking prohibition or smoking restriction policies to create smoke-free workplaces. A nationwide survey commissioned by the DOH on workplace tobacco hazards shows that the smoking rate among employees in the workplace is 20% (drop by 1% from 2007) and the exposure rate of second-hand smoke in indoor workplaces is 26%.

To provide the public with consultation on a smoke-free environment and enable people to report violations of the smoking ban, BHP expanded the functions of the "Tobacco Hazards Consulting and Complaint Hotline 0800-531-531" in December 2008 to offer a 24-hour service to process questions and complaints related to the new regulations of the Tobacco Hazards Prevention Act. To date, the hotline has received around 800 calls for information and 463 complaints, which have been forwarded to local health bureaus for processing.

## 3. Diverse smoking cessation services

BHP provides smoking cessation services such as smoking cessation outpatient clinics, smoking cessation helpline and community smoking cessation courses (quit courses), as well as collaborates with 2,149 Bureau of National Health Insurance contract medical institutions (hospitals and clinics) offering smoking cessation outpatient services. From 2002 to 2008, 1,086,951 visits were made to smoking cessation treatment services, with around 22% of patients successfully abstaining from cigarettes within six months. During the same period, the toll-free smoke cessation counseling services (0800-636363) answered more than 340,000 calls, and callers who underwent multiple counseling sessions had a success rate of 29% for smoking cessation within six months. Following the proactive and extensive enforcement of the Tobacco Hazards Prevention Act in 2008, with the compulsory

addition of the smoking cessation helpline on tobacco product containers, the number of calls received per month in end 2008 increased by 60%, with total call-count at 76,800, which was 21,219 more than the previous year. In addition, various county and city medical institutions offered community smoking cessation courses, with 4,744 people attending 257 classes in 2008.

The Tobacco Hazards Prevention Act stipulates that individuals under 18 years of age who smoke illegally are required to attend a course on smoking cessation. To this end, BHP commissioned the National School Health Association to develop smoking cessation handbooks for junior high, senior high and vocational school students, as well as guides and short films for teachers. BHP also organized training courses for educators and health care workers in all four regions in northern, central, southern and eastern Taiwan, attracting the participation of 405 instructors.

#### 4. Tobacco control surveillance and research

BHP has developed a monitoring system on smoking behavior in order to evaluate the effectiveness of the tobacco hazards prevention programs, which encompasses the following: "Adult Smoking Behavior Telephone Survey," "Global Youth Tobacco Survey (GYTS)," and "Global School Personnel Survey (GSPS)," as well as the testing and monitoring of nicotine, tar and carbon monoxide concentrations in tobacco products.

#### 5. International Exchange and Training

To promote the awareness of the Tobacco Hazards Prevention Act, BHP organized "Training on Laws and Regulations for Law Enforcement to Personnel of Tobacco Hazards Prevention Act," which has a participation of 346 person-times. BHP also organized three rounds of "Workshop on Tobacco Hazards Prevention and Practice for County and City Governments," assisting local governments to devise programs tailored to each locality's special characteristics and to enhance the knowledge and skills of their personnel. In addition, BHP continued to hold the "Outpatient Smoking Cessation Treatment and Physicians Training courses" to increase the participation of physicians in outpatient smoking cessation services. In 2008, a total of 6,246 physicians completed the training program.

For detailed information on the promotion of international collaboration, please refer to Chapter 7: Section 3.

#### 6. Promotion of the Tobacco Hazards Prevention Act

The newly amended Tobacco Hazards Prevention Act affects more than 1 million venues and the daily lives of 2.3 million people. To increase the awareness and cooperation of both the public and distributors in preparation for the promulgation of the amended Act on January 11th, 2009, concrete targets were set, such as posting "No Smoking" signs conspicuously in non-smoking venues and affixing pictorial health warning posters on tobacco-selling premises. The promotional slogan of "mutual respect and reminder for collectively working towards a smoke-free environment" was used to proactively enforce the measures through legal education (training law enforcement personnel as well as representatives for the complaint and consulting hotlines, compiling frequently asked questions (FAQs) and holding briefings), media publicity (through TV, radio, print media, outdoor media, and local government administrative channels) and result monitoring (DOH announcements, random on-site inspections, telephone surveys and media analysis).

- (1) Legal education: Between August and November, BHP prepared and compiled FAQs of possible questions about the amended Act, organized seven rounds of training for health bureau law enforcement personnel (participated by 359 people); hosted industry-specific briefings (161 sessions) for 14 types of businesses including transport and tourism industry, food industry, construction industry, tobacco manufacturing and imports, and wholesalers and retailers; and

held briefings for 17 types of venues, including schools, and operators (4,1000 sessions). For comprehensive promotion of articles in the amended Act that affect the habits of the public, such as the smoking ban on indoor public areas and indoor offices of three employees or more, images and text of health warning labels on tobacco product containers, pictorial health warnings on tobacco-selling premises, BHP launched media campaign strategies, including cable and terrestrial television outlets (4,500 TV spots), radio broadcasts (4,400 ads), print media (newspapers and magazines), outdoor advertisements (lit signboards, video walls, bus advertising and billboards), printed matter (9 million copies), as well as urged ministries and departments to use various promotional channels, such as scrolling banners, weblinks, red banners, publications and bulletin board announcements.

- (2) Communication with local governments: BHP held three meetings with health bureau directors and visited eight municipal government mayors to solicit support for the implementation of smoke-free policies. BHP also held a live and online "war game" simulation exercise with Taiwan's 25 county and city governments on December 26th, 2008 to test contingency responses to possible problems on the day the Tobacco Hazards Prevention Act was promulgated.
- (3) Local promotion: Through 22 county and city health bureaus, 665 short-term temporary workers were hired from October to December 2008 to post "No Smoking" signs and promote the new regulations. BHP also organized 485 training sessions in tobacco hazards prevention and control for 13,549 volunteers; in addition, as many as 31,517 advocacy activities were held, while borough chiefs were mobilized to join in the campaign and post "No Smoking" signs.
- (4) Result monitoring: BHP deployed staff to Taiwan's 25 counties and cities to conduct five rounds of random on-site inspections (on 5,646 venues). The inspections found that the percentage of tobacco vendors who affixed health warning labels in their stores and of banned smoking areas that had posted "No Smoking" signs both exceeded 70%. An evaluation of media publicity related to the Tobacco Hazards Prevention Act shows that nearly 90 percent of the public have been exposed to the new regulations.

Telephone polls show that the public's awareness of the new regulations was around 20% in February 2008, 60% in June and 80% in September. One month after the promulgation of the Act, more than 90% of local residents were aware of the main venues where smoking was banned. In particular, knowledge of the smoking ban on indoor offices with three or more employees rose by 60% compared to July 2008, while knowledge of the smoking ban in mass transportation vehicles and public consumer venues, such as hotels, shopping malls and restaurants rose by 35%.

- (5) Health warnings: As the new regulations require that all tobacco product containers have conspicuous health warnings and show the number for the smoking cessation hotline, vendors already began selling tobacco products in the new packaging between September and December 2008, lest they incur any fines caused by delays in shelving the products on the promulgation date of January 11th, 2009. Therefore, analysis of calls made to the smoking cessation hotline between October and December 2008 reveals that, since the announcement of the new regulations, nearly 60% of callers have noticed the hotline number on the packaging and nearly 70% said that after seeing the warning images and text, they were clearer about the importance of quitting smoking and the hazards smoking posed on the health of family members and unborn children. The results confirmed that the health warnings were already achieving the desired effect.

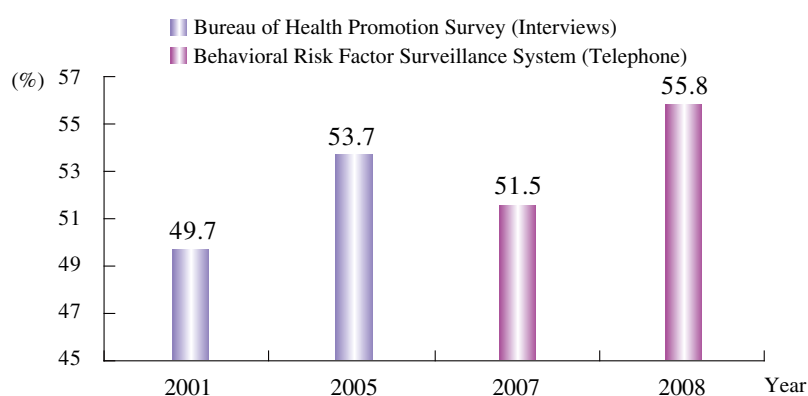
## Section 2 Physical activity

### Current status:

According to the World Health Organization's global strategy on diet, physical activity and health, an unhealthy diet and the lack of physical activity are the major causes of noncommunicable diseases. Lack of exercise is a major risk factor in cardiovascular diseases, cancer and stroke; it not only seriously undermines personal health, but also results in an increase in national health care expenditures and social costs, creating a heavy burden on public health expenses.

A 2007 survey on Health Behavioral Risk Factor Survey found that among people over 18 years old in Taiwan, 51.5% of respondents had exercised in the previous two weeks. The rate increased to 55.8% in 2008, indicating the number of people who exercise is on the rise. BHP will continue to promote physical activity and foster the habit of regular exercise among Taiwan's citizens. These efforts will improve the physical activity of the nation and reduce the occurrence of chronic diseases.

Figure 4-2 Number of Taiwanese people over 18 years old who exercise



### Objectives:

BHP has set an annual increase of 0.5 percent in the population of Taiwanese who exercise as the national healthy physical activity goal.

### Policy implementation and results:

#### 1. Promotion of the active living concept

- (1) In collaboration with the Ministry of Education (MOE), BHP launched health promoting schools and promoted the healthy physical status (including physical activity and diet) on campus, enabling young children and teenagers to gain health-related knowledge at school and develop healthy dietary and exercise habits.
- (2) BHP has advocated incorporating healthy walking into daily life, and organized a National Walking Day in 25 of Taiwan's counties and cities to encourage the public to improve their health by walking; BHP also collaborated with the MOE and the Council of Labor Affairs in organizing the Fun Walking Experience, Discovering the Pleasure of Health, Children's Drawing and Essay Contests in schools and workplace,



and held the Let's Walk & Work Healthy Walking Promotional Plan by businesses in the workplace, with commendations given to school children and companies that won awards.

- (3) BHP sparked interest in exercising through two advertising campaigns. BHP posted physical activity ad on light signboards on high traffic lines of the Taipei Mass Rapid Transit (MRT) system and took advantage of the DOH's centralized media buying plan in 2008 to spread the concept of the "Ten Thousand Steps A Day Makes You Healthier." through radio broadcasts, television and Internet channels.

## 2. Organization of physical activities with government and NGOs

- (1) In collaboration with NGOs and enterprises such as the Hope Foundation, Common Health Magazine, Hotai Motor Co. Ltd., Wang Steak House Corp., Yang Ming Marine Transport Corp., Macronix International, and the Kuang Chuan Cultural and Educational Foundation, BHP initiated several healthy walking activities. BHP sponsored the "2008 New Year's Day Walk" and the "Everybody Come Walking" events, which had a participation of 14,800 person-times. BHP also joined forces with county and city bakery associations for the first time in organizing three rounds of the "Move More, Eat Breakfast" activity which drew the participation of 15,000 person-times.
- (2) Through community health promotion programs in 2008, BHP subsidized the health promotion plans of 47 communities, encouraging citizens to engage in diverse forms of physical activities and attain a healthy lifestyle.

## 3. Promotion of a supportive environment for physical activity

- (1) BHP continued to participate in the Executive Yuan's "1,000 km Biking Paths, 10,000 km Hiking Paths" program, hold seminars on an active community environment, foster supportive environments for physical activity, promote community walking paths for physical activity, and encourage the public to use local environment to engage in physical activities.
- (2) BHP offered guidance to local governments in continuing to promote exercise routines for office workers and various physical activities.

## 4. Improvement of personal skills

BHP compiled and posted on its website 192 community walking trails recommended by county and city health bureaus for the reference of the general public, as well as updated the "Health Energy Convenience Store" website.



Walking event on the 7th anniversary of Bureau of Health Promotion



Drawing by Heng-yun Yeh in the Elementary School Grades group for the Drawing Competition of the Walking event



Activity 1: Exercise More, Eat Breakfast



Activity 2: Exercise More, Eat Breakfast

## Section 3 Unintentional injury prevention

### Current status:

The annual mortality of unintentional injury in Taiwan gradually declined since 1989. Except for a slight surge caused by the 921 Earthquake in 1999, the mortality rate fell to 36.8/10<sup>5</sup> persons in 2005 and 35.1/10<sup>5</sup> persons in 2006, ranking number 5 in the 10 leading causes of death in Taiwan at the time. It should be noted that the mortality rate from motor vehicle accidents, which stood at 33.0/10<sup>5</sup> persons in 1996, has dropped year by year since the Legislative Yuan passed a law in 1997 mandating that motorbike riders wear helmets; the mortality rate was down to 20.8/10<sup>5</sup> persons in 2005, and the decrease has eased since then, possibly because of the lower use of safety helmets among motorbike riders in the countryside and mountainous areas.

Analysis of mortality caused by unintentional injuries among Taiwanese children aged 0-14 from 2002 to 2007 shows that the major causes were traffic accidents, drowning, fire-related accidents, falling and poisoning (Figure 4-3). The mortality rate between 2001 and 2007 shows a declining trend in the 0-4, 5-9 and 10-14 age brackets; but for children under 5 years old, the mortality rate still topped that of the Organisation for Economic Co-operation and Development (OECD) countries. Also, the mortality rate among children 0-4 was still more than twice as high as that for the 5-14 age bracket (Figure 4-4).

The reason may be that parents and caregivers of young children 0-4 years of age lack the knowledge and ability to prevent unintentional injuries in young children or provide first aid when children are injured; they may also be less observant of safety regulations. Children aged

Figure 4-3 Major causes of death (unintentional injuries) among children aged 0-14 in Taiwan

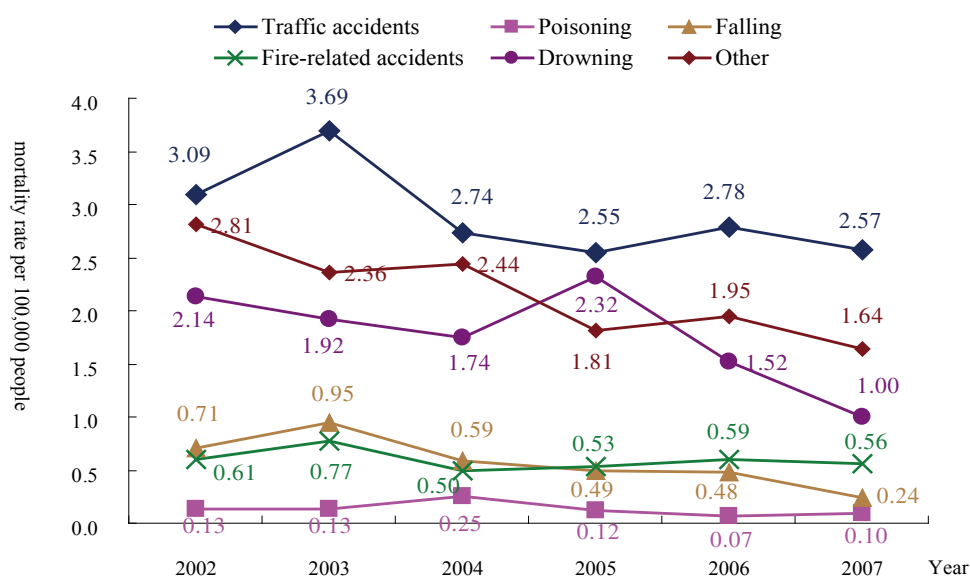
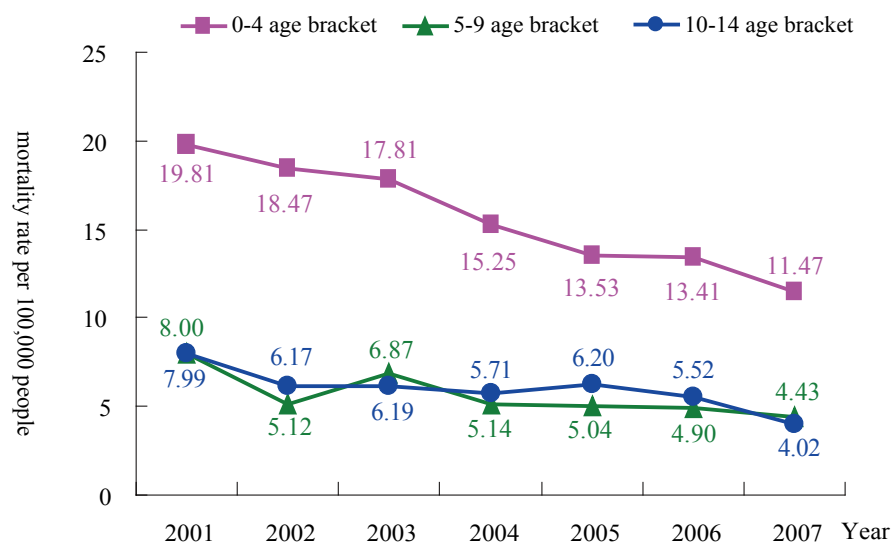


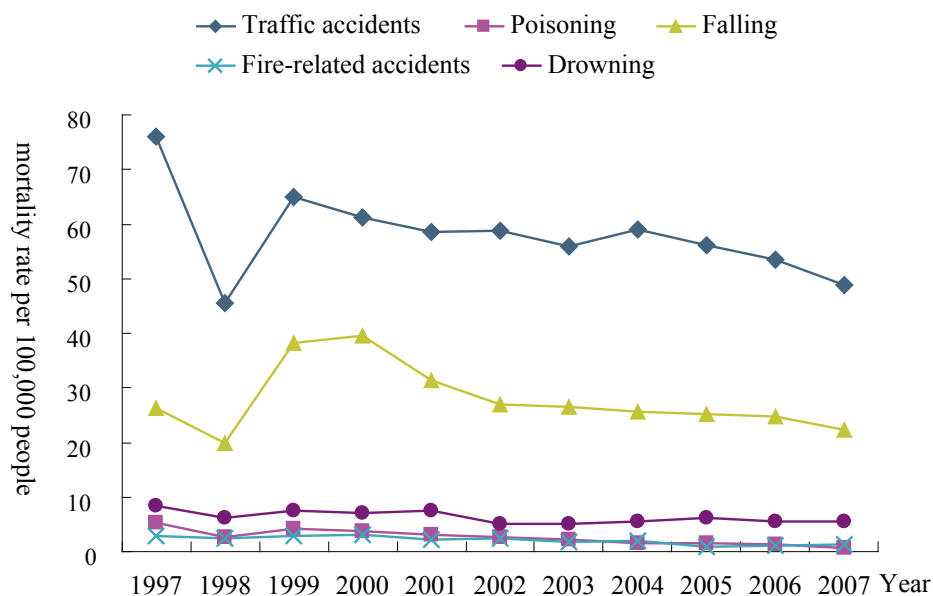


Figure 4-4 Mortality rate from unintentional injuries for children aged 0-4, 5-9 and 10-14 in Taiwan between 2001 and 2007



Source: DOH Office of Statistics

Figure 4-5 Trends of mortality rates for unintentional injuries among the elderly in Taiwan between 1997 and 2007





0-4 tends to die more easily from unintentional injuries than those in the 5-14 age bracket. Between 1997 and 2007, the major causes of death in the 0-4 and 5-14 age brackets were traffic accidents, falling, fire-related accidents and drowning. In the 5-14 age group, there was a decline for all of the items; over the past five years, however, there has been a slight increase in the rate of death caused by traffic accidents and fire-related accidents for the 0-4 age group. In addition, the 2005 National Health Interview Survey found that 13.2% of 3,675 children aged 0-12 had been treated at a hospital for unintentional injuries in the previous year with the top incidence being falling, followed by traffic accidents and burns.

