National health is a key gauge of national competitiveness. To increase physical, mental and social health in Taiwan, the BHP has taken its lead from the Alma-Ata Declaration of 1978 and the five action areas for health promotion identified in the Ottawa Charter of 1986.

BHP has been striving to set health-friendly public policies, bring about healthy communities, hospitals, schools and workplaces, enhance public consciousness of health to usher in a society where health always comes first, and develop citizens’ health skills and readjust health services.

The ultimate goal is to achieve “Health For All” enunciated by the World Health Organization.

BHP also conducted public health surveillance, related research and development to made evidence-based policy goals and strategies that best meet present needs and future development.
Outline

- Taiwan Health Profiles
- Vision and Strategies of Health Promotion
  - Healthy Birth and Growth
  - Healthy Living
  - Healthy Environment
  - Healthy Ageing
- Special Health Topics
- Health Surveillance

Taiwan Health Profiles
### Health Status in Taiwan

<table>
<thead>
<tr>
<th></th>
<th>Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>23,157,178</td>
</tr>
<tr>
<td>Population age 65 and above(%)</td>
<td>10.6</td>
</tr>
<tr>
<td>Crude birth rate(‰)</td>
<td>8.3</td>
</tr>
<tr>
<td>Crude death rate (per 100,000)</td>
<td>618.7</td>
</tr>
<tr>
<td>Total fertility rate(‰)</td>
<td>1.02 (2009)</td>
</tr>
<tr>
<td>Maternal mortality rate (per 100,000)</td>
<td>6.5 (2008)</td>
</tr>
<tr>
<td>Neonatal mortality rate(‰)</td>
<td>2.7 (2008)</td>
</tr>
<tr>
<td>Infant mortality rate(‰)</td>
<td>4.5</td>
</tr>
<tr>
<td>Under 5 mortality rate(‰)</td>
<td>6.3</td>
</tr>
<tr>
<td>Life Expectancy</td>
<td>78.9</td>
</tr>
<tr>
<td>Male</td>
<td>75.9</td>
</tr>
<tr>
<td>Female</td>
<td>82.5</td>
</tr>
</tbody>
</table>

Source: 1. Statistical Yearbook of Interior, R.O.C  

### Life Expectancy at Birth, 2009

Data source:  
1. World Health Statistics 2009, Table 1  
2. Statistics of Taiwan is from the website of Department of Health, 2009, Table 1  
   Population Statistics
Future Projected Proportion of Population in Taiwan (Medium Projection)

Source: Council for Economic Planning and Development

Top 10 Leading causes of death in Taiwan

Age standardized mortality rate (1/100,000)

Age standardization is based on the WHO’s world population age-structure in 2000.
Vision and Strategies of Health Promotion

Cherish Life, Promote Health
Increasing healthy life expectancy

Vision and Strategies

预防和控非传染性疾病
慢性病预防与控制
健康促进（3P：预防、保护、促进）

Developing public policies for health
Create a supportive environment
Invigorate Communities
Develop and Enhance Health Skills
Reorient Hygiene Services

- Draft and amend laws and regulations
- Devise health policies for different societal groups
- Narrow gaps in citizen health

- Strengthen cross-sector cooperation
- Nurture a system conducive to health promotion
- Make industry healthy and bring health to industry

- Build healthy families, communities, schools, workplaces, hospitals
- Have health accepted as top priority in society

- Health Literacy
- Health Communication
- Health Surveillance and R&D
- Healthy Lifestyles

- Formulate a medical treatment and healthcare system conducive to health promotion
- Build a well-rounded system for preventing and caring for Noncommunicable diseases
- Turn medical care resources into health resources
1. Maternal Health

- Systematic Reproductive Health Services
- Comprehensive Reproductive Health Regulations and Systems

Preventive Services - Maternal Health Promotion

Before Pregnancy | Before the Due Date | After the Due Date
---|---|---
10 Free Prenatal Examinations
Reproductive Health Services for Foreign Spouses
Promotion of Breastfeeding
Genetic Testing and Counseling Services (including Prenatal Diagnosis)

Antenatal care coverage (%)
At least 1 visit: 98.16%
At least 4 visits: 95.88%
### Preventive Services - Maternal Health Promotion

<table>
<thead>
<tr>
<th>Item</th>
<th>Target</th>
<th>Interval</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal examinations for pregnant women</td>
<td>pregnant women</td>
<td>2 times (&lt;17 weeks)</td>
<td>Physical check-up, Blood and urine tests, Ultrasound examination, Health education</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 times (17-29 weeks)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 times (&gt;29 weeks)</td>
<td></td>
</tr>
<tr>
<td>Group B streptococcus screening</td>
<td>low income pregnant women</td>
<td>once</td>
<td>Group B streptococcus culturing and screening</td>
</tr>
</tbody>
</table>

Data for 2002-2005 is taken from the Bureau of National Health Insurance. Data for 2006-2010 is based on BHP calculations.