Traffic accidents and falling are the major causes of mortality from unintentional injuries among the elderly, but there was a decline in the mortality rate from 1997 to 2007. The mortality rate from falling plummeted from 38.5/10<sup>5</sup> persons in 1999 to 25.4/10<sup>5</sup> persons in 2005 (Figure 4-5), even though the standardized prevalence of falling rose from 18.7% in 1999 to 20.5% in 2005.

Also, a survey in 2008 on the child safety, care, and unintentional injuries of new immigrant children found that among 11,563 children from 7,547 families, the unintentional injuries with a high fraction in the past year ranked by incident rate were falling (49.51%), wounds (40.66%), traffic accidents (4.80%), choking (3.55%), drowning (0.74%) and poisoning (0.69%).

## Objectives:

BHP has set the prevention of traffic accidents, falling, and burns among new immigrant children as the priority among injury prevention program. The goal is to lower the prevalence of unintentional injuries that require treatment (falls, traffic accidents, and burns) among children aged 0-12 and the standardized prevalence of falling among the elderly by 0.1% every year.

## Policy implementation and results:

### 1. Reduction of traffic accident deaths

- (1) Increased advocacy for wearing helmets among motorbike riders in the countryside and mountainous areas: Between 2006 and 2008, BHP publicized the need for motorbike riders to wear helmets through eight county and city health bureaus and cooperating kindergartens and day care centers.
- (2) Improvement of bicycle safety: BHP promoted bicycle safety in collaboration with the safe communities and safe school projects. Safe communities in Dungshu and Shihkang, for example, integrated their transportation, tourism, leisure and sports resources to build a safe environment for bicycle riding by creating bicycle paths and improving traffic signs and signals.

## **2. Reduction of falls and burns**

- (1) Fall prevention for children and teenagers: To create a safe home environment, BHP collaborated with the health bureaus and centers of Taiwan's 25 counties and cities, as well as community health centers, in conducting safety inspections within their jurisdiction to improve the environments of 25,401 households with young children. Through the safe campus project, BHP fortified school facilities and strengthened management to prevent dangerous falls, while extending the education and raising awareness among students for fall prevention.
- (2) Fall prevention for the elderly:
  - a. Community model (developing a model for fall prevention among the elderly within the community): To combat the problem of falling among the elderly, BHP subsidized National Taiwan Normal University to develop a health education and exercise intervention program to educate the elderly on fall prevention and strengthen their physical functions. BHP also developed fall-prevention measurement tools, home safety evaluation handbook, the Protect Life Avoid Falling Down self-learning guide and educational CD, and an online educational resource portal. Moreover, BHP provided guidance to 85 community health empowering centers in organizing beginners and advanced fall-prevention classes for the elderly.
  - b. Hospital model (piloting an integrated elderly fall prevention service offered by hospitals and communities): Beginning in 2008, BHP commissioned pioneering research on building an integrated intervention model for fall prevention among the elderly, and developed elderly fall-prevention guidelines to evaluate the risk of falls for the elderly. BHP worked with National Taiwan University Hospital, National Cheng Kung University Hospital and the Kaohsiung Chang Gung Memorial Hospital to set up fall prevention outpatient services on a trial basis. Using a multi-factorial intervention approach, high-risk patients were referred for sight correction or medication adjustment.

## **3. Prevention and control of accidents and injuries for children in new immigrant families**

- (1) Seminars: BHP held 52 sessions of "Children Safe Care and Accident and Injury Prevention and Control Seminars" and accomplishment presentations of the four regions to help prevent and control accidents and injuries among children in new immigrant families.
- (2) Media marketing: BHP worked with three radio shows to produce 59 episodes for broadcast in strip syndication and collaborated with local cable television operators (local TV stations) to carry out two embedded marketing to promote public awareness.

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## Section 4 Visual health

### Current status:

Myopia is a very serious health issue among Taiwanese children. A nationwide survey conducted in 2006 found that although the prevalence rate of myopia among elementary school children ( $-0.25D$  or above) has gradually eased by year, the prevalence rate of high myopia (over  $-6.0D$ ) was still the highest in the world, as shown in Tables 4-1 and 4-2. Because high myopia increases incidence of ophthalmologic complications, vision screening for children is crucial for early detection of impaired vision and timely referred treatment. On the other hand, with Taiwan's aging population and the incidence of chronic disease on the rise, vision problems and eye diseases among the elderly have become increasingly important in visual health care, and relevant policies and related healthcare measures should be established as early as possible.

**Table 4-1 Percentage of students aged 6-18 years with myopia in Taiwan**

Grade \ Year	1986 (%)	1990 (%)	1995 (%)	2000 (%)	2006 (%)
First Grade	3	6.5	12.8	20.4	19.6
Sixth Grade	27.5	35.2	55.8	60.6	61.8
Ninth Grade	61.6	74	76.4	80.7	77.1
Twelfth Grade	76.3	75.2	84.1	84.2	85.1

**Table 4-2 Prevalence of high myopia in different regions**

Region	Age	Prevalence rate %
Europe and USA	Whole population	2
Hong Kong (2006)	High school students	6
Singapore (2001)	University students	15
Taiwan (2006)	18-year-olds	16.8

### Objectives:

According to a 2006 survey, the prevalence rate of myopia among first graders in Taiwan was 19.6%, which was 0.8% lower than the 20.4% in 2000; it is anticipated that the rate will drop by 0.15% every year between 2007 and 2010 with the target rate below 19%. Among sixth graders, the prevalence rate of myopia was 61.8%, which was 1.2% higher than the 60.6% in 2000; it is anticipated that the rate will drop by 0.5% every year between 2007 and 2010 with the target rate below 60%.

### Policy implementation and results:

BHP collaborated with the Ministry of Education and the Children's Bureau of the Ministry of the Interior on the visual health care program for preschoolers and school children with the aim to reduce the rate of myopia among school children. To prevent eye complications caused by high myopia resulting from too early onset of myopia, BHP is dedicated to providing strabismus and amblyopia screening for preschoolers, as well as following up on and managing cases with subnormal vision to avoid any regrets caused by poor vision.

In responding to the Vision 2020: The Right to Sight initiative of the WHO and the International Agency for the Prevention of Blindness, BHP has integrated resources from industry, government, academia and

communities to achieve the goal of eliminating the majority of avoidable blindness by 2020. BHP provided preventive screening for blindness in communities, with prevention campaigns such as building a healthy environment, education and advocacy, and research and training. The strategies and implementation results related to promoting visual health are as follows:

1. Preschool eye care services: Capitalizing on the preventive health care services for preschool children provided by BHP, pediatricians and family physicians conduct an examination of children's pupils, eye position and visual fixation according to the development phase of their eyes.
2. Coordination with the Ministry of Education and the Ministry of the Interior for the inclusion of visual health education and supportive environment in the evaluation criteria of educational and health care institutions.
3. Information education integrated with visual health knowledge: For the first time, BHP collaborated with information technology practitioners to connect IT education with vision health concepts and knowledge. As part of our Community Digital Education and Visual Health Promotion Program, BHP organized five seed instructor training courses and 10 visual health care courses in northern, central and southern Taiwan, with the participation of 220 mothers. BHP developed a set of computer screensaver and teaching materials on eye protection, which were distributed to 800 students. Also, in conjunction with computer association trade shows and sales activities, BHP collaborated with software and hardware vendors to promote health information and teaching materials related to eye protection, as well as advocate the need to limit the time of computer use. The aim was to disseminate correct eye protection concepts into households and heighten the importance of visual health for the whole family.
4. Screening service for preschoolers: Preschoolers are at a stage when their eyeballs are developing, and their vision problems and treatment need to be handled in a timely manner. If treated timely, their vision can still return to normal. To enable early detection and early treatment, BHP promoted vision and strabismus and amblyopia screening services for preschoolers aged 4-5 in Taiwan's 25 counties and cities, as well as reinforced follow-up on cases with subnormal vision and their correction. In 2008, a total of 341,796 children were screened, with 42,579 found with abnormalities. The referral and follow-up rate on the cases with abnormalities was 99%.
5. World Sight Day activities: The WHO has designated the second Thursday of October as World Sight Day. In observance of the occasion, BHP collaborated with ophthalmology associations and public welfare groups in organizing the Love Your Visual Health National Eye Protection Movement with a series of activities, held press conferences, organized a 10,000-person eye protection hike, offered free eye checkups, and hosted eye protection seminars.
6. Community visual health programs: BHP subsidized eight hospitals to host vision protection programs and community visual health care centers in regions lacking ophthalmologist and resources in order to provide vision screening services for middle-aged and elderly residents, follow-up examinations for subnormal vision cases, and referral and consultation services. BHP also combined community resources and school health education programs to advocate eye health promotion and care services to protect the eyes and visual health of the public. In all, 10 counties and cities held a total of 99 screening sessions for 7,734 people, among which 2,971 (mostly senior citizens over 65 years old with presbyopia or other eye diseases) were found with subnormal vision. In addition, community health education events were held, with 67 meetings drawing 4,529 participants; other promotion efforts include 39 myopia prevention advocacy events took place on campuses, which drew 4,324 people, and three seminars for eye health workers were also held.



## Section 5 Hearing health

### Current status:

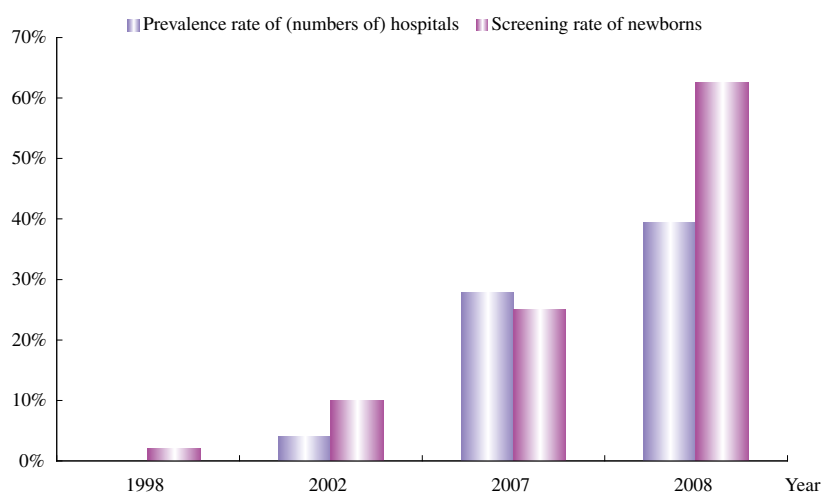
When hearing disorders are detected in newborn infants and treated early, it enables hearing impaired children to participate in mainstream education alongside students with normal hearing, proving that the hearing screening service has a positive impact and should continue to be promoted. Over the past 10 years, the proportion of hospitals in Taiwan providing hearing screenings has risen from less than 1% in 1998 to 39.4% in 2008 (224/568). The proportion of newborns received hearing screening services in participating hospitals has risen from 2% in 1998 to 62.5% in 2008. BHP commissioned Taipei's Mackay Memorial Hospital to establish a newborn hearing screening counseling and promotion center in 2008, and has guided 109 medical institutions with conducting neonatal hearing screening. Among the institutions that received guidance in 2006-2007, ongoing monitoring was conducted at 48 institutions in the following year, while 61 new institutions joined in the screening program in 2008. In all, 18,527 newborns have been screened under the program.

In addition, around 10% of preschoolers suffer from communication disorders, which can result in learning disabilities and even emotional abnormalities, such as poor academic performance, social alienation, difficulties in acclimating to work, and mental and behavioral disorders issues that can cause problems and impose burdens on schools, families and society. To prevent problems caused by communication disorders, BHP established a comprehensive screening model that focuses on screening for language disorders among preschoolers. It reminds parents that early intervention and treatment is of the highest priority.

### Policy objectives and expected outcomes:

BHP's policy objectives are to gradually increase both the preliminary screening rate of hearing screening and the early intervention rate among infants and young children, and reduce the prevalence rate of hearing loss of adolescents induced by recreational noise by means of high quality hearing and

Figure 4-6 Prevalence rate of hospitals offering neonatal hearing screening and screening rate of participating hospitals between 1998 and 2008



communication services and the expansion of hearing health care services. Expected outcomes include a comprehensive system that screens, monitors and treats the hearing of infants and young children to improve the ability of hearing impaired children to live and learn normally, as well as to protect the hearing health of adolescents.

### **Policy implementation and results:**

1. Launching a neonatal hearing screening counseling and assessment program, creating a guidance and promotion center, and helping participating medical institutions offer neonatal hearing screening services.
  - (1) BHP provided guidance to neonatal hearing screening promotion centers in regional and higher-level health care institutions with establishing regional service centers in northern, central, southern and eastern Taiwan.
  - (2) The four regional service centers guided 61 medical institutions to include neonatal hearing screening in their services and participate in the program.

The program's service models:

- Hospital-based: Health care institutions that conduct screening tests and follow-up diagnosis confirmation are listed as specially designated hospitals.
- Community-based: For hospitals that are unable to provide screening and follow-up services, BHP counsels them to transfer patients to specially designated hospitals for screening and follow-up services for the purpose of early intervention.

2. Conducting a promotional program that integrated the screening, follow-up and correction of language disorders among preschoolers: BHP covered 87 kindergartens in three counties and cities and collected 5,867 language disorder examination forms, among which 567 children were suspected of having articulation and phonologic problems. After a thorough evaluation by a seed instructor in speech therapy, 361 (72.6%) were confirmed as having articulation disorder. Apart from commissioning the Children's Hearing Foundation to offer counseling to caregivers, BHP also provides educational leaflets on language disorder among preschoolers and a DVD on learning articulation.
3. Establishing an infant and children hearing screening consultation hotline and early intervention advocacy and promotion program: The toll-free hotlines 0800-800-832 and 0800-889-881 were set up and received 3,604 calls for information on children's hearing problems. BHP also expanded the promotion channels for early intervention and resolved the problems encountered by parents with hearing impaired children in accessing resources. Other efforts to raise public awareness of the importance of early intervention in hearing and speech disorders included advertisements on lit signboards in the Taipei MRT system, which were viewed 30,000 person-times, as well as 8,500 pamphlets distributed through 391 agencies and institutions.
4. Organizing Preschool Children Hearing Screening Promotion and Service Program in counties and cities across Taiwan: The program, which targeted children between three and four years old, participated by 24 counties and cities in 2008, screening a total of 162,859 children, with a screening rate of 80.94%. Those who failed the preliminary screening were referred to hospitals for secondary screening, which had a screening rate of 97.6%. Children confirmed with abnormalities received follow-up correction, with a correction rate of 93.3%, while those who have not completed the correction treatment will continue to receive help on a referral basis.



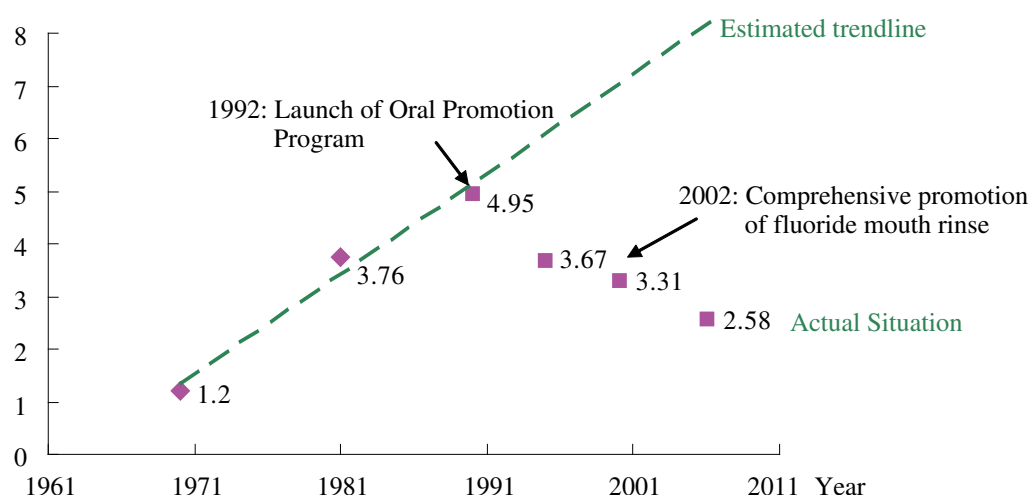
## Section 6 Oral health

### Current status:

Over the years, nationwide surveys indicate that the decayed, missing or filled teeth index (DMFT index) among 12-year-old children rose from 3.76 in 1981 to 4.95 in 1990. Based on the trend, it was estimated then that the index would reach 7.0 in 2000. Thus the DOH has set up a generous budget since 1991 to fund children's oral health initiatives. The investment eventually bore fruit: the DMFT index fell to 3.67 in 1996, 3.31 in 2000, and 2.58 in 2006 (Figure 4-7); however, much effort is still required to meet the WHO's goal of a DMFT index of under 2 for 12-year-olds by 2010.

Periodontal disease is a common oral health problem in Taiwan, and serious forms of the disease can cause alveolar bone loss, loose teeth, tooth loss, etc. If there is no appropriate intervention or corrective treatment, an individual can suffer from missing teeth or a loss of oral functions, which can have severe impact on the quality of life. Thus surveys were conducted to understand the prevalence of periodontal disease and the oral health care behavior of Taiwanese citizens, to be used as an important reference in devising strategies to prevent and treat periodontal disease.