### Utilization Rate of Prenatal Examinations

![Utilization Rate of Prenatal Examinations Graph]

Source: Data for 2002-2005 is taken from the Bureau of National Health Insurance. Data for 2006-2010 is based on BHP calculations. Average utilization rate: the number of prenatal examinations / the number of births multiplied by 10 prenatal tests.
Amniocentesis Rates for Pregnant Women over Age 34, 2000-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Utilization rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>75.5%</td>
</tr>
<tr>
<td>2001</td>
<td>70.4%</td>
</tr>
<tr>
<td>2002</td>
<td>76.1%</td>
</tr>
<tr>
<td>2003</td>
<td>83.3%</td>
</tr>
<tr>
<td>2004</td>
<td>86.1%</td>
</tr>
<tr>
<td>2005</td>
<td>88.9%</td>
</tr>
<tr>
<td>2006</td>
<td>87.3%</td>
</tr>
<tr>
<td>2007</td>
<td>88.0%</td>
</tr>
<tr>
<td>2008</td>
<td>89.5%</td>
</tr>
</tbody>
</table>

Healthy Birth and Growth

2. Infant and Child Health

- Provision of Comprehensive Healthcare Services
  - Preventive Healthcare Services for Children
  - Newborn Screening
  - Upgrading the Competence of Health Professionals
  - Creating a Friendly Environment Conducive to Breastfeeding
  - Promoting Legislation on "Public Breastfeeding Act"

- Countermeasures to Rectify Sex Ratio at Birth Imbalances
## Preventive Services - Newborns and Children

<table>
<thead>
<tr>
<th>Item</th>
<th>Target</th>
<th>Interval</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newborn screening services</td>
<td>newborns</td>
<td>once</td>
<td>G-6-PD, CHT, CAH, PKU, HCU, Isovaleric acidemia, MSUD, GAL, MMA, GA1, MCAD</td>
</tr>
<tr>
<td>Hearing check</td>
<td>newborns in low income families</td>
<td>once</td>
<td>Hearing check</td>
</tr>
<tr>
<td>Preventive child health care services</td>
<td>children under 7 years old</td>
<td>7 times</td>
<td>Physical check-up: Medical history of individual and family, height, weight, hearing ability, eyes, mouth and dental, growth and development appraisal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Examination of development: children hearing, language and Autism screening</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Health counseling: Breast feeding, nutrition, childhood development, oral health care, eye care, injury prevention</td>
</tr>
<tr>
<td>Professionally applied fluoride treatment</td>
<td>children under 5 years old</td>
<td>semiannually</td>
<td>Professional fluoride application by dentists, general oral examination, oral health education</td>
</tr>
<tr>
<td>Pit-and-Fissure Sealant Program for Children</td>
<td>elementary first and second grade students in mountainous area and first grade elementary school children of low-income families</td>
<td>once</td>
<td>Pit-and-Fissure Sealant of first molar</td>
</tr>
</tbody>
</table>
Maternal, Neonatal and Infant Mortality Rates

Maternal mortality rate (per 100,000 live births)

Neonatal and Infant mortality rate (per 1,000 live births)

1995: Birth Reporting System Initiated

Completion rate of Taiwan newborn screening

- 452 hospitals/clinics nationwide offering sample taking service
- 99% of newborn babies receiving screening
- 3 screening laboratories
- 31 hospitals offering confirmation tests
- 1.88% abnormality rate (96.76% of abnormality found are G6PD. The second highest abnormality found is CHT(2.87%)

Year


Completion rate of Taiwan newborn screening
**Infant Mortality Rates by High/ Middle/ Low Rate Areas**

Infant Mortality Rates \(\%\)

```
<table>
<thead>
<tr>
<th>Year</th>
<th>High Infant Mortality Rates Area</th>
<th>Middle Infant Mortality Rates Area</th>
<th>Low Infant Mortality Rates Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-2000</td>
<td>11.60/5.83</td>
<td>5.90/4.47</td>
<td>5.89/4.47</td>
</tr>
<tr>
<td>2001-2003</td>
<td>7.87/6.37</td>
<td>5.63/5.17</td>
<td>5.69/4.69</td>
</tr>
<tr>
<td>2004-2006</td>
<td>6.98/5.63</td>
<td>5.50/4.18</td>
<td>5.69/4.69</td>
</tr>
<tr>
<td>2007-2009</td>
<td>5.90/4.50</td>
<td>5.17/4.47</td>
<td>5.18/4.47</td>
</tr>
</tbody>
</table>
```

Source: Department of Health, Taiwan; Ministry of the Interior, Taiwan

**Baby- Friendly Hospital Initiative**

<table>
<thead>
<tr>
<th>Year</th>
<th>Item</th>
<th>No. of hospitals receiving certification</th>
<th>Birth coverage rate of BFHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td></td>
<td>38</td>
<td>-</td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td>58</td>
<td>-</td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td>74</td>
<td>-</td>
</tr>
<tr>
<td>2004</td>
<td></td>
<td>77</td>
<td>39.2</td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td>81</td>
<td>40.8</td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td>82</td>
<td>41.3</td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td>94</td>
<td>47.4</td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td>94</td>
<td>46.3</td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td>113</td>
<td>53.9</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td>144</td>
<td>67.2</td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td>158</td>
<td>71.4</td>
</tr>
</tbody>
</table>
Promoting a Breastfeeding-Friendly Society

- **Goal**: To reduce barriers of and to promote breastfeeding in the communities
- **Strategies**
  - Baby-Friendly Hospital Initiative
  - Collaboration with the Council of Labor Affairs to promote breastfeeding-friendly workplaces.
  - Breastfeeding support
    - Hotline: 0800-870870
    - Workforce training
  - Legislation in 2010: “Public Breastfeeding Act” to protect the right of breastfeeding in public places and require setup of breastfeeding rooms in certain public places.

**Exclusive Breastfeeding Rates, 2004-2011**

The questionnaire from 2008 was surveyed how long the babies fed with exclusive breast milk.


**Alterant definition**: the rate in 2004 was surveyed the breastfeeding situation in different time; the rate from 2008 to 2011 was surveyed how long the babies fed with exclusive breast milk.
Screening for Hearing Impairment

- Pre-school (3 y/o) pure tone audimetry hearing screenings in kindergartens carried out by public health nurses since 2001, screening rate from 25%(2002) to 87%(2010).
- Newborn hearing screening: free for all newborn since March 15, 2012.

Screening for Vision in Pre-school Children

- Vision
  - Providing strabismus and amblyopia screenings in children of four and five years old in kindergartens in the communities, carried out by trained teachers.
Screenings for Strabismus and Amblyopia in Preschool Children

Oral health of children

1. Professionally applied fluoride treatment under 5 years old

2. A comprehensive fluoride mouth rinse program for elementary school children

3. Pit-and-Fissure Sealant Program for Underprivileged Children

DMFT index for permanent teeth for 12-year-old children in Taiwan
Countermeasures to Rectify Sex Ratio at Birth Imbalances

Sex Ratio at Birth

- First
- Second
- Third and above
- Total

Sex ratio at birth dropped to 1.1.
It is the lowest in the past 16 years in Taiwan.

2. Bureau of Health Promotion, Department of Health, Taiwan, 2004-2011

Healthy Living

1. Tobacco Hazards Prevention and Control

- MPOWER
  - Monitor tobacco use and prevention policies
  - Protect people from tobacco smoke via new ban
  - Offer help to quit tobacco use
  - Warnings on tobacco packages
  - Enforce bans on tobacco advertising, promotion and sponsorship
  - Raise taxes on tobacco
MPOWER

- WHO Report on the Global Tobacco Epidemic, 2008 - The MPOWER Package

Monitor tobacco use and prevention policies
Protect people from tobacco smoke
Offer help to quit tobacco use
Warn about dangers of tobacco
Enforce bans on tobacco advertising, promotion and sponsorship
Raise taxes on tobacco