Figure 4-7 DMFT index for permanent teeth among 12-year-old children in Taiwan



### Objectives:

BHP has promoted a number of oral health policies in an effort to reduce the DMFT index to 2.2 among Taiwan's 12-year-olds by 2010.

### Policy implementation and results:

Since the "Oral Health Act" took effect in 2003, the government has more actively promoted national oral health related tasks. In 2006, Phase I of the Five-Year Program for National Oral Health was launched to improve the nation's oral health literacy, reduce the prevalence of oral diseases, and lower the DMFT index to 2.2 among 12-year-olds by 2010.

A brief description of the policies and achievements are as follows:

### **1. Lowering the rate of tooth decay among children**

- (1) Free fluoride applications of teeth to children under five years old: The WHO considers fluoride the most economical, safest and most effective way to prevent tooth decay. International literature also indicates that topical application of fluoride can effectively reduce tooth decay by 28%. BHP actively promotes the use of fluoride in tooth decay prevention and has offered free fluoride applications to children under five once every sixth months since July 2004. BHP served 221,000 person-times in 2008, with a utilization rate of 13.2%, which is 2.9% more than 2007.
- (2) Analysis of the impact of fluoride applications among children: In 2008, BHP commissioned the Association of Family Dental to investigate the current provision and use of fluoride application, propose a reasonable pricing for fluoride application service and evaluate the effectiveness of fluoride applications. The study will serve as a reference for future campaigns.
- (3) Comprehensive fluoride mouth rinse program for elementary school children: In 2001, the program was promoted in all 25 counties and cities in Taiwan. In 2008, BHP subsidized the Taiwan Dental Association to organize related activities, which was participated by 2,651 schools and 1.75 million school children. The participation rate for school children was 98.5% and all the schools in Taiwan's remote mountainous areas participated in the program. In addition, the Taiwan Dental Association organized seminars on school children's oral health protection for dentists and school oral health education seminars. Through cooperation with county and city dental associations, arrangements were made for dentists to visit the schools to monitor their implementation quality, as well as promote post-meal tooth brushing, decay prevention through fluoride use, and oral health education. Typically, fluorides use takes 3-5 years to produce the desired outcome.

### **2. Surveying periodontal condition**

BHP commissioned academic institutions to conduct the "Periodontal Condition and Health Behavioral Investigation and Study on People over 18 Years Old in Taiwan," which was the first large-scale investigation on periodontal condition in the nation. Periodontal diseases can be divided into gingivitis (inflammation of the gums around the teeth), and periodontitis (inflammation of the supporting structures of the teeth). The survey found that 54.22% of people have periodontitis ( $CPI \geq 3$ ) and required further intervention treatment, while 44.95% have gingivitis ( $3 > CPI \geq 1$ ), which can be treated by brushing and scaling.

Overall periodontal disease becomes more severe with age, and men are generally more afflicted than women. The risk factors for periodontal disease include old age, gender, low education levels, incorrect brushing concepts and other factors related to a lack of proper oral health behavior and concepts, including infrequent dental checkups, all of which contribute to a higher probability of periodontitis. Therefore, having good oral health behaviors is extremely important.

### **3. Promoting the operation of the Committee of Dental Medicine to assist with review and implementation of policies.**

Promote Health

# Chapter 5

## Healthy Environment



## Section 1 Healthy cities

At a meeting in Lisbon, Portugal, in 1986, 21 European cities resolved to build a consensus among their residents to jointly develop healthy cities based on the concept "Health for All" by proactively improving the environment and changing personal lifestyles. In 1997, the WHO launched a "Healthy Cities" program that promoted the incorporation of healthy city concepts, values and standards in city planning and pushed to alleviate city health problems through a better understanding of the health needs of urban residents. Through the cooperation of all levels of government agencies and different sectors of society, public health policies were devised to encourage urban and community residents to actively participate in health promotion efforts to further public health and the quality of health care.

With the WHO's "Healthy Cities" concept in mind, BHP set a goal in 2008 to have one more county or city from Taiwan joining the WHO Alliance for Healthy Cities (AFHC) in the Western Pacific Region, while continuing to assist local governments in promoting the Healthy Cities Program.

### 1. Strategies and results:

#### (1) Promotion of Healthy Cities Program

To guide and encourage local governments in implementing the Healthy Cities Program, BHP offered telephone consulting services while on-site guidance were provided in Miaoli County, Chiayi City and Pingtung County in 2008. The efforts successfully helped Miaoli County and Danshuei Township of Taipei County become members of the WHO Alliance for Healthy Cities in the Western Pacific Region. In addition, 10 other counties and cities were encouraged to join the Alliance for Taiwan Healthy Cities and exchange information on pertinent health issues and promote the Healthy Cities Program.

#### (2) Establishment of Healthy City Information Network

Information on healthy cities was gathered from domestic and international sources to create a specialized website and publish a "Healthy Cities" journal that served as a reference for local initiatives. Also, the "2008 Health Carnival – National Workshops for Healthy Cities" was organized in Danshuei Township, Taipei County, in September to promote the exchange of information and successful experiences among the counties and cities in Taiwan.

#### (3) Promotion of international cooperation

BHP participated in the Third Global Conference of the Alliance for Healthy Cities held in Japan in October 2008 and gave an oral presentation on the results of Taiwan's healthy cities initiatives. In all, representatives from Taiwan presented 14 papers and six posters and exchanged experiences with other healthy cities from around the globe.

Promote Health

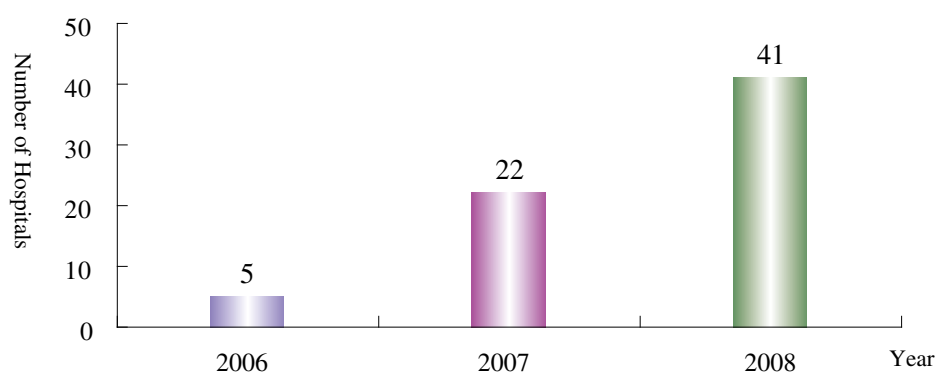


## 2. Background:

BHP has embraced the WHO's "Healthy Cities" concept since 2003, when it first promoted Tainan City's healthy city program. Through cooperation with specialist teams and local governments, local health needs were reviewed to create a mechanism for industry-government collaboration across various departments and fields for devising healthy public policies. In 2005, Tainan City became a member of the WHO Alliance for Healthy Cities in the Western Pacific Region, and the city's success prompted other local governments to actively participate in the initiative. In 2006 and 2007, BHP authorized Miaoli County, Hualien County, Kaohsiung City and Taipei County to promote the Healthy Cities program.

Beginning in 2007, BHP established nationwide healthy city indicators and an information network through the Alliance for Taiwan Healthy Cities program. The goal was to encourage and assist counties and cities in joining the WHO Alliance for Healthy Cities and increase interaction with the global community. By the end of 2008, 41 hospitals in Taiwan have been accredited WHO Health Promoting Hospitals (HPH).

Figure 5-1 Number of hospitals in Taiwan accredited by WHO as Health Promoting Hospitals



## Section 2 Healthy communities

### I. Safe communities

#### **Current status:**

In 1989, the WHO established the WHO Collaborating Centre on Community Safety Promotion at the Karolinska Institute in Stockholm, Sweden, to help communities around the world in the prevention and control of accidents and injuries. In addition, through a strict evaluation system and public certification, the concept of safe communities was promoted with the aim to form the worldwide Safe Communities Network. As of 2008, 148 communities from around the world had received certification.

In 2002, Taiwan followed the WHO's Safe Community guidelines in launching several safety promotion plans that catered to the special needs to communities. In 2005, Neihu District of Taipei City, Dungshr Township of Taichung County, Alishan Township of Chiayi County, and Fongbin Township of Hualien passed international accreditation as safe communities. A year later, the international promotion model was adopted to establish the Taiwanese Community Safety Promotion Center as well as Community Safety Support Centers in northern, central, southern and eastern Taiwan. Twelve new communities were subsequently assisted in developing safe community programs. In 2008, Zhongzheng District of Taipei City, Shihkang Township of Taichung County, and Shoufeng Township of Hualien County also passed international accreditation as safe communities. In addition, BHP continued to cooperate with the Council of Indigenous Peoples in the promotion of a community safety program for four aboriginal tribes. In the meantime, the Taiwan Community Safety Network was gradually constructed.

#### **Policy objectives and expected outcomes:**

To build a safe, healthy living environment, seven internationally accredited safe communities were promoted in 2008 and the number is expected to increase to 10 in 2010. By solidifying the safe community counseling system, strengthening efforts to meet international norms and expanding the efficacy of the safe community initiative, it is expected that the incidence rate of accidents and injuries in Taiwan will also decline.

#### **Policies implementation and results:**

##### **1. Development of community characteristics based on internationally proven foundation and health and safety promotion concepts**

- (1) In adopting international health and safety promotion strategies, the community was set as a platform for building an organizational promotional framework. Based on the needs of each community, diversified initiatives of accident and injury prevention and control and safety promotion that targeted specific subjects and issues were launched.
- (2) Integration with other health promotion programs was gradually developed. For example, the Fongbin Safe Community worked with groups engaging in the health promoting hospital program to ensure the medication safety for the elderly. The community safety program was included in Hualien's healthy city development. The Dungshr Safe Community promoted



campus safety through the health promoting schools platform, helping Dungshr Elementary School pass the international Safe School certification.

- (3) The attitude and method of the promotions take into consideration both the bottom-up autonomy of community residents and the top-down engagement and promotion from governmental departments.
- (4) Support of government policies were combined with a cross-departmental and cross-field cooperation matrix for the effective application of resources.
- (5) Support also comes from academic institutions, such as the Taiwanese Injury Prevention and Safety Promotion Association and Tzu Chi University.

## 2. Current developments

Currently, issues prioritized by the BHP include inspection of playground facilities in parks and environmental safety in shopping malls; monitoring of residential environment safety; promotion of roadway safety (including no drunk driving; use of safety helmets; and road improvements); agricultural safety (pesticide and agricultural tool and machinery safety); children's safety on campus; building safe waters and prevention of drowning accidents; inspection of electricity safety of private lodgings; senior safety (including protection network for solitary and fragile elderly people and fall prevention plans); and others such as carbon monoxide poisoning monitoring, recreational safety promotion or prevention and control of heat-induced diseases due to environment at changes.

## 3. Promotion outcome in representative communities

### (1) Zhongzheng Safe Community (Taipei City)

Data from large community hospitals were jointly monitored, registered and analyzed as reference for the improvement of dangerous sections of community roads. The safety of solitary elderly citizens living alone was attended to through a protection network.

### (2) Shihkang Safe Community (Taichung County)

Shihkang Township promoted safe agricultural practices such as agricultural tool and machinery safety, pesticide safety and grain storage safety. The township also collaborated with the nearby Dungshr international safe community program in improving the roadway safety of the Dungfong green corridor. With the cooperation of community police, a safe environment was provided for local residents to ride bicycles and perform other popular activities. According to the community registry data on accidents and injuries, there were 173 counts in 2004, 214 in 2005, 182 in 2006 and 139 in 2007, a clear indication that safety promotion efforts are beginning to take effect.

### (3) Shoufeng Safe Community (Hualien County)

Based on the theme of building a safe green environment, Shoufeng Towhship beautified the community with green corridors that solved the problem of gravel trucks shuttling through the community and safeguarded local residents' desire to live safely. In addition, with the community's population rapidly aging, a registration record of the township's elderly citizens was established. Volunteers were also enlisted to help the elderly in the areas of home safety and fall prevention to build an ideal environment for them in the remains of their days.



## II. Health Promotion Communities

The general public is normally passive about health education and services. To change that attitude and encourage people to actively participate in health initiatives and take ownership of their own health, BHP launched a program through community organizations to spark residents' interest in community health and to encourage them to collaborate with other community groups to resolve health issues, achieve a healthy lifestyle and build a healthy environment.

BHP encouraged communities to continue their involvement in health promotion by inviting experts to conduct trial on-site assessments and establish the "Health Promotion Community Certification Standards." The goal in 2008 was that over 10 communities around the country should receive the certification, and BHP therefore launched a "Health Promotion Community Certification Trial Project" based on the themes of "Five Veggies and Fruits a Day" and "Move for living."

### 1. Strategies and results

- (1) In 2008, BHP subsidized 28 communities in 17 counties and cities to participate in the "Health Promotion Community Certification Trial Project," in which 23 communities received the certification.
  - a. "Five Veggies and Fruits a Day": BHP mobilized 191 health food restaurants and diners, 480 community groups, 55 schools and 1,667 families to construct a supportive healthy environment and jointly advocate the concept of "Five Veggies and Fruits a Day."
  - b. "Move for living": BHP mobilized 338 community groups in promoting the "Move for living" campaign and produced 4,807 exercise maps, built 60 walking trails, installed 83 exercise signs and helped plan 177 spaces dedicated to physical activity to ensure that residents have appropriate places to exercise. BHP also organized 1,451 health promotion seminars and workshops which had the participation of 215,846 person-times.
- (2) Through the community platform, BHP subsidized 125 communities in 23 counties and cities to conduct the "community integration plan" by initiatives such as smoke-free communities, betel quid-free communities, "Senior Health Forever Project" and safe communities. The results are as follows:
  - a. 92 community groups were mobilized to promote smoke-free environments, establishing 4,600 smoke-free families, 533 smoke-free stores, 137 smoke-free restaurants, 93 smoke-free campuses, and 70 smoke-free workplaces.
  - b. 49 betel quid abstinence classes were held, which was participated by 729 people; moreover, 52,337 people underwent oral mucosa inspection, with 2,377 suspected positive cases identified, which complies with the principle of early detection for early treatment.
  - c. 220 community groups were mobilized to build supportive healthy environments for elderly citizens and 47 elderly citizen health promotion classes were held (attended by 4,155 people) to improve their self care abilities.
  - d. A total of 625 health promotion events and seminars were organized on topics such as chronic disease prevention, medication and home safety, and health screening, which attracted the participation of 33,395 person-times.
  - e. A concerted effort was made among 345 community groups to build safe communities and change unsafe environments by improving 85 dangerous road facilities.

- (3) To develop manpower for health promotion communities, a “2008 Health Promotion Community Certification and Community Integration Plan Personnel Training and Conference” event was organized, which was attended by 145 people. A presentation was also held to announce the accomplishments of the Health Promotion Community Certification Project and publicize the strategies and experiences of each county and city. It drew 320 representatives from health bureaus, health centers and community groups from around Taiwan. Moreover, the achievements of the health promotion tasks were compiled into a publication for the reference of pertinent personnel.

### 3. Background:

To promote greater concern for community health among the public in line with the WHO's Healthy Cities concept, the DOH launched a “Community Health Building Program” in 1999 which aimed to integrate the existing health care system with NGO resources to create a diversified infrastructural network that stressed community participation and the building of partnerships. Working through communities, the program sought to combine the public's traditional passive acceptance of directives from above with active bottom-up participation by community residents in order to solve community health problems and promote healthy living.

In 2002, BHP began assisting “Community Health Building Program” units in promoting healthy living in the hope of improving community health problems. In May 2003, the Executive Yuan launched the “Challenge 2008: National Development Plan,” which listed the “Community Healthy Life Program” as one of its top priorities. In 2008, to encourage communities to continue health-building activities, BHP drafted “Health Promotion Community Certification Standards” and set in motion a “Health Promotion Community Certification Trial Project,” both of which were consistent with the vision of sustainable development.

## III. Health risks

### Current status:

In light of the health risks posed by environmental pollution, a Health Risk Working Group was formed under the National Council for Sustainable Development (NCSD). The DOH was in charge of convening group meetings, while BHP served as the contact window. The Environmental Protection Agency, the Council of Labor Affairs, the Council of Agriculture, and the Ministry of Economic Affairs were enlisted to tackle the problem. The working group's missions included health risk evaluation and management and protection of health for special populations. Its major tasks include monitoring in advance environmental substances proven scientifically to be harmful to the human body and taking appropriate action to alleviate existing pollution problems.

### Policy implementation and results:

In 2008, panel discussions were held by the Health Risk Working Group to discuss actions for dealing with issues related to health risks and to explore the legalization of the standard operating procedure and evaluation for health risk assessment of pesticide residues in food. On November 11th, 2008, the Secretariat of the NCSD finalized adjustments to its organizational structure, and the Health Risk Working Group was reorganized as the Health and Welfare Working Group to promote health risk management and welfare and to ensure national health. The DOH remains in charge of convening the meetings.

## **1. The Tainan City CPDC Anshun Plant Incident**

BHP continued to assist the Tainan City government with a health care program for residents affected by pollution from China Petrochemical Development Corporation's Anshun Plant. Based on the division of duties within the task force for handling the Anshun Plant site cleanup, the DOH is responsible for assessing the health of local residents and helping them obtain treatment and health care. BHP also offers specialized medical advice in the special task force meetings held by the Tainan government on medical issues related to the Anshun Plant pollution and provides professional advice and consultation to the Ministry of Economics regarding the appeals by an organization seeking compensation for Anshun Plant employees who were exposed to the pollution.

## **2. Health risk assessment and management of Electromagnetic Fields**

To enable the public to gain an accurate understanding of non-ionization radiation and to evaluate its safety, the WHO launched the "International EMF Project" in 1996, in which more than 54 countries and eight international organizations participated. BHP continues to gather reports and recommendations issued by the WHO, the EU and other advanced nations on risk of electromagnetic fields as reference for policy-making and health risk communications. BHP also collaborated with relevant ministries and departments to strengthen communication with the public on the health risks of electromagnetic fields. For example:

- (1) The Electromagnetic Field Task Force Team (EMFTT) was established underneath the Health Risk Working Group to join efforts with the industry, government and academia as well as with various ministries and departments to handle issues related to electromagnetic fields.
- (2) Taiwan Power Co. and local health bureaus were commissioned to publish the "Talks about Electromagnetic Fields (EMF) Manual," a health education manual which aims to provide accurate health information on non-ionization radiation to a wider audience.
- (3) A study was commissioned to evaluate the health status of residents in areas with a relatively high concentration of base stations, and it did not find sufficient evidence that the prevalence of cancer among residents living in areas with a high concentration of base stations was higher than that of the general population. This result is consistent with the findings in WHO Fact Sheet No. 304 issued in May 2006, which concluded that "there is no convincing scientific evidence that the weak RF (radiofrequency) signals from base stations and wireless networks cause adverse health effects."
- (4) Teams from National Taiwan University and National Yang-Ming University were invited to cooperate with BHP to conduct those different levels of communications on the health risks caused by electromagnetic fields. Community forums were organized in Taipei City, Kaohsiung City, and Yuli Township of Hualien County on the topic. Another forum to communication health risk issues was held in Cigu Township of Tainan County, targeting residents living near a weather radar station.
- (5) Domestic studies on the health risks of electromagnetic fields are planned for incorporation in the "Epidemiological Research on the Health Effects of Electromagnetic Fields" in the National Science Council's 2009-2013 Networked Communications Program.

## Section 3 Healthy schools

### I. Health promoting schools

#### Current status:

A student smoking behavior survey conducted by the BHP shows that smoking has become an increasingly serious problem among teenagers (for detailed information, please refer to II. Campus tobacco hazards prevention and control under Section 2 Adolescent health in Chapter 2 Healthy birth and development). The DMFT index among 12-year-old children is 2.58 and much effort is still required to meet the WHO's goal of a DMFT index of under 2 by 2010. The prevalence of myopia is 19.6% among first graders, 62% among sixth graders, 77% among ninth graders, and 85% among 12th graders. Not only myopia prevalence increases with age, but so does the severity of myopia. According to the 2001-2002 Elementary School Children's Nutrition and Health **Survey** in Taiwan, obesity rate was 12%. In 2006, a Ministry of Education survey on the BMI of elementary school students found that one out of four students was overweight or obese and that the obesity rate increased with age. Finally, accidents and injuries are the leading cause of death among children and teenagers.

To tackle the complex and numerous health problems associated with children and teenagers, besides strategies and plans established for special health problems, the WHO also introduced the concept of Health Promoting Schools to integrate health and education resources because students spend most of their time socializing, learning, playing and resting in a school setting. To integrate health and education resources and to create a consensus between teachers and students, promote participation from communities, and construct a healthy and safe campus environment are prioritized strategies in Taiwan in promoting children and teenagers' health.

After adopting the Health Promoting School Program, many countries around the world have effectively reduced health problems, improved education efficiency, and promoted public health and socio-economic development.

#### Objectives

Key indicators of the health promoting schools initiative include the inter-ministerial integration of health and education resources to fully promote the program and improve the correction rate of poor eyesight, caries restorative rate, and the rate of normal BMI, while reducing the rate of smoking and the rate of exposure to second-hand smoke on campus.

#### Policy implementation and results:

##### 1. Promotion of health promoting schools with the Ministry of Education through integration of resources in ministries and departments

The Ministry of Education and BHP integrated resources in ministries and departments to jointly introduce the Health Promoting School program. Participation in the program has grown from 318 schools in 2005 to 773 schools in 2007. To care for the health of all of Taiwan's students, the program was extended in 2008 to include all schools at the senior high school and vocational school level and below.

The responsibilities and division of work were defined between the central government, local governments and regional authorities: The Ministry of Education and the Department of Health are the two central government authorities, whose responsibilities include collaborative stipulation of policies, establishment of network resources and organization of personnel training. The education and public health bureaus were the two local government authorities to integrate related issues, hold periodical meetings, establish localized counseling and support systems, and take part in decision making. Regional authorities include health institutions and schools. Health institutions encompass regional healthcare facilities, public health centers and community health building centers. Schools are comprised of principals, teachers, students and parents. Education and health authorities cooperate with each other from the central and local governments to regional levels so that related resources can be combined and health promoting schools can be sustainable.

## **2. Results of the Health Promoting School Program**

For senior high and vocational schools or schools lower in the hierarchy, the WHO suggests six areas: school health policy, physical environment, social environment, community relationship, personal health skills, and health services, for health promotion on campus in order to construct a healthy and safe campus and promote and maintain the physical, mental and social health of the faculty, staff and students on campus.

In 2008, 3,868 schools at the senior high school and vocational school level and below in Taiwan participated in the Health Promoting School Program, among which 2,652 were elementary schools, 740 were junior high schools and 476 were senior high schools and vocational schools. Each school promoted specific health issues based on an assessment of needs, such as tobacco control, betel nut hazards prevention, visual health, oral health, normal BMI and sex education (including HPV) and cervical cancer prevention.

## **3. Establishment of health promoting school support systems to facilitate the sustainability of the program**

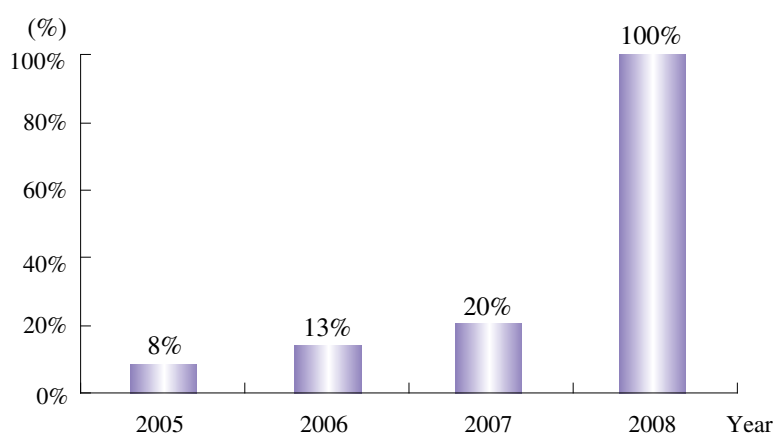
BHP began integrating related support systems in 2005 to build a "Taiwan Health Promoting School Center" to serve as an exclusive resources window to provide consistent assistance and services to county and city governments and all levels of schools in sustaining the program.

The center's main priorities and accomplishments are as follows:

- (1) To construct localized counseling and support models, 99 experts and scholars were recruited to form a professional counseling team help 25 counties and cities establish counseling and support teams. Two consensus-building meetings between central and local counseling committee members were organized, which were participated by 257 people, while 1,839 visits were made to counsel local support and counseling teams and schools to assess the operations of local government teams, among which 56% were rated outstanding or excellent and 44% were rated good or average.
- (2) Through the Health Promoting School platform, a pilot plan for campus tobacco hazards prevention and control was set up in five elementary, junior high, senior high and vocational schools in two counties and cities to establish a model for promoting smoke-free campuses.

- (3) Training programs for related personnel and seed instructors training courses were organized based on an assessment of their training needs. Performance indicators were developed and established for health promoting schools to solicit feedback and suggestions for adjusting the implementation of the program. Relevant meetings and personnel training sessions were held, which were attended by 400 people. Increased efforts were made to assist schools at all levels in completing online registration to help build a database.
- (4) The Website of Health Promoting Schools was maintained and expanded, serving as a one-stop portal providing local governments and schools with the latest information and related resources as well as online counseling. A survey of the schools' online needs shows that 90% hoped the portal could increase the sharing of resources, while around 70% hoped for more teaching resources. These findings will serve as a reference for future improvements on the site's content.
- (5) Related marketing campaigns were launched to gain the affirmation, support and participation of communities, parents and pertinent groups. In conjunction with the marketing campaign, exhibitions were held at four outstanding Health Promoting Schools for other schools to benefit from their experience. A total of 437 people attended the exhibitions, among which 96% of the participants expressed satisfaction with the content and indicated that their depth of understanding of the concept of Health Promoting Schools and related issues improved by about 30%. Media outlets ran 22 stories on the event, including 8 on television, 2 on the radio and 12 in newspapers.

Figure 5-2 Number of schools participating in the Health Promoting School Program



#### 4. Breakdown of health promotion issues by schools in the 97 academic year:

Selected issue	Elementary school (%)	Junior high school (%)	Senior high and vocational school (%)
Visual health	46.0	24.2	16.28
Oral health	52.7	24.8	20.93
Physical activities	53.6	62.1	62.79
Sex education	5.8	19.0	23.26
Accident and injury prevention and control	7.9	9.8	20.93
Mental health	2.8	5.9	2.33
Infectious disease prevention	3.4	5.2	27.9
Drug abuse prevention	4.4	15.0	27.9
Healthy diet	24.3	37.9	37.21
Other	11.5	17.0	20.93

## II. Safe schools

### Current status:

Unintentional injuries are a major cause of death for people aged 1 to 44 in most countries in the world (Murphy, 2000). Children spend considerable parts of their lives at school, but schools tended to place more emphasis on students' career development and academic performance in the past. Vosskuhler (2003) organized literature on how to reduce accidents and injuries and pointed out that schools with control over accidents, injuries and violence can increase the students' life satisfaction and academic performance. Therefore, the issue of safe schools has gradually gained prominence in the WHO.

According to the Guidelines for Safe Schools (International Safe Schools Committee, 2003), safe schools should follow the three "E's" of injury prevention intervention: environment, education and enforcement. Thus, the promotion of safe schools must first identify risk factors and then promote the 3E principles. The International Safe Schools Program originated in 2001 with the 10th International Safe Communities Conference, where 35 experts discussed and confirmed the importance of a safe schools program, and stressed the need to join community building with schools and communities in order to carry out related tasks.

The most common incidents were accidents, with 10,895 cases (73%), followed by violent crimes and deviant behavior (1,788 cases, 12%), campus safety maintenance events (1,084 cases, 7.3%), child and teenager protective custody incidents (775 cases, 5.2%), disciplinary conflicts with teachers or administrators (133 cases, 0.9%), others (177 cases, 1.2%) and natural disasters (82 cases, 0.5%) (Ministry of Education, 2005). The results indicate that accident and



violence prevention should be the main focus in ensuring campus safety. While Taiwan has been devoted to the promotion of friendly campuses, traffic safety, reduction of accidents and injuries, and human rights education for many years, there lacks an integration mechanism, logistical assessment and community empowerment. Through the promotion of the safe schools program, it is expected that more schools may apply to the international certification.

### Policy objectives and expected outcomes:

The objective of the policy is to build a national safe and healthy school system based on a localized promotion model and establish sustainable operating systems and resources so that Taiwan's future generations can study and grow in a safe environment. In 2007 and 2008, 15 safe schools received international certification and BHP is expected to guide 10 or more schools in the implementation of the safe and healthy schools program in 2009. The expected outcomes include building support teams, counseling systems and a national certification system to lower the prevalence of accidents and injuries at every school level.

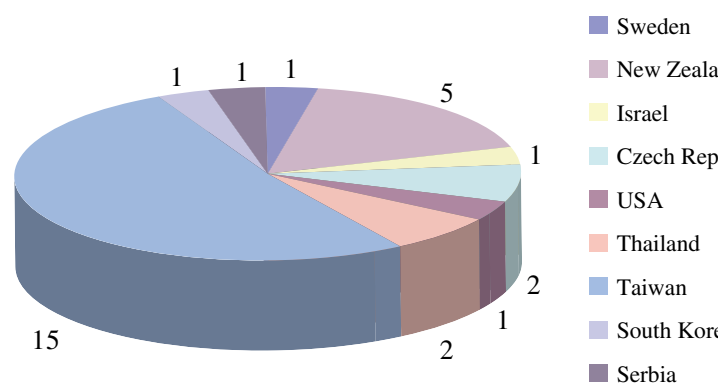
### Policy implementation and results:

In 2007, the operations were based on a localized promotion model. As the certification has 49 indicators, schools were encouraged to participate in the certification process based on an evaluation of their qualification. Six schools, namely Dungshr Elementary School in Taichung County, National Hualien Senior High School, Chengde Elementary School in Taipei City, Dongao Elementary School in Yilan County, and Fongbin Elementary School and Kangle Elementary School in Hualien County, became internationally designated safe schools.

In 2008, nine more schools earned the international safe school certification: Tamkang University, Nan-Hu Elementary School and Zhi-Shan Junior High School in Taipei City, and Giao Ping Elementary, Chuei-Yang Elementary, Sing-An Elementary, Chia-Pei Elementary, Lan Tan Elementary, and Yuren Elementary schools in Chiayi City.

Taiwan currently has the most certified safe schools in the world (Figure 5-3), and the number is expected to increase in the future. By strengthening international exchange, Taiwan hopes to establish an international model of success in the promotion of safe schools.

Figure 5-3 Number of schools by country earning international safe school certification



## Section 4 Healthy workplace

### Current status:

Most people spend at least one third of their day time at work, which highlights the importance of health promotion in the workplace. In recent years, as Taiwan's workplaces face a rapid industrial transformation and diversity in employment patterns, the health emphasis in workplaces also needs to be adjusted. In promoting healthy workplaces, one emphasis is occupational hazard prevention by providing workers with effective occupational injury and diseases prevention, health education, and consultation. Another emphasis involves developing special workplace health promotion issues through employee participation in conjunction with workplace guidelines and organizational cultures to establish healthy workplace environments and improve employees' health.

### Policy implementation and results:

#### 1. Workplace health promotion and tobacco control

BHP has authorized to establish "Centers for Workplace Health Promotion and Tobacco Control" in northern, central and southern Taiwan in order to help establishing healthy workplaces with on-site counseling, and providing workplace-related consultation, health education, and training services. In 2007, the Self-Certification of Healthy Workplace program was launched and standards for autonomous accreditation were established. In 2008, promotion of the program was sustained while an additional item was incorporated in the accreditation criteria on the implementation of a smoking ban in indoor workplaces with three or more employees to reflect the newly amended Tobacco Hazards Prevention Act. Recognition ceremonies for outstanding healthy workplaces were organized to encourage smoke-free work environments and health promotion.

- (1) BHP collaborated with professional counseling teams to offer on-site guidance to 74 companies and eight occupational or industrial unions on actively advocating workplace health promotion and tobacco hazard prevention.
- (2) The Self-Certification of Healthy Workplace program was actively promoted in 2008 with a total of 1,177 workplaces passing the certification (a 74.9% increase compared to the 673 approved in 2007). Among the certified workplaces, the largest groups by industry sector were manufacturing (31.4%) and financial and insurance services (21.8%); 118 (10%) workplaces were large enterprises with over 300 employees and the other 1,059 were small and medium-sized enterprises with fewer than 300 employees. Also, 32 companies were recognized as outstanding healthy workplaces (Figure 5-4).
- (3) A nationwide survey on healthy workplace environments reveals that the smoking rate for employees in workplaces in 2008 was 20% (1% lower than that in 2007) and the smoking cessation rate for employees in workplaces was 11% (0.9% higher than that in 2007); 55.8% of indoor workplaces banned smoking (4.8% higher than in 2007); and the exposure rate to second-hand smoke did not show significant change (rising from 25.9% in 2007 to 26% in 2008). Results of previous workplace tobacco hazards surveys are shown in Figure 5-5.

- (4) The nationwide workplace health promotion and tobacco control survey results show that after receiving guidance, executives in 76% of the workplaces started to participate in tobacco control and health promotion issues, 35.6% of the workplaces budgeted funds for health promotion and tobacco control plans, and 86.1% strengthened their health promotion and tobacco control planning capabilities.

Figure 5-4 Distribution of healthy workplaces by sector for 2008

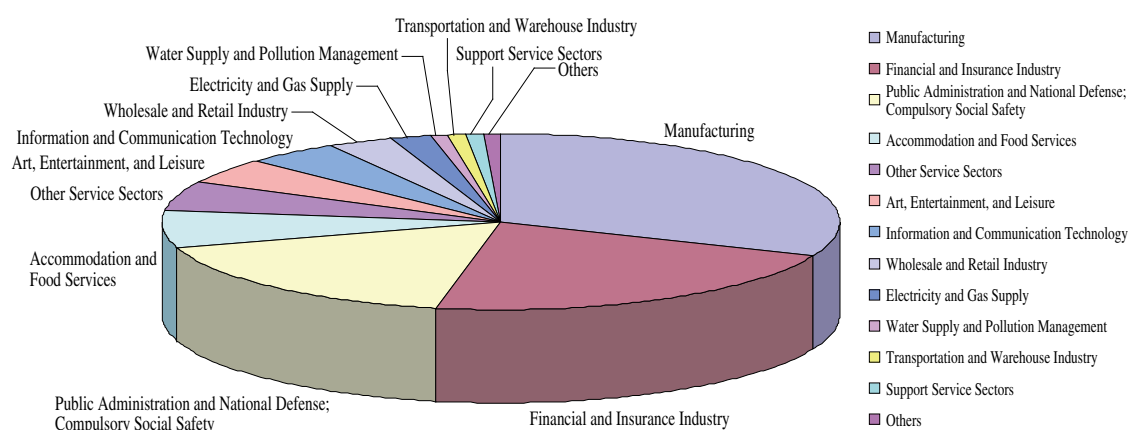
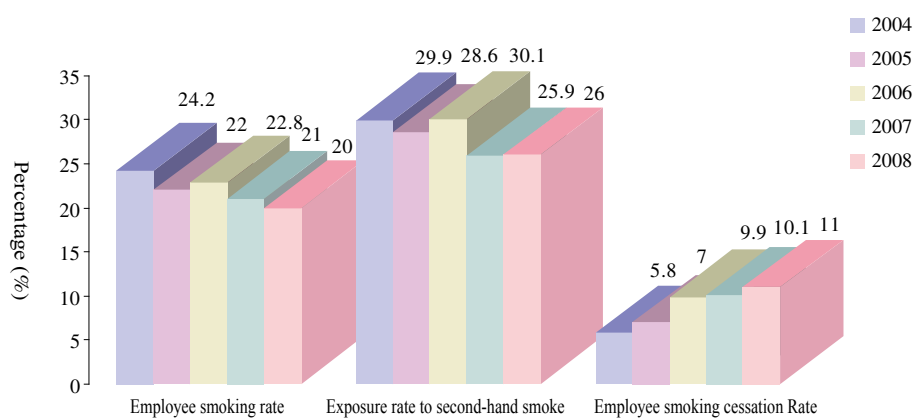


Figure 5-5 Results of workplace tobacco hazards surveys

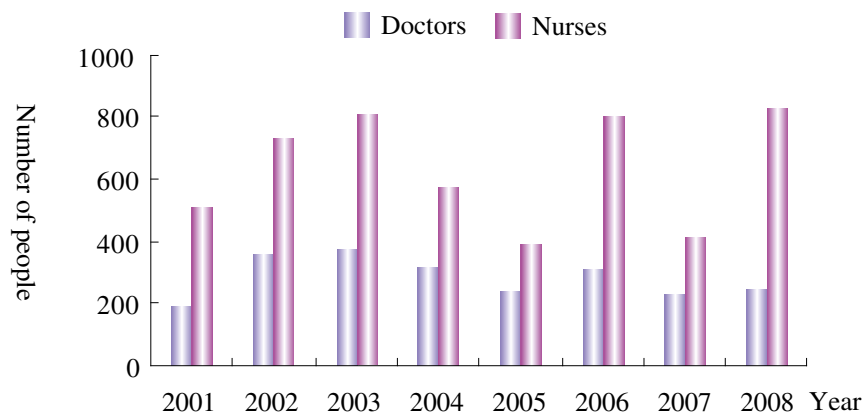


## 2. Promoting physical examinations for laborers

According to Article 15 of the “Regulations on Designating Health Care Institutions for Laborers’ Physical Examinations,” medical staff from designated medical institutions are required by central government departments and health agencies to receive training in occupational medicine, occupational health nursing, and occupational safety and health. On May 30, 2008, the Department of Health and the Council of Labor Affairs amended Article 15 and charged labor or health agencies at all levels with the responsibility of organizing the respective training. To ensure that the training standards and results are consistent (Figure 5-6), BHP organized two core teaching programs in 2008 – an “occupational medicine seminar for doctors,” consisting of 14 classes totaling 28 hours of training, and another “occupational health nursing seminar,” consisting of 10 classes totaling 19 hours of training. Related information has been posted on the BHP website and was provided as a reference for the Council of Labor Affairs and the public health bureaus of Taiwan’s 25 counties and cities.