Monitor:

Taiwan Adults Smoking Prevalence and projection to 2020(Age 18+)

Source:
Definition: Current smoker, During survey, smoke more than 100 cigarettes(5 packs) and smoking in past 30 days
Abbreviations: THWS- Tobacco health welfare surcharge, THPA: Tobacco Hazards Prevention Act
Smoking rate

Taiwanese men smoking rate
1.6 times of American’s, 1.7 times of Canadian’s

Protect people from tobacco smoke via new ban

Smoking ban on all indoor public and work places plus some outdoor places
**Environmental tobacco smoke exposure**

- **Family**
  - 2005: 35.2
  - 2006: 33.0
  - 2007: 30.7
  - 2008: 27.2
  - 2009: 20.8
  - 2010: 24.9
  - 2011: 19.9

- **Public indoor places**
  - 2005: 29.0
  - 2006: 30.3
  - 2007: 23.7
  - Amendment effective in 2009
  - 2009: 9.0
  - 2010: 9.1
  - 2011: 8.2

---

**Offer help to quit tobacco use**

- Smoking Cessation **Outpatient Services** (Since 2002, 10,000/M)
  - Distributed to 97% townships
  - Point abstinence rate at 6 month: 23.8%

- Second generation smoking cessation payment scheme (since March, 2012)

- Taiwan Smokers’ **Helpline** (Since 2003, 5,000/m)
  - 30% success rate at 6 month

- Cessation **Group-Therapy** in the Community (Since 2002)

- Smoking Cessation Campaign (Quit & Win)
Extensive training on cessation educators

<table>
<thead>
<tr>
<th>Background</th>
<th>Ever trainee by 2009</th>
<th>Trainee in 2010</th>
<th>Trainee in 2011</th>
<th>Trainee in 2012 (Jan.-Aug.)</th>
<th>Total (persons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>8,475</td>
<td>2,733</td>
<td>2,394</td>
<td>646</td>
<td>14,248</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>280</td>
<td>5,554</td>
<td>5,198</td>
<td>2464</td>
<td>13,496</td>
</tr>
<tr>
<td>Others (nurses, psychologists, etc.)</td>
<td>900</td>
<td>19,083</td>
<td>11,932</td>
<td>3913</td>
<td>35,828</td>
</tr>
<tr>
<td>Total</td>
<td>9,655</td>
<td>27,370</td>
<td>19,524</td>
<td>7,023</td>
<td>63,572</td>
</tr>
</tbody>
</table>

“Sign-to-quit campaign” with self-help manual

In 2010, 1,458,000 manuals distributed, 50.6% signed to receive follow-up calls, 35.5% found it helpful, 33.2% tried to reduce or quit smoking.
Smoke-free health care:
Universal access to cessation help in clinical settings

Pictorial Warnings on tobacco packages (effective in 2009) to cover at least 35% of the tobacco package surface.

- Enforce bans on tobacco advertising, promotion and sponsorship

- Raise taxes on tobacco
  - Tax Amount: Step-by-step increase
    - 2002: NT$5 ($0.15) / pack
    - 2006: NT$10 ($0.3) / pack
    - 2009: NT$20 ($0.6) / pack
Healthy Living

2. Physical Activity

- Advocating a dynamic lifestyle
- Creating Supportive Environments
- Strengthening personal physical skills

Advocating a dynamic lifestyle

- To encourage citizens to take up regular exercise, the BHP made use of the media, such as radio, TV and the Internet for promoting the “10,000 steps a day, makes you healthier” campaign.
- In collaboration with all the counties and cities, the BHP designated November 11 as National Day for Walking to help people integrate it into daily life.
- In collaboration with the Ministry of Education, the BHP strengthened topics concerning physical fitness (including physical activity and diet) to schools. The objective is to make sure children and teenagers learn and cultivate healthy habits both in diet and physical activity.
Creating Supportive Environments

- **Identify and improve the obesogenic environment**
  - Community obesogenic environments assessment

- **Building health information**
  - Set up a website to provide information on healthy diets and exercise.
  - Compile a list of frequently asked questions for the “Healthy Centenary, Healthy Taiwan” campaign, and make it available for everyone to view online.
  - Free healthy weight management telephone consultation service (0800-367-100)
  - Provide updated information to the public through social channels such as Facebook.