Furthermore, to elevate the quality of health examination for laborers, BHP designed a subjective symptom questionnaire as part of the labor health examination record according to general and special labor categories (25 types of labor). During health examinations, the questionnaire serves as an effective screening tool for illnesses. BHP also collaborated with the Council of Labor Affairs to organize four labor health management forums for medical institutions designated to give labor physical and health examinations. The forums were attended by 570 people.

Figure 5-6 Number of doctors and nurses undergoing workplace safety training



# Chapter 6

## Special Health Topics



In the “World Health Report 1998 – Life in the 21st Century: A Vision for All” published by the WHO, special emphasis was placed on “health equality,” particularly on placing equal importance on the issues of gender, race and poverty. More and more studies have shown that health risk factors and health disease prevention behavior require different measures and response models for people with different gender, races and income levels, or those with physical and mental disabilities.

Such groups face special health issues that are brought about by special health needs as well as socio-economic status. Women face health problems related to breast cancer, cervical cancer, hormone therapy related to menopause, osteoporosis and incontinence. For minority groups in Taiwan, the problems include the reproductive health of foreign spouses, insufficient attendance rate of children’s health examinations, difficulties in obtaining medical information and poor accessibility to treatment, difficulties in obtaining therapeutic drugs for rare disease patients, oral health problems for the physically and mentally disabled, and health care for patients with oil disease (also known as Yu-Cheng or Yusho). The most important task in attaining health equality is to utilize the three major concepts of health protection, disease prevention and health promotion in adopting different strategies, plans, methods and intervention measures for eliminating health inequality.

## Section 1 Women’s health

In 2002, the WHO passed a gender policy and established the Department of Gender, Women and Health to promote global awareness and concern of social, cultural, psychological and physiological factors that affect the health of women. In response to the concept of gender mainstreaming of UN and health equality of WHO, BHP established a new “Women’s Health Policy” after having adopted bottom-up extensive participation which included opinions from women at the grassroots level and solicited guidance from three sessions of the Commission on Women’s Rights Promotion. It is hoped that the implementation of the new policy will eliminate health inequality for women brought about by gender discrimination and bias from traditional society, as well as execute the basic concept of equal participation by both genders for joint participation and joint decision-making.

### I. Reproductive health

#### **Current status:**

The average age of women in Taiwan for giving birth for the first time went from 23 in 1980 to 28.5 in 2007, which showed an obvious trend of late pregnancy. Moreover, the maternal mortality rate in 2007 was 6.8 out of every 100,000. According to the “9th Family and Reproductive Research Survey in Taiwan” in 2004, 32.72% of married women aged 20-49 had underwent abortions with an average number of 0.48, while 8.41% of unmarried women in the same age bracket underwent abortions with an average of 0.15, which showed that the ratio of abortions increased with age. Furthermore, while the percentage of teenage girls with sexual experience

was lower than that of boys, it had increased from 6.7% in 1995 to 10.4% in 2000, a phenomenon that should be heeded by the government. On the other hand, the fertility rate of teenage girls aged 15-19 dropped from 17% in 1994 to 8.5% in 2005.

### Objectives:

- (1) Achieving a utilization rate of 98.5% or above for prenatal examinations.
- (2) As late pregnancy increases the probability of fetal chromosomal abnormalities, there is a need to improve prenatal genetic diagnosis services and quality for high-risk pregnant women. The objectives and expected outcomes include achieving an examination rate of 85% or higher for clinical cytogenetics for expectant mothers over 34 years old, as well as a follow-up rate of 98% or higher for high-risk pregnant women found with abnormalities in prenatal genetic diagnosis.

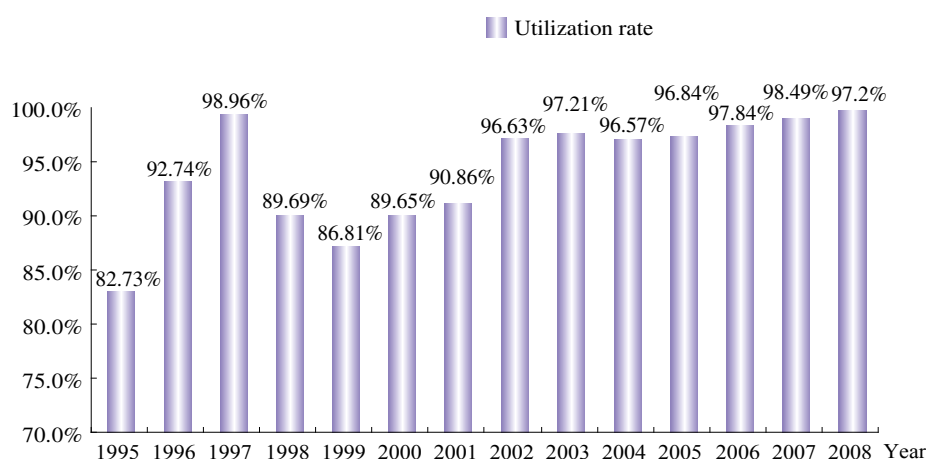
### Policy implementation and results:

#### 1. Establishment of systematic reproductive health services

##### (1) General prenatal examinations

National Health Insurance (NHI) contract hospitals offers 10 prenatal examinations for expectant mothers in order to help with early detection of possible complications at each stage of pregnancy to ensure the health of both pregnant women and their fetuses. From 2001, the utilization rate for these services has remained at over 90% or higher, with approximately 40% conducted at grassroots clinics and the remainder at medical centers, regional hospitals and local hospitals. The utilization rate for these services was 97.2% in 2008 (Figure 6-1).

Figure 6-1 Utilization rate of prenatal exams



**Note:** Data from 2002 to 2006, taken from the Bureau of National Health Insurance preventive health care results report, are cases who filed for subsidy. The 2007 data are cases who have received subsidy, as registered in the BHP files, while the 2008 data are those who have filed for subsidy.



## (2) Comprehensive genetic testing services

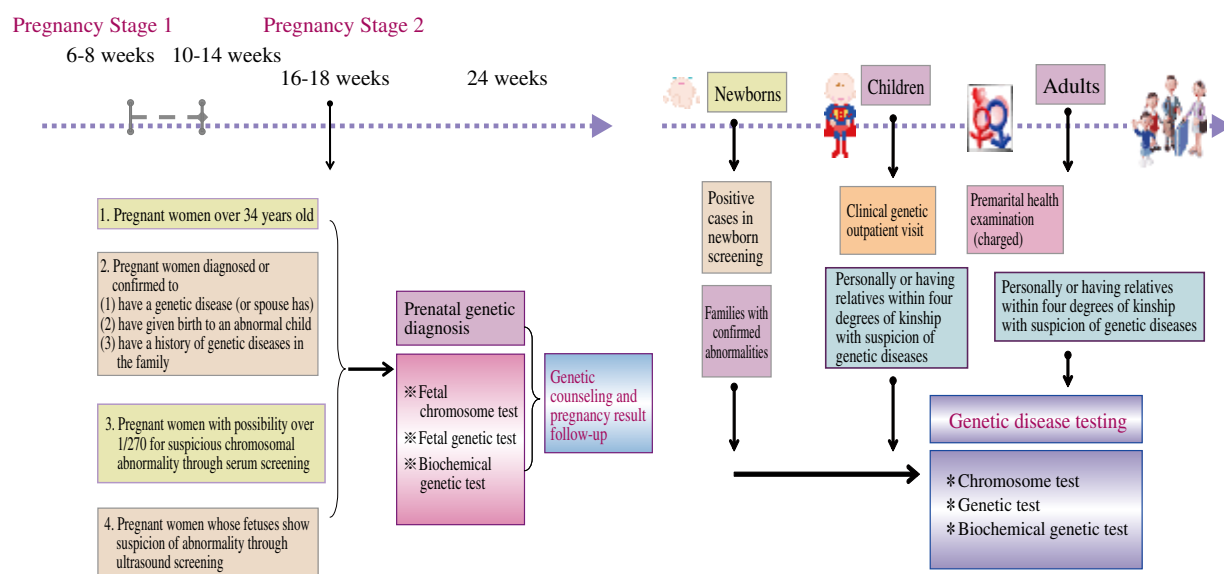
With reference to the experiences of advanced countries which are mainly founded on the concept of preventive medicine, genetic testing services have been integrated to provide primary prevention, prevention through reproductive options and secondary prevention measures, planned checkups and proper consultation and treatment from premarital, pre-conception, prenatal and neonatal stages to even adulthood with the aim to lessen the likelihood of congenital abnormalities. The Prevention and control network for genetic diseases can be seen in Figure 6-2, while the outcomes of genetic testing services at various stages are presented in the following:

- a. **Thalassemia screening in pregnant women:** If a pregnant woman is found to have abnormalities in prenatal blood checks, her spouse will be examined; if both are found to with abnormalities, the blood samples will be sent to one of the six genetic laboratories approved by the DOH for verification. If both the husband and wife are confirmed to be either alpha or beta thalassemia carriers, villi or amniotic fluid or fetal cord blood are collected, depending on the stage of pregnancy, to conduct a prenatal genetic diagnosis. In 2008, 1,120 people underwent thalassemia screenings, among which 354 fetuses diagnosed with thalassemia received treatment while prenatal care was provided to the mother in accordance with her wishes.
- b. **Prenatal genetic diagnosis of high-risk pregnant women:** In accordance with the "Reduction and Exemption or Subsidy for the Fees of Genetic Health Measures," high-risk pregnant women (over 34 years old with abnormality found in current pregnancy or past pregnancies or with a history of genetic diseases in her or her spouse's family) can receive prenatal genetic disease examinations at a reduced cost. In 2008, 33,396 people were subsidized of whom 23,991 were pregnant women over the age of 34 who received prenatal genetic disease examinations; the examination rate of pregnant women of advanced age was over 85% (Figure 6-3). In 2008, 774 people using these services were found to have abnormalities, or 2.32% of the total tested that year. In order to provide timely and appropriate care for pregnant women, cases with abnormal test results were followed up immediately by sample collecting medical institutions or public health systems which provided diagnosis and counseling or referrals to genetic counseling centers or related facilities for treatment.

To ensure the quality of prenatal genetic diagnosis institutions, BHP follows the "Guidelines for the Evaluation of Genetic Disease Examination Institutions" to conduct evaluation on examination institutions on a regular basis. Institutions which pass the evaluation must undergo subsequent evaluation every three years. As of 2008, 26 clinical cytogenetics laboratories and nine genetic laboratories have passed the assessment by BHP. Moreover, BHP drew up the "Guidelines for Accreditation of Genetic Counseling Centers" for the accreditation and periodical evaluation of genetic counseling centers in Taiwan in order to ensure the high quality of genetic counseling, diagnosis and treatment. As of 2008, 11 genetic counseling centers in Taiwan have been accredited.

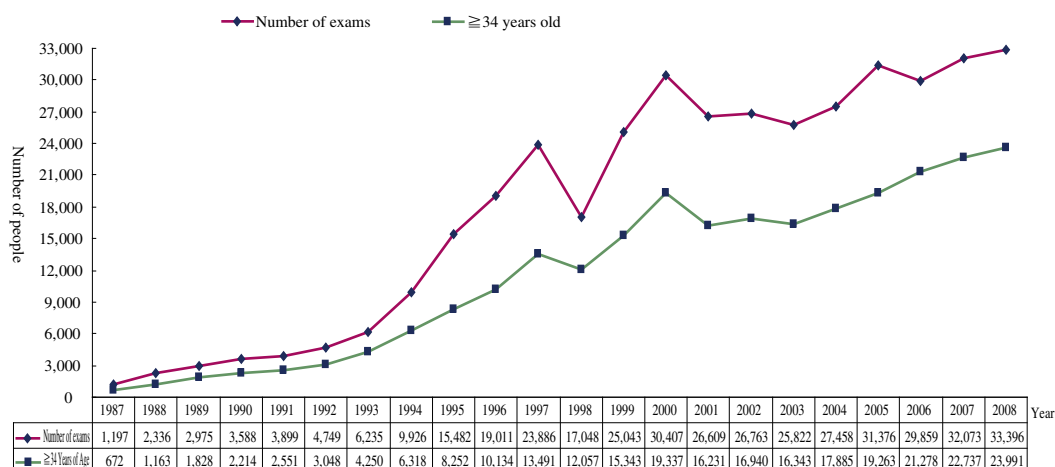
- c. **Genetic disease examination and genetic counseling:** Genetic disease examination and counseling are provided to people with genetic diseases that might affect reproductive health, possible genetic disease patients and their family members, newborns with abnormal congenital metabolic disease screening results and people suspected of genetic

Figure 6-2 Prevention and control network for genetic diseases



Note: including cases subsidized in Taipei and Kaohsiung

Figure 6-3 Number of pregnant women receiving prenatal hereditary disease diagnosis subsidized between 1987 and 2008



diseases. In 2008, 11,477 people were examined, among which 2,773 people were found with glucose-6-phosphate dehydrogenase (G6PD, commonly known as favism), 521 people were found with chromosomal abnormalities, 848 people were found to be thalassemia carriers and 447 people were found to have other abnormalities.

## **2. Comprehensive reproductive health regulatory laws and systems**

### **(1) Establishment of the Artificial Reproduction Act**

To ensure the correct use and development of artificial reproduction technology and to protect the rights of infertile couples, children artificially reproduced and donors, the "Artificial Reproduction Act" was announced and enacted on March 21st, 2007 and other pertinent measures followed such as "Regulations for Query on Kinship of Artificial Reproduction Child," "Regulations for Artificial Reproduction Institution Permit," "Regulations for Verification on Kinship of Sperm/Oocyte Donors and Receptors," "Regulations for Artificial Reproduction Information Notification and Administration," and "Notice of Maximum Payment Limit of A Donor's Expenses by the Recipient Couple. By December 2008, a total of 75 artificial reproduction institutes were approved.

### **(2) Proposal of Genetic Health Act Amendment Draft**

To better promote reproductive health and ensure the health and safety of pregnant women and their fetuses, amendments to the "Genetic Health Act" began in 2000 and the Act was renamed the "Reproductive Health Act," to which regulations governing genetic preventive services were added. The Act clearly states that medical instructions should provide consultation services to expectant mothers and amend the regulations governing induced abortion. The Amendment was sent to the Legislative Yuan for review on February 22nd, 2008.

### **(3) Provision of induced abortion consultation services**

In order to promote women's health, BHP continued to run the "Building a Counseling Model and Mechanism for Induced Abortion with Pertinent Measures and Integration of Resources" program in 2008. Based on the models, as well as measures and health education tools developed in 2007, four types of induced abortion consultation/counseling models were implemented, which served 242 person-times. The consultation services mainly consisted of the provision of medical information, followed by birth control advice, fetus development information and physiological support. The counseling services mainly involved the assuagement of anxiety, followed by counseling on possible changes brought about by induced abortion and advice on self care. After the session, 91.2% stayed with the decision of abortion, 3.1% decided to keep the baby and 5.7% were still unable to decide. The numbers showed that some cases needed more consultation and counseling assistance. A review of services showed that 93.6% were satisfied with the services rendered with 89.9% saying they felt the session overall answered their needs.

### **(4) Prenatal examination quality monitoring**

Since 1995, free prenatal examinations made available through the NHI have achieved the utilization rate of 97.8%. In 2008, the China Medical University Taiwan was commissioned to conduct the "Prenatal Examination Service Efficiency Survey"; a total of 20 medical institutes were surveyed, 1,282 case histories were examined and 1,262 satisfaction questionnaires were

collected. A review of case histories revealed that pregnant women undergo an average of 10.6 prenatal examinations with a 59.7% rate of finding at least one abnormality. The most often found abnormality was edema (13.3%), followed by protein in the urine, fetal position and sugar in the urine. Among the special items in the prenatal examination, the abnormality rate was the highest for type B hepatitis surface antigen (9.7%), followed by German measles antibody reactions. Of the 26.3% pregnant women who felt general discomfort, 13.3% complained of abdominal pains, followed by anemia, morning sickness and constipation. According to the questionnaires, the overall satisfaction rate for prenatal examinations was 92.2%, with the highest satisfaction rates given to the physician's professional ability and service attitude; the lowest satisfaction rates were for waiting time and prenatal exam costs (for items not covered by the NHI).

## II. Health care for middle-aged and elderly women

As the society becomes an aging society, the average life expectancy of women in Taiwan has reached 81.72 years, while the average natural menopausal age is  $49.3 \pm 3.8$  years. Presently middle-aged women over 50 years old (middle-aged is defined as under 65 years of age) make up 11.56% of the population. The 2005 National Health Interview Survey found that the prevalence of osteoporosis and incontinence increased with age. One out of every four women over 55 years old suffer from osteoporosis, with nearly one third of women over 65 year old (31.2%) suffering from osteoporosis. Approximately 30% of women over 55 years old suffer from incontinence. Women who are at risk are those who are over 45 years old, have a BMI (body mass index) higher than 27, have given birth to four children, or have had hypertension, diabetes or a history of strokes. Thus it is imperative to establish a positive attitude and behavior in middle-aged and elderly women as well as provide correct health-related information.

### Policy implementation and results:

1. To provide menopausal women with care and service, a toll-free hotline 0800-00-5107 (Ring! Ring! I want youth!) was set up to answer menopause-related questions. Nearly 6,000 calls were received, among which 50.4% were about physiological matters and 33.3% about menopausal symptoms. BHP also trained 99 counselors to answer the hotline, collected information about menopause from domestic and international sources, and published two issues of the Recharge periodical, of which nearly 6,000 copies were distributed to medical institutions around the nation. Other promotional activities included producing posters and other publicity materials, advocating the services in workplaces and holding a menopausal slogan contest.
2. On important holidays such as Mother's Day and World Osteoporosis Day, BHP released news press on menopausal topics such as osteoporosis and incontinence.
3. BHP continued to run the "Women's Incontinence and Pelvic Health Curricular Model and Teaching Materials Program," as well as set up expert consultation panels and convened focus groups to complete the development and publication of 5,000 sets of pelvic health educational materials (comprised of a study handbook, a teaching manuals and a DVD). BHP also held training camps for seed instructors and organized mock teaching lessons and promotion of the teaching materials by hosting 97 sessions, which were attended by 2,316 people; in addition, counseling teams provided 16 on-site counseling, while an online health educational resources platform was set up. All the activities shared the common goal of helping women reinforce their knowledge and skills of self care to practice a healthy lifestyle.

## Section 2 Health of minority groups

### I. Reproductive health care for foreign spouses

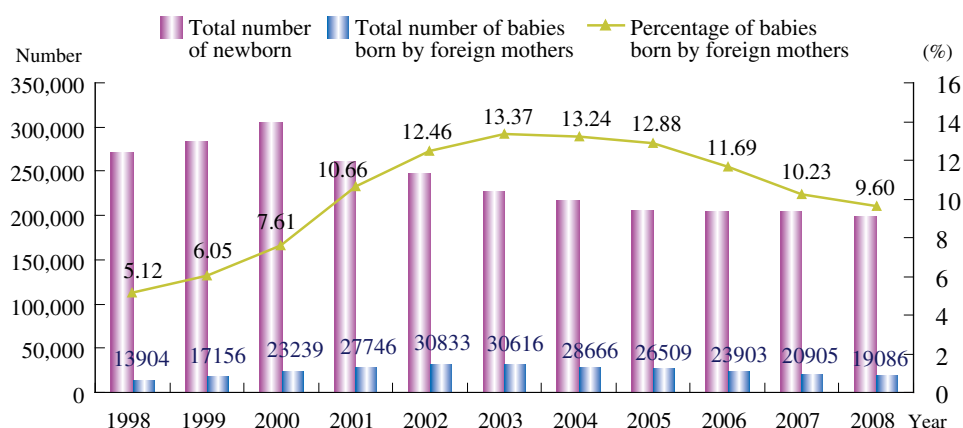
#### Current status:

By the end of 2008, there were around 399,000 foreign and mainland Chinese spouses in Taiwan, of which foreign spouses accounted for 136,000 or 34.24%, while mainland Chinese, Hong Kong and Macao spouses accounted for 262,000 or 65.7%. The children of these spouses accounted for 10.23% of the total births in 2007 (Figure 6-4). By the end of 2008, Vietnamese spouses accounted for the largest group of foreign spouses holding valid alien registration, followed by Indonesian spouses at 19.4% and Thai spouses at 7.1%. Studies showed that both the marriage age and childbearing age of foreign and mainland Chinese spouse were considerably younger than those of their Taiwanese counterparts. However, due to their socio-economic status as well as linguistic and cultural barriers, these spouses tend to experience difficulties such as insufficient use of prenatal and child preventive care, lack of access to medical resources and barriers in seeking medical treatment.

#### Policy implementation and results:

Under the impact of globalization and internationalization, cross-national immigration has become a common phenomenon. Issues encountered in international marriages include adaptability, as well as potential reproductive health problems and the education of children, as a result of differences in education levels and age and language barriers between husband

Figure 6-4 Structural analysis of births given by female foreign spouses and mainland Chinese spouses



and wife. This phenomenon is not just a “family” issue, but also the concern of the whole society and nation, necessitating the intervention of public health sector, which necessitates its inclusion in health management. Since 2003, BHP has implemented a “Foreign Spouse Childbirth Health Management Program” with the following objectives:

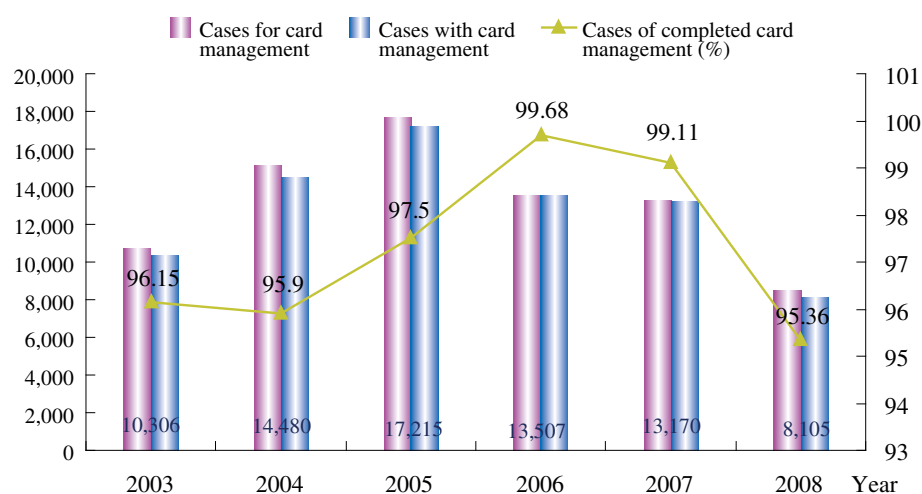
1. To create a sound reproductive health environment;
2. To prevent congenital defects and premature births;
3. To promote and maintain the health of foreign spouses and their children.

After aggressive promotion and implementation, the following accomplishments were achieved in the reproductive health management for foreign spouses:

### 1. Consolidation of NHI card management and reproductive health care counseling

Statistics showed that nearly half of foreign and mainland Chinese spouses become pregnant arriving Taiwan, but there are often problems with adaptability and cultural differences which may lead to various family and social problems. Thus a “Foreign and Mainland Chinese Spouse Childbirth Health Management Program” was drawn up in 2003 targeting foreign spouses of childbearing age (15-44) entering Taiwan. County and city health bureaus were mandated to actively promote the management of NHI cards for foreign spouses and their children and to provide guidance on family planning, prenatal and postnatal health care, genetic health care and disease prevention measures, as well as follow up abnormal cases and offer timely referral for treatment. By 2008, 95.17% of foreign spouses and 95.48% of mainland Chinese spouses were under the coverage of National Health Insurance.

Figure 6-5 Productive health care and NHI card management of female foreign spouses and mainland Chinese spouses





## **2. Training of volunteer interpreter for health education of foreign**

To reduce the obstacles in seeking medical services encountered by foreign spouses newly admitted into Taiwan as a result of the language barrier, a “Program to Train Volunteers in the Assistance of Promoting Foreign Spouse Childbirth Health Care Services” was commissioned by BHP in 2004 to train interpreters to provide childbirth health care support such as accompanying health bureau personnel on home visits of foreign spouses and assisting in pediatric outpatient services.

In 2006, BHP held the “Foreign Spouse Childbirth Health Care Interpreter Operation Regulations and Training Materials Application” workshop, and 63 seed instructors completed the training. County and city health bureaus then held training for locally recruited foreign spouses, sponsored by the “Fund to Care for Foreign Spouses of R.O.C. Citizens of the Ministry of the Interior” in the form of interpretation subsidies as part of a three-year program. By the end of 2008, there were 190 health bureaus in 21 counties and cities participating in the program.

## **3. Subsidization of prenatal care and contraception**

To provide a comprehensive reproductive medical care to foreign spouses newly admitted to the country who have yet to enrolled in the NHI, the Fund to Care for Foreign Spouses of R.O.C. Citizens of the Ministry of the Interior approved in 2005 to subsidize prenatal examinations and contraception services for foreign spouses before they complete household registration and NHI enrollment. In 2008, subsidies were granted 9,861 person-times on pre-registration and pre-enrollment prenatal examinations, totaling NT\$5,699, 582.

## **4. Development and publication of health education materials in different languages**

To help foreign spouses overcome language barriers, reproductive health education materials were published in different languages. In 2008, both the “Maternal Health Handbook” and the “Child Health Pamphlet” were published in five languages. Additionally, an foreign spouse childbirth health care film series was produced in five languages, while the “Foreign Spouse Childbirth Health Care Useful Glossary Handbook,” “Manual for Raising a Child,” and the “Health for Child-raising DVD” were edited and printed in Vietnamese, Thai, Indonesian, English and Cambodian to serve as references for foreign spouses and pertinent health care professionals.

## II. Prevention and control of rare diseases

### Current status:

A total of 2,909 cases of rare diseases were reported in Taiwan from 2000 to the end of 2008. As the number of cases are few, the market for the drugs is small, presenting little incentive for pharmaceutical companies to produce, import or trading orphan drug, which makes it difficult for patients to obtain the necessary drugs for treatment.

### Objectives:

The main objective is to build a comprehensive genetic health and rare disease medical treatment service network that helps patients obtain care and medical treatment subsidies, thus ensuring their right to seek medical treatment.

### Policy implementation and results:

To prevent the occurrence of rare diseases, provide early diagnosis, and improve the accessibility to specific drugs for treatment and special nutrients essential for life maintenance, the "Rare Disease and Orphan Drug Act" was announced and enacted in 2002, making Taiwan the fifth nation in the world to protect patients with rare diseases through legislation.

#### 1. Assistance to patients with rare diseases in obtaining proper medical services

##### (1) Protection of rights of patients with rare diseases to seek medical treatment

Since September 2002, rare diseases that have been announced have been included in the major injury and diseases category of the NHI program, which waives the co-payment, and thus resolves an obstacle in seeking medical treatment for these patients. Furthermore, where the diagnosis, treatment and drug cost of rare diseases are not covered under the "National Health Insurance Act," Article 33 of the Rare Disease and Orphan Drug Act stipulates that BHP appropriate budgets to subsidize these needs.

##### (2) Establishment of the Committee for the Review of Rare Diseases and Orphan Drugs

By December 2008, a total of 173 rare diseases, a list of 74 drugs for rare diseases and their indications, and special nutritional supplements for 40 rare diseases and their indications have been reviewed, established, and announced. In addition, medical cases to be subsidized were reviewed.

#### 2. Establishment of a complete genetic and rare disease medical treatment service network

##### (1) Establishment of a logistics center for rare disease special nutritional supplements and drugs

In 2008, 32 drugs for rare diseases were reserved and supplied to 17 hospitals for the use of 303 patients with rare diseases. The subsidized budget for these medications reached over NT\$27,760,000. Of the subsidized rare diseases, the top 10 are presented in Table 6-1. Additionally, 10 types of emergency drugs for rare diseases were reserved and supplied to hospitals for emergency use. In 2008, the drugs were supplied to 13 patients with rare diseases and the budget subsidized was NT\$367,448.

## (2) Establishment of rare diseases reporting database and single-window inquiry services

By the end of 2008, hospitals around Taiwan reported 2,909 cases of rare diseases; moreover, genetic consulting centers were set up in northern, central, southern and eastern Taiwan (11 medical centers) to provide necessary assistance.

**Table 6-1 Amount of special nutritional supplements used for the top 10 rare diseases**

Item	Disease	Number of people using product	Rank by amount used
Phenyl-Free-II	Phenylketonuria	130	1
BCAD	Maple syrup urine disease	24	2
PFD	Urea cycle disorder	40	3
XLYS,Low TRY Analog	Glutaric aciduria	8	4
I-Valex-2	Isovaleric acidemia	12	5
Alfaré	Progressive familial intrahepatic cholestasis, Inborn errors of bile acid synthesis	17	6
XMTVI Analog	Propionic acidemia, Methylmalonic acidemia	15	7
Phenyl-Free-I	Phenylketonuria	9	8
Lorenzo's Oil	Adrenoleukodystrophy	11	9
XLEU Analog	3-hydroxy-3-methyl-glutaric acidemia	7	10

## (3) Providing international medical laboratory referral services for rare disease cases

Information about the referral of samples to international laboratories was collected and organized to provide international medical collaboration channels for rare diseases. The government and the Taiwan Foundation for Rare Disorders each subsidizes 40% of the referral test costs. Additionally, rapid review principles for 12 rare diseases were formulated in June 2006 to shorten the review process for international laboratory referrals. Between 2000 and the end of 2008, a total of 312 cases were subsidized, among which 39 cases were referred abroad for testing in 2008.

### 3. Promotion of rare disease prevention and control

A nutrition handbook was compiled for Glutaric aciduria, Hereditary tyrosinemia and Galactosemia patients. More rare disease information leaflets and care handbooks are being compiled to provide reference for pertinent personnel.

#### 4. Establishment of service standards for health examinations and health care of physically and mentally disabled persons

In the "Protection Act for Rights and Interests of Physically and Mentally Disabled Citizens" amended on July 11th, 2007, Item 3 of Article 21 states that BHP and the Ministry of the Interior should draw up service standards for health examinations and health care of physically and mentally disabled persons. The new standards came into effect on January 22nd, 2008. In addition, to develop appropriate health examinations for the physically and mentally disabled, expert panels were convened to develop survey questionnaires for investigation into the situation.

#### 5. Oral health care for people with disabilities

##### Current status:

According to a nationwide survey in 2004, the oral health of the disabled was generally worse than that of the general public. The common oral health problems were lack of medical restoration treatment, poor dental hygiene, insufficient tooth cleaning and lack of preventive health care intervention.

Table 6-2 Comparison of oral health of the physically and mentally disabled with general public over 18 years old

Subject	DMFT index	Caries prevalence rate of permanent teeth (%)	Filling rate (%)
Disabled	9.94	91.96	32.37%
General public over 18 years old	7.84	86.61	40.22%

Source: Oral health survey of disabled people in Taiwan (2004)  
Oral health survey of adult and elderly citizens in Taiwan (2004)

##### Objectives:

BHP advocates oral preventive health care for people with disabilities with mid-term objectives from 2009 to 2012 as follows: providing oral preventive health care for 20% of disabled citizens annually with the aim of providing the services to 80% of disabled citizens by 2010.

##### Policy implementation and results:

1. Completion of the "Five Year Oral Health Plan for people with disabilities," which was reported for ratification by the Executive Yuan on May 26th, 2008.
2. Oral Preventive Health Service Program for People with Disabilities: In 2006, a service network of dentist associations, health educators, social workers, and parents groups was established to provide caregivers of the disabled with proper tooth cleaning technique and oral health care knowledge. In 2008, subsidies were provided to the Taiwan Dental Association to hold three dentist training camps and six area training camps. A total of 182 dentists and 290 oral preventive health care personnel were trained. In addition, one press conference was held and oral preventive health care services were provided at 28 disabilities support organizations.

### 3. Fluoride tablet anti-cavity program for disabled children:

From 2007 to 2008, the Kaohsiung Medical University was commissioned to administer fluoride tablets with different concentrations to 400 institutionalized disabled children, while the promotion of fluorides and oral health education were given to caregivers. Results showed that 1.0 mg fluoride tablets were the most effective in fighting dental cavities. Safety evaluation showed that within the period of nearly two years since the fluoride tablets were administered, the children experienced no discomfort or acute poisoning. Additionally, around 20,000 disabled school children were provided with fluoride mouth rinse to prevent dental caries.

### 4. The Symposium of Oral Care for People with Disabilities 2008:

The purpose was to enhance the tooth cleaning technique and oral health knowledge of the disabled and their caregivers. It was hoped that through the sharing of experience, individuals could skip the trial and error stage and shorten the timeframe of promotion. A total of 350 people took part.

## III. Grassroots health care units: health centers

### Current status:

Taiwan has a complete grassroots health care system; by the end of 2007, there were 372 health centers in Taiwan's 25 counties and cities, staffed with 4,455 employees, of whom there were 3,690 women (82.8%) and 765 men (17.2%). The centers provide basic level medical treatment and health care services. In order to encourage these centers to meet local needs and enhance service quality, BHP holds annual service quality competitions among the health centers. These competitions also allow the centers to share experiences on quality services and learn from each other.

### Policy implementation and results:

#### 1. Enhancing service quality:

- (1) The third "Golden Health Center Competition" was held to establish standard service flows and promote professional ability. Centered on the themes of "friendly second-language environment" and "medication service and administration," the Taipei City Hsinyi District Health Service Center and the Kaohsiung County Health Center in Dashe Township were among the six health centers chosen for outstanding management; joint accomplishment presentations were held and professional seminars were organized for the centers to share their experiences.
- (2) National Cheng Kung University was commissioned to conduct a health center administrative post-mortem training program and organize a total of three grassroots physician administrative post-mortem education training workshop in northern, central and southern Taiwan. Using case studies, the workshop focused on enhancing the administrative

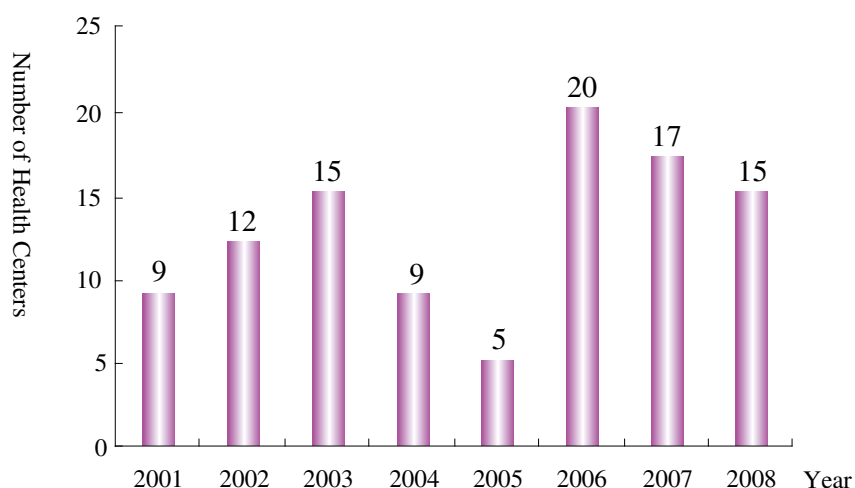
efficiency as well as reducing disputes and negligence; a health center administrative post-mortem operational handbook was compiled to increase the service quality of health center physicians concerning administrative post-mortems.

- (3) The Taipei County Government Public Health Bureau and the Kaohsiung Medical University were commissioned to conduct a study on grassroots health center and social welfare departments' pioneer integration health care models for minority groups. A handbook was completed that offered reference points for health care administrators, social welfare personnel and NGOs concerning health care models for minorities.

## 2. Improving service environments:

The 2006 health center reconstruction (expansion) project was incorporated into the central government general subsidy designated items list, and BHP monitored the reconstruction (expansion) of 52 health centers in 14 counties and cities (excluding mountain and outlying island regions) between 2006 and 2008 (Figure 6-6).

Figure 6-6 Number of health centers rebuilt or expanded around Taiwan from 2002 to 2008



## 3. Maintaining health center outpatient service system:

BHP handled the overall planning of function expansion and system maintenance for health center outpatient health care operational systems in 22 counties and cities around Taiwan and maintained outpatient operational systems for 333 health centers and 3TB & chronic disease prevention clinics nationwide.



### Section 3 Health of oil disease patients

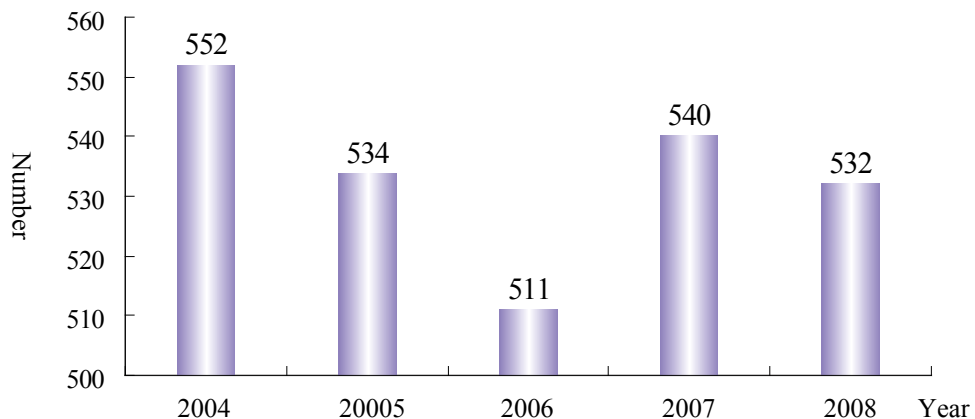
#### Current status:

Beginning in April 1979, residents of Lugang and Fuhsing, Changhwa County, began experiencing mysterious skin ailments. At the same time in Taichung County, teachers and students in the Huei-Ming School and Home for Blind Children in Daya Village, as well as residents in Shengang and Tanchi Villages, developed similar symptoms. According to records from the former Provincial Health Bureau, a total of 2,025 people were affected. Investigations revealed that the patients had ingested rice oil contaminated by polychlorinated biphenyl contamination; hence the disease was known as “oil disease” (also known as Yu-Cheng or Yusho). After the implementation of the NHI, oil disease was included in the chronic disease category. Oil disease patients were granted an Oil Disease Patient Outpatient Waiver Card, which waives the co-payment fees at contract medical institutions. Currently, local public health bureaus continue to provide ongoing registration, health examinations, follow-up visits and health education for oil patients.

#### Policy implementation and results:

BHP provides oil disease patients with free annual health examinations and subsidizes the co-payment fees of the NHI outpatient fees. As of December 2008, a total of 1,482 oil disease patients were registered with 532 receiving health examination services. (Figure 6-7 presents the number of oil disease patients to whom BHP has provided free health examinations over the years.)

Figure 6-7 Number of Oil Syndrome Sufferers Provided Health Exam Services by the Bureau of Health Promotion



# Chapter 7

## Health Promotion Infrastructure



## Section 1 Health communications

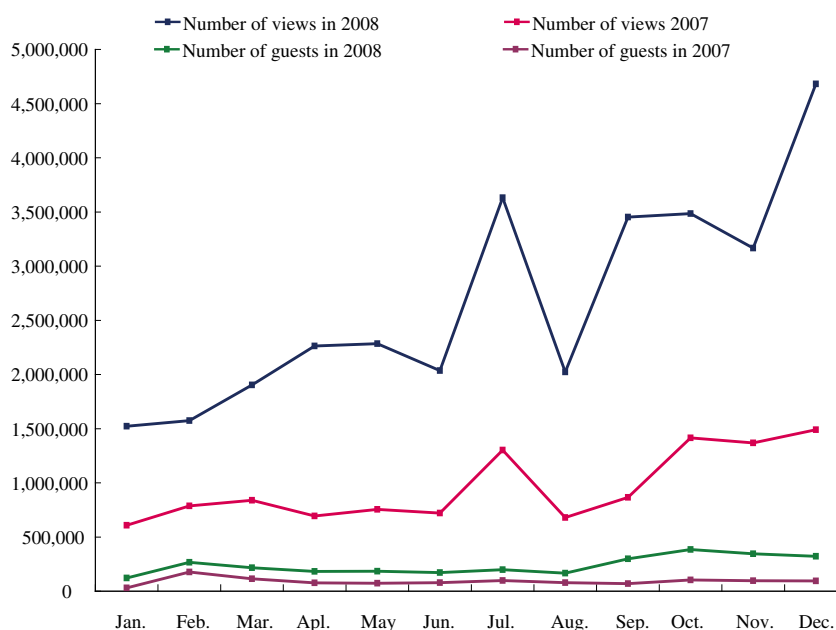
With the rapid advancement of media and Internet technology, the attitude toward access to health information has transformed from passively being informed in the past to proactively collecting resources. For public health services that are oriented toward health promotion, factors like quality, availability, accessibility, immediacy and cost effectiveness become vitally important. Thus the timely collection and dissemination of health information has become a basic aspect of health promotion strategies.

Moreover, in order to share the health promotion achievements of Taiwan with the international community, the development of various media and Internet outlets can facilitate international exchange and cooperation and accelerate the realization of a true global village.

### Current status:

The advancement of contemporary broadcasting media, such as TV, radio, newspapers, magazines, outdoor media and the Internet, gives the public more diversified and rapid communication channels to obtain information on health. On the other hand, the fact that the Internet and media communicate diversified health information without limits of time and space can also have a negative influence on public health if inappropriate or inaccurate health concepts are believed and practiced.

Figure 7-1 Health 99 Education Resource Website (<http://health99.doh.gov.tw>)



Therefore, to publicize the concept of "Cherish Life and Promote Health," BHP has constructed the "Health 99" website to provide health information in an accessible, convenient and accurate manner to help the public manage and promote their health.

### Objectives:

The objective of health communication is to enhance the public's reception of health information in order to promote self- health management. The goal of the Health 99 website is to increase viewership by 15% annually in terms of visitors and average webpage click rate per month.

### Policy implementation and results:



1. In order to provide the public and health education personnel with accurate health education information and timely information channels, the Health 99 Education Resource website was established in 1998 (<http://health99.doh.gov.tw>) (hereinafter referred to as "Health 99"). The website allows visitors to view and download health education materials, as well as provides delivery services of physical materials. Moreover, the "Outstanding Health Reading Materials" competition event was organized to encourage the publication and promotion of health books so that the public can know where to purchase health books that contain accurate information on health.




2. Health 99 actively collects and classifies health information and data from health care facilities, health authorities and NGOs. Presently there are 1,285 items available online for viewing and downloading. Health 99 was rated an outstanding health website for two consecutive years in 2005 and 2006.

To encourage interaction with users, Health 99 held a design contest for creative logo and promotional items, an "Outstanding Health Reading Materials" screening event and urban smoke-free travel activities in 2008. The site continually posts an e-newsletter and added two theme pavilions on the amended Tobacco Hazards Prevention Act and on the HPV vaccine. The site presently has 50,000 members, an average of 90,000 visitors per month and over 1 million average webpage clicks per month. Downloads of teaching materials have exceeded 90,000 times and there are nearly 50,000 subscribers to the e-newsletter. With a simple click of the mouse, the general public or health education personnel can search for the health materials they need by the type of material, age group, type of media, keyword, publisher, and full context, as well as get the physical materials through logistics services.

3. In addition, the Health 99 also provide the timely health-related information by means of the recent health news, the Cherish Life and Health Education Theme Pavilion, Game 99, audio-visual theater, Q&A, and online health examination. A health education blog was established to provide members with a space for creating and sharing information and ideas including their working journals, electronic albums and lesson plans, as well as exchanging online messages, with the purpose of strengthening the interaction within the health education team through the sharing of teaching resources. Experts are also invited to provide free online consultation services on the website. Presently the site also collects erroneous health information on the Internet and invites experts to clarify the rumors in order to make the website a source of the most credible information in the health information network.

The most important aspects of health communication include creation, collection and sharing of health information to effectively disseminate health education and health promotion resources via the media so as to communicate health information on topics including the prevention of infectious diseases and the promotion of health. The main websites provided by BHP for health communication include the following:

Website	Homepage	Features
<p>◆ Bureau of Health Promotion, Department of Health</p> <p><a href="http://www.bhp.doh.gov.tw/BHPnet/Portal/">http://www.bhp.doh.gov.tw/BHPnet/Portal/</a></p>		<ol style="list-style-type: none"> <li>1. Aims to serve the public, offers search functions and up-to-date health information, consolidates major health issues, publicizes the Bureau's operations, communicates a wealth of health resources, and assumes the responsibility of enhancing the Bureau's online image and promoting internationalization.</li> <li>2. Rated an Excellent Health Information Website in 2005 and 2006.</li> <li>3. Provides accessible webpages and an English version with information on mother and child health, infant hearing, oral health, adolescent health, health for the middle-aged and elderly, prevention and treatment of cancer, community health, tobacco control, health education, preventive health care, health studies and surveys, and birth reports.</li> </ol>
<p>◆ Health 99</p> <p><a href="http://www.health99.doh.gov.tw/default.aspx">http://www.health99.doh.gov.tw/default.aspx</a></p>		<ol style="list-style-type: none"> <li>1. Allows the general public and health education personnel to search for health materials by the type of material, age group, type of media, hardcopies or file download, keyword, publisher, and full context.</li> <li>2. Rated an Excellent Health Information Website in 2005 and 2006.</li> <li>3. Contains health education resources such as the recent health news, the Cherish Life and Health Education Theme Pavilion, Game 99, audio-visual theater, Q&amp;A, and online health examination.</li> </ol>

Website	Homepage	Features
<p>◆ Workplace Health Promotion and Tobacco Control Information Website</p> <p><a href="http://health.cish.itri.org.tw/nosmoking/">http://health.cish.itri.org.tw/nosmoking/</a></p>		<ol style="list-style-type: none"> <li>1. Provides information on workplace health promotion and tobacco control.</li> <li>2. Includes the three main themes of Smoke-Free Work Environments, Health Promotion, and Self-Certification.</li> </ol>
<p>◆ Health House</p> <p><a href="http://hpnet.bhp.doh.gov.tw/healthhouse/go.asp">http://hpnet.bhp.doh.gov.tw/healthhouse/go.asp</a></p>		<p>Builds on the concept of “Health 24/7” and encourages the public to improve their health by exercising anytime, anywhere.</p>
<p>◆ Breastfeeding</p> <p><a href="http://www.bhp.doh.gov.tw/BREASTFEEDING/index01.htm">http://www.bhp.doh.gov.tw/BREASTFEEDING/index01.htm</a></p>		<p>Provides information on breastfeeding and promotes the awareness that breast milk offers the most suitable and precious nutrients for the healthy development of infants, unmatched by that of formula milk.</p>

Website	Homepage	Features
<p>◆ Web Services for Genetic Diseases <a href="http://www.bhp-gc.tw/">http://www.bhp-gc.tw/</a></p>		<ol style="list-style-type: none"> <li>1. Integrates professional knowledge and resources on genetic diseases that allow front-line medical and public health personnel to obtain timely information and resources when faced with the care of varied and rare genetic disease patients, and thereby improving service quality and efficiency.</li> <li>2. Rated an Excellent Health Information Website in 2006.</li> </ol>
<p>◆ Youth Health Web <a href="http://www.young.gov.tw/">http://www.young.gov.tw/</a></p>		<ol style="list-style-type: none"> <li>1. Provides information on adolescent sex education.</li> <li>2. Offers on-line consultation which uses a method of response that ensures the privacy of teenagers.</li> </ol>
<p>◆ Health Statistics 123 OLAP System <a href="http://olap.bhp.doh.gov.tw/">http://olap.bhp.doh.gov.tw/</a></p>		<ol style="list-style-type: none"> <li>1. Provides health data to the public by health indicators inquiry.</li> <li>2. Constructs the database from BHP's national health surveys and birth reports.</li> </ol>



Website	Homepage	Features
<p>◆ Tobacco Hazards Prevention and Control Website</p> <p><a href="http://tobacco.bhp.doh.gov.tw/">http://tobacco.bhp.doh.gov.tw/</a></p>		<ol style="list-style-type: none"> <li>1. Presents the progress and results of tobacco hazards prevention and control efforts and serves as a one-stop portal for local health bureaus, health education personnel and the public to link to, search, and download information.</li> <li>2. Contains information on relevant policies and regulations, media communication, smoke-free environments, smoking cessation services, international cooperation, investigations and surveillance, research and development, and annual reports.</li> </ol>
<p>◆ Outpatient Smoking Cessation Treatment Administration Center</p> <p><a href="http://ttc.bhp.doh.gov.tw/quit/">http://ttc.bhp.doh.gov.tw/quit/</a></p>		<ol style="list-style-type: none"> <li>1. Provides information on outpatient smoking cessation treatment and administration.</li> <li>2. Assists smokers to quit smoking by providing effective means and medications to overcome nicotine addiction.</li> </ol>
<p>◆ Taiwan Smokers Helpline</p> <p><a href="http://www.tsh.org.tw/">http://www.tsh.org.tw/</a></p>		<ol style="list-style-type: none"> <li>1. Provides smoking cessation counseling and relevant information.</li> <li>2. Assists smokers to forms plans and strategies for smoking cessation. .</li> </ol>

## Section 2 Health surveillance

### Current status:

"Everyone has the right to health and health policy must be based on empirical studies." In face of social changes such as a declining birth rate, longer life expectancy and population aging, non-communicable chronic diseases have become the main health problems for the people of Taiwan. Coupled with environmental and lifestyle diversity, the scope of health care services is constantly expanding. In order to better allocate limited resources, evidence-based policies and program assessment are gaining prominence.

Since its inception, BHP has endeavored to draw up suitable health strategies to improve national health. In accordance with the health indicators for policy-making, BHP has conducted routine and periodical health surveillance surveys in order to establish a database covering the current health status, health behavior and utilization of preventive health services in Taiwan. This database provides an evidence-based reference for policy-making and program evaluation.

### Policy implementation results:

Health indicators on central or local level are essential for policy-making, program planning and assessment. The BHP draw lessons from the advance countries and conducted health surveys of the whole and specific populations including children, adolescents, the elderly and women of children bearing age. A survey-based health and behavioral risk surveillance system was established to collected national-wide and localized empirical data for the central and local health agencies.

A timeline for the series of surveillance surveys from BHP's inception to four years in the future is shown in Table 7-1:

Table 7-1 Overview of important health surveillance surveys

Survey Series	● Cross-sectional survey ➡ Longitudinal survey											
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>(Community-based face to face interview survey)</b>												
National Health Interview Survey	●	●			●				●	●		
Taiwan Longitudinal Study on Aging			➡				➡				➡	
Women Health, Family, and Fertility Survey			●	●				●				●
Children and Adolescent Behaviors in Long-time Investigation							➡	➡	➡	➡	➡	➡
Taiwan Birth Cohort Study					➡	➡	➡	➡		➡		
<b>(School-based self-administered questionnaire survey)</b>												
Taiwan Global Youth Tobacco Survey of Junior High School Students				●		●		●		●		●
Taiwan Global Youth Tobacco Survey of Senior High School Students					●		●		●		●	
Taiwan Youth Health Survey of Junior High School Students						●		●		●		●
Taiwan Youth Health Survey of Senior High School Students							●		●		●	
<b>(Telephone interview survey)</b>												
Adult Smoking Behavior Survey				●	●	●	●	●	●	●	●	●
Behavioral Risk Factor Surveillance System							●	●	●	●	●	●
Surveys on Health Issues				●	●	●	●	●	●	●	●	●

With consideration to the efficiency and quality of the surveys, different modes – community-based face to face interviews, telephone interviews or self-administered questionnaires – were chosen in accordance with the characteristics of the surveillance surveys. A series of cross-sectional surveys was used to meet the needs of health indicator surveillance, while a series of longitudinal surveys was used to delve deeper into the influential factors of the health issues. In 2008, community-based interview surveys included two longitudinal surveys, “Taiwan Birth Cohort Study” and “Children and Adolescent Behaviors in Long-term Investigation,” and the cross-sectional “Women Health, Family, and Fertility Survey.” School-based self-administered questionnaire surveys included “Taiwan Global Youth Tobacco Survey” and “Taiwan Youth Health Survey” on junior high school students. Telephone surveys included “Adult Smoking Behavior Survey” on adults aged 18 years and above, “Behavioral Risk Surveillance System,” and “Breastfeeding Rate Survey.”

## **The results of the 2008 health surveillance are as follows:**

### **1. Taiwan Birth Cohort Study**

The aim of this study is to understand the norms of early childhood growth, development, health and illness, and to investigate health status and health care demands of specific groups. A national representative sample of a birth cohort that consists of newborns in 2005 was randomly selected for the longitudinal study. After the baseline survey at the six-month-old in 2005 to 2006, the samples were followed up in 2006 to 2007 at the 18-month-old. Based on important findings from the two waves of surveys, a preliminary report on health profile of infant and child in Taiwan was completed in 2008. The third survey was commenced in January 2008 (at the three-year-old). Face to face interviews and self-administered questionnaires were applied to collect health-related information of the cohort members and their parents. As of the end of 2008, the response rate was 93.6% and the fieldwork for this round of survey was scheduled for completion by March 2009.

### **2. Taiwan Youth Health Surveys**

Since 2004, BHP has adopted the protocol of the Global Youth Tobacco Survey (GYTS) developed by the WHO and the U.S. CDC to monitor smoking-related behaviors of teenagers in Taiwan. Starting from 2006, BHP further followed the Youth Risk Behavior Survey (YRBS) of the U.S. CDC and the Global Student Health Survey (GSHS) organized by the WHO. These surveys monitor important health behavior that may lead to death, diseases, disability or social problems. The scope of the survey covered substance abuse such as tobacco, alcohol and betel quids, and other health behaviors or lifestyles. A biennial rotating mechanism to conduct surveys on junior high school students in one year and on senior high school, vocational school and junior college students the following year was established to monitor the current status and long-term trends of smoking and other health behavior. In accordance with the timeline for this series of surveys, students investigated in 2008 were junior high school students. Data was collected from random sampled classes using anonymous questionnaires and the fieldwork was scheduled for completion in January 2009.

### **3. Women Health, Family, and Fertility Survey**

For the reference of policy-making on population and health issues, national representative surveys have been conducted every few years since 1965 to provide a database concerning the reproductive knowledge, attitude and practice of women of childbearing age. Fieldwork of this survey was conducted from May to November 2008. A total of 4,301 samples were interviewed (a

response rate of 72.8%). This survey aims to investigate the productive related knowledge, attitude and practice of childbearing age women and to understand health status of women. Data were collected, such as utilization of an automated reminder system for Pap smears, awareness of HPV and acceptance of the HPV vaccine, views regarding the waiting periods for abortion, attitude toward mother-friendly childbirth, and willingness to breastfeed in public. The results can be used for policy-making or service planning.

#### **4. Maintenance and Upgrade of the “Online Analytical Processing” Website**

To make health indicator public searchable, BHP set up the interactive Online Analytical Processing (OLAP) website in 2005. To further meet user demands for indicator inquiry, the website was upgraded in 2007. In addition to the existing national health survey data from 2001, 2002 and 2005, inquiry function for the 2003 and 2005 birth reporting data was added, providing the user with faster and reliable access to a variety of health indicators.

In 2008, back-end management functions of this website were strengthened indicators from the 2006 Taiwan Youth Health Survey and the 2006 and 2007 birth reporting are available. There were 8,295 inquiries in 2008, while the number of inquiries from the inception of the new version of OLAP in June 2007 to the end of 2008 was 24,211.

#### **5. Survey Database Applications**

The objective of surveillance system is to gather data that can be analyzed and interpreted for the policy-making, program evaluation and strategy planning. To enhance the visibility of survey results and their application in policy-making, the analysis and application of existing surveillance data should be strengthened. Channels and platforms for information dissemination should be developed based on diversity of survey results to provide reference for health sectors on a timely basis.

To further promote the utilization rate and visibility of the database in 2008, BHP used health survey data on 18 news releases to enhance public awareness of health promotion issues.

To expand the scope of data use and promote value-added application of survey data, BHP has gradually released survey data to the academic society. Currently the available datasets include the Taiwan Longitudinal Study on Aging, Women Health, Family, and Fertility Survey, and Taiwan Youth Health Survey. Both domestic and overseas academic and research institutes are eligible for data release application. In 2008, 58 applications were accepted. Moreover, BHP cooperated with the National Health Research Institutes (NHRI) and the DOH's National Bureau of Controlled Drugs. Through the NHRI's Web platform, the 2001 National Health Interview Survey data that linked to National Health Insurance databases as well as the 2005 National Health Interview Survey data were public accessible. It is hoped that both domestic and overseas scholars can conduct in-depth analysis and publish pertinent academic papers based on their fields of specialization, thus increasing the overall utilization of the database, optimizing the value of the survey resources and providing recommendations based on their research findings.

Promote Health

## Section 3 International cooperation

### 1. 2008 Health Promotion Conference

In the face of an aging population, low birthrates and globalization trends, public health is facing multi-facet and unprecedented challenges. Whether health promotion work can smoothly operate depends on sound government policies as well as community involvement in order to obtain maximal benefits from limited resources.

BHP held the “2008 Health Promotion Conference” on August 4th and 5th at National Taiwan University Hospital's International Conference Center, which centered on health promotion in the community and for the elderly. The conference marked the first time American health officials and experts were invited to Taiwan to share their experiences. Professors Tung-Liang Chiang, Dean of the College of Public Health of National Taiwan University, was also on hand to share Taiwan's experiences. After the conference, roundtable discussions were held on the sustainability and assessment of the health of the elderly and community health. A total of 300 health and medical experts and academics participated in the conference.

The American experts were then invited to visit the Puli Health Center in Nantou County where they exchanged policy insights and experiences on the health of the elderly with BHP and Changhwa County Health Bureau officials. Another important outcome of the conference was that liaison channels were established with the U.S. CDC and other related agencies, while presenting an opportunity for Taiwan to demonstrate grassroots health care service achievements and promote international exchange.

### 2. Expanded participation in the 2008 American Public Health Association Meeting

A Taiwan delegation attended the American Public Health Association (APHA) Annual Meeting from October 25th to 29th, 2008. Representatives from BHP actively took part in all categories of reports and exhibits. Apart from an oral presentation entitled “Taiwan's Tobacco Hazards Prevention Policy,” the delegation also presented nine papers and posters as well as set up a booth displaying Taiwan's public health achievements.

The theme for the booth was “Health for All Together with Taiwan,” which tied in with the meeting theme of “Public Health without Borders,” while the two sub-themes were “Taiwan as a Faithful Global Health Partner” and “Taiwan with Powerful Universal Health Service.”

The presentation of the booth focused on displaying a comprehensive image of Taiwan. In addition, there were seven display panels to showcase Taiwan's health accomplishments: 1) National Health Insurance: listed results of high public satisfaction levels, care of minorities and residents in remote districts, and the use of IC health insurance cards; 2) Taiwan International Health Action (IHA): highlighted accomplishments of medical and health missions to Indonesia, the Solomon Islands, Ecuador and other nations; 3) Taiwan Infectious Disease Prevention and Control: listed important milestones in infectious disease prevention and control in Taiwan over the years; 4) Taiwan Health Promotion: presented results in preventive health care services for children, expectant mothers and adults, tobacco control measures, cancer prevention and treatment as well as disease prevention and cure for middle-aged and elderly citizens.

To promote international exchange, BHP participated in the Third Global Conference of the Alliance for Healthy Cities in the Western Pacific Region held in Japan in October 2008. An oral presentation on the results of Taiwan's healthy cities initiatives was delivered. In all, representatives from Taiwan presented 14 papers and six posters and exchanged experiences with other healthy cities from around the globe.

### **3. Tobacco control activities**

In 2008, BHP continued to collaborate with the U.S. CDC in carrying out surveys of smoking behaviors in Taiwan, while proactively seeking opportunities to hold related international conferences to share successful experiences in tobacco control in Taiwan and enhance exchange and interaction with the international society. Moreover, BHP has continued to help developing countries promote tobacco control efforts through NGOs.

Important achievements include:

#### **(1) International exchange and cooperation**

a. Organizing international symposiums: Experts from California, U.S.A, South Korea, Australia, Belgium, Japan, the Philippines and Cambodia were invited to take part in the "2008 International Symposium on Illicit Trade in Tobacco Products" held in August. On October 22nd, the "Seminar on Asia-Pacific Region Tobacco Hazard Control Regulations and Prevention Strategy" was held, bringing together experts from Germany, Hong Kong and Taiwan to discuss relevant legislation experiences and the implementation of tobacco control measures.

#### **b. Attending the WHO Framework Convention on Tobacco Control events:**

In collaboration with scholars and experts, BHP completed a professional and objective review with recommendations on the drafts for a "Protocol on Illicit Trade in Tobacco Products" and guidelines concerning "Tobacco Advertising, Promotion and Sponsorship" for the reference of experts and scholars around the world. BHP also actively sought participation in the third session of the Conference of Parties to the WHO Framework Convention on Tobacco Control.

c. Participating in international tobacco control work: BHP continues to collaborate with international NGOs to develop the ability of domestic NGOs in participating and assisting in tobacco control efforts in developing countries, thereby contributing our strengths to the international community.

#### **(2) Active involvement in global or regional tobacco control conferences or activities: BHP participated events including meetings organized by the Cooperation Centre for Scientific Research Relative to Tobacco (CORESTA), Conference of Parties of the WHO Framework Convention on Tobacco Control, the International Union Against Cancer (UICC) World Cancer Congress and the Seventh National Tobacco Symposium on Young Adults.**

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# Appendix





## Appendix 1: 2008 Government Publications of the Bureau of Health Promotion

Number	Publications	GPN	Month of Publication
1	Guidelines for Truth-telling of Terminal Illness (for Cancer)	1009700984	April
2	Child Health Pamphlet (Chinese-Vietnamese Version)	1009701567	June
3	Child Health Pamphlet (Chinese-Indonesian Version)	1009701569	June
4	Child Health Pamphlet (Chinese-Thai Version)	1009701572	June
5	Child Health Pamphlet (Chinese-English Version)	1009701573	June
6	Child Health Pamphlet (Chinese-Cambodian Version)	1009701575	June
7	Maternal Health Handbook (Chinese-Vietnamese Version)	1009701578	June
8	Maternal Health Handbook (Chinese-Indonesian Version)	1009701579	June
9	Maternal Health Handbook (Chinese-Thai Version)	1009701580	June
10	Maternal Health Handbook (Chinese-English Version)	1009701581	June
11	Maternal Health Handbook (Chinese-Cambodian Version)	1009701582	June
12	Pelvic Health Promotion and Continence Prevention Educational Kit (Studying Manual)	1009701690	June
13	Pelvic Health Promotion and Continence Prevention Educational Kit (Teaching Manual)	1009701691	June
14	2008 Health Promotion – A Compilation: Stayed Informed and Invest in Health	1009702131	August
15	We Want to Get Pregnant: The Greatest Gift of All	1009702486	November
16	The Secret to Having a Baby	1009702491	November
17	Health, Vitality and New Lifestyles: 2008 Health Promotion Community Certification Trial and Community Integration Plan – A Compilation of Achievements	1009702912	November
18	Low Salt Handbook	1009702928	October
19	2006 Taiwan Youth Health Survey Report	1009703027	December
20	A Guide for Patients and Caregivers of Thalassemia Major	1009704178	December
21	The Practice Guideline for Workplace Health Promotion	1009704269	December

Number	Brochures	GPN	Month of Publication
1	Showing Respect for Non-smoking Public Places: Creating Smoke-free Environments	3809701966	July
2	Secret Notes–33 Questions on Cervical Cancer	3809702914	December
3	Secrets to Distancing Yourself from HPV	3809702915	December

Number	Periodicals	GPN	Month of Publication
1	2008 Taiwan Tobacco Control Annual Report (Chinese Version)	2009601376	July
2	2008 Taiwan Tobacco Control Annual Report (English Version)	2009601377	July
3	2007 Bureau of Health Promotion Annual Report (Chinese Version)	2009602537	December
4	2007 Bureau of Health Promotion Annual Report (English Version)	2009602807	October

Number	Electronic Publication	GPN	Month of Publication
1	Hypertension Prevention and Control Short Film – How to Measure Blood Pressure by Blood Pressure Monitor (DVD)	4509701712	July

**Notes:**

- Full text can be downloaded from the Health 99 website (<http://health99.doh.gov.tw/EducZone/edukits.aspx>).
- Health Promotion Bureau publications can be purchased at Official Publications Exhibitions and Distributors, Government Publications Bookstore on Sung Chiang Road (02-25180207) and Wunan Books (04-22260330).

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## Appendix 2: 2008 Chronology of the Bureau of Health Promotion

Date	Event Synopsis
January	Since 2008, "Cancer Diagnosis and Treatment Quality Accreditation Guidelines" has been implemented for medical facilities with over 500 newly diagnosed cancer cases per year. In 2008, a total of 22 hospitals have passed accreditation.
January 9 <sup>th</sup>	Announcement is made that couples receiving artificial reproduction help may commission the artificial reproduction institution to supply the donor with nutrition fees or nutritional products or be responsible for necessary checkups, treatments, loss of hourly salary and transportation up to the capped fees.
January 11 <sup>th</sup>	Appendix 2 of Article 3 of the "Regulations for Query on Kinship of Artificial Reproduction Child" is amended and announced.
January 22 <sup>nd</sup>	Service standards for health examinations and health care of physically and mentally disabled persons established by BHP and the Ministry of the Interior comes into effect.
February 20 <sup>th</sup>	Appendix 1 of Article 3 of the "Regulations for Verification on Kinship of Sperm/Oocyte Donors and Receptors" is amended and announced.
February 22 <sup>nd</sup>	The "Regulations on Subsidizing and Rewarding Smoking Cessation Services" and the "Regulations on the Implementation of Smoking Cessation Education" is announced.
March 5 <sup>th</sup>	A new edition of "Women's Health Policy" is completed and ratified by the Executive Yuan's Committee of Women's Rights Promotion in its 28th council meeting.
March 27 <sup>th</sup>	The "Regulations on Testing of Nicotine and Tar Content in Tobacco Products and Labeling of Tobacco Product Containers" is announced by the Department of Health.
April 18 <sup>th</sup>	BHP conducts a study on "Evaluation of Health Status of Residents in Areas with Relatively High Densities of Cellular Phone Stations" to collect localized data on the health impact of electromagnetic fields for the reference of health risks communications.
April 23 <sup>rd</sup>	A three-year chronic kidney disease prevention and control research program, the content of which includes epidemiology, medical payments, diagnosis technique as well as treatment and care, is conducted with a budget of NT\$200 million.
May 26 <sup>th</sup>	The "Five Year Oral Health Plan for the Physically and Mentally Disabled" is completed for ratification at the Executive Yuan.
May 29 <sup>th</sup>	The "Regulations on the Establishment of Indoor Smoking Rooms" is announced.
May 30 <sup>th</sup>	Announced with Council of Labor Affairs the 'Designated Medical Facilities for Worker Health Examinations Regulations' which were to take effect July 1st, 2008.
May 30 <sup>th</sup>	A draft for the "Five-Year Elderly Health Promotion Project" is discussed in a preliminary meeting with domestic experts and scholars.
June 13 <sup>rd</sup>	BHP and the Council of Labor Affairs announce the "Regulations on Designating Health Care Institutions for Laborers' Physical Examinations," for promulgation on July 1st, 2008.
June 23 <sup>rd</sup>	The "Regulations on Labeling and Display of Tobacco Products on Tobacco-Selling Premises" is announced.
July	A survey is conducted on the public's awareness of the new regulations of the Tobacco Hazards Prevention Act prior to media publicity of the impending promulgation.
July 17 <sup>th</sup>	BHP continues the drive for increasing Tobacco Health and Welfare Surcharges, and the amendment of Article 4 and Article 35 of the Tobacco Hazards Prevention Act is sent to the Executive Yuan for deliberation.
August	A survey is conducted on publicity effectiveness of the new regulations of the Tobacco Hazards Prevention Act on restaurant owners to understand their level of awareness regarding the changes.
August 4 <sup>th</sup> ~5 <sup>th</sup>	Experts and scholars including the U.S. CDC officials and the deputy director of the Pennsylvania Department of Health are invited to attend the 2008 Health Promotion Conference in Taiwan.
August 7 <sup>th</sup>	Experts and scholars including the U.S. CDC officials, the deputy director of the Pennsylvania Department of Health, and NGO experts are invited to discuss the "Elderly Health Promotion Project" (draft) and a working model for resource integration for elderly health promotion.

Date	Event Synopsis
August 12 <sup>th</sup>	Amendments are made to the “Guidelines for the Preventive Health Care Services Provided by Medical Institutions”: In order to facilitate the analysis and follow-up of screenings, medical care institutions are required to electronically register the results of preventive health services for adults; with the aim to improve quality control, a fee deduction principle is to be applied to National Health Insurance claims where Pap smear samples and pathology tests fail to meet established standards.
August 21 <sup>st</sup>	The “Regulations on the Collection and Utilization of Tobacco Hazards Prevention and Health Care Funds” is announced by the Executive Yuan.
November 4 <sup>th</sup>	BHP continues the drive for amending Article 4 and Article 35 of the Tobacco Hazards Prevention Act in relation to increasing Tobacco Health and Welfare Surcharges; the proposal has been sent to the Executive Yuan on July 17 <sup>th</sup> and on to the Legislative Yuan for deliberation on November 4 <sup>th</sup> .
November 5 <sup>th</sup>	The first oral cancer patient documentary, “The Lost Smile,” is produced, which is awarded a 2008 government publications award of excellence from the Research Development and Evaluation Commission.
November 10 <sup>th</sup>	BHP establishes an interdepartmental Tobacco Hazards Control Contingency Center which meets on a weekly basis.
November 17 <sup>th</sup> ~22 <sup>nd</sup>	BHP attends the third session of the Conference of Parties to the WHO Framework Convention on Tobacco Control in Durban, South Africa, and provides a review with recommendations on the drafts for a “Protocol on Illicit Trade in Tobacco Products” and guidelines concerning “Tobacco Advertising, Promotion and Sponsorship” in collaboration with the Asian Center for WTO & International Health Law and Policy (AWCH), making Taiwan the only treaty nation to provide written opinions.
November 22 <sup>nd</sup>	Officials from the WHO Collaborating Centre on Community Safety Promotion and the International Safe Schools committee held a joint certification ceremony at the Taipei Medical University for Shoufeng, Shihkang and Zhongzheng communities as well as nine schools.
November 28 <sup>th</sup>	BHP convenes the first of four meetings with county and city health bureau directors to discuss the promotion strategies and enforcement of the new regulations of the Tobacco Hazards Prevention Act.
November 29 <sup>th</sup>	A civic group forum is held to discuss whether to use public funds to subsidize HPV vaccines.
December	A survey is conducted on the public’s awareness of the new regulations of the Tobacco Hazards Prevention Act following media publicity of the impending promulgation.
December 1 <sup>st</sup>	1. BHP begins random on-site inspections in 25 counties and cities throughout Taiwan (five rounds). 2. The Department of Health establishes its Tobacco Hazards Control Contingency Center which meets regularly.
December 4 <sup>th</sup>	The “Regulations on Reporting the Contents of Tobacco Products” is announced by the Department of Health requiring manufacturers and importers to report the content and toxicological information of tobacco products, which marks the first time the government exerts direct control over tobacco products.
December 10 <sup>th</sup>	BHP begins visits to eight municipal government mayors to solicit support for the implementation of smoke-free policies.
December 26 <sup>th</sup>	Contingency drills for the implementation of the “Tobacco Hazards Prevention Act” are held at the Center of Disease Control National Health Command Center.
December 30 <sup>th</sup>	Pertinent experts are invited to complete the HPV vaccine policy assessment report.
Jan. 5 <sup>th</sup> , 2009	Dr. Ching-Chuan Yeh, Minister of Health, leads a delegation on a simulated on-site inspection.
Jan. 11 <sup>th</sup> , 2009	Tobacco Hazards Prevention Act is promulgated, BHP stations a team in the Center of Disease Control National Health Command Center and releases the inspection results of the 25 counties and cities on the tobacco control efforts.
Jan. 12 <sup>th</sup> , 2009	1. Amendment to Article 4 and Article 35 of the Tobacco Hazards Prevention Act pass the third reading at the Legislative Yuan. 2. A performance evaluation is conducted on the tobacco control efforts of the health bureaus in Taiwan’s 25 counties and cities.

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