- **Create a healthy food supply system**
  - Let People see, hear, buy and eat healthy foods.

- **Construct dynamic living environments**
  - Everyone can exercise wherever and whenever they can.

---

Creating Supportive Environments

- **Developing tools to examine obesogenic environments in 22 cities/counties and 368 townships**

- **Obesity prevention website**

- **Toll free helpline and internet telephony 0800-367-100**

- **Facebook**
Supportive environments for healthy eating

- Healthy food certification
- Aboriginal healthy meal
- Healthy lunch box
- Three bundles of veggies cost NTD$ 10
- Lotus meal
- Healthy lunch box

Calorie labeling in wholesale stores, lunch boxes, vending machines and chain restaurants

- Label calorie info on their bakery products and deli foods.
Mayors advocate healthy eating

- “Meat Free Monday” in Taichung city and Chuanhua county government and schools
- “Healthy market” promote local food ingredients in Taoyuan
- 500 kilocalories menus with fresh local food ingredients in Hualien county
- Local agriculture products-Broccoli in Chiayi county

Traditional Festival Smart Eats

- Help industries make traditional festival foods that are high in fiber and low in salt, sugar, fat and calories.
- Educate the public on selecting healthy traditional festival foods.
- Rice dumpling press conference
- Osmanthus rice dumpling
- Moon cake by TMH
- Creative grain meal
- Snacks for New Year

<table>
<thead>
<tr>
<th>認識卡路里—ex. 常見食品與運動</th>
<th>能量 (卡/克)</th>
<th>能量 (卡/100克)</th>
<th>能量 (卡/100克)</th>
</tr>
</thead>
<tbody>
<tr>
<td>餅乾糖霜紅豆</td>
<td>350</td>
<td>113</td>
<td>2431</td>
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<tr>
<td>花生糖糖豆</td>
<td>350</td>
<td>113</td>
<td>2431</td>
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<td>花生糖糖豆</td>
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<tr>
<td>花生糖糖豆</td>
<td>350</td>
<td>113</td>
<td>2431</td>
</tr>
</tbody>
</table>
Supportive environments for dynamic lifestyle

- walking trails
- pedestrian spaces
- Happy farm
- Cycling paths

Supportive environments for active living

- Exercise in elementary schools
- Exercise in BHP
- Calorie labeling on stairs
- Healthy walking in community

Healthy Exercise on fixed time and places led by volunteer in Community of Tainan
Supportive environments for active living

- Spent calories are marked on walking paths in Chiayi City

![Image of walking path with calorie markers](image)

Supportive environments for active living

- Meiluen Mountain healthy walk paths, Hualien County
- Path distance and calories spent are marked on the path map.
- Walk paths are planned according to time of exercise and body weights – 6 different routes in total.

![Image of path map with calorie information](image)
Supportive environments for active living

- Calories spent after running are clearly labeled by the Meiluen Track Ground in Hualien County, based on user’s weight and time spent exercising.

Supportive environments for active living

- Calories spent after cycling for 1km is labeled on bike paths in Chia Yi county, based on the weights of the cyclists.
Develop Personal Skills

- Designing Health Exercise
  - Media promotion planning and national sweepstakes
  - Conduct 1st and 2nd wave survey to know the change of KAP
  - Set up obesity prevention website [http://obesity.bhp.gov.tw](http://obesity.bhp.gov.tw)
  - Free healthy weight management telephone consultation service (0800-367-100)
  - Video whiteboard on the topic of Healthy Weight Loss
  - Compile a list of frequently asked questions for the “Healthy Centenary, Healthy Taiwan” campaign, and make it available for everyone to view online.

Guidebook, brochures, billboards, and Instruction Manuals

- Instruction Manuals for hospital, workplace, local health bureau and school to assist all sectors in implementing healthy weight loss management
- Distribute guidebooks and brochures of “Healthy Centenary, Healthy Taiwan” to help people learning “Healthy eating, Happily exercise, Weigh everyone”
Healthy Environment

- Healthy Settings
- Healthy Hospitals
Partners of Health Promotion

- Public health team: central and local
- Healthcare team: public and private
- Community participation through places where people live, work, study, seek care, etc.
- Academic field
- NGOs
- Media
- Political power: political leaders, central and local governments
- Industry

Health Promoting Settings (Nov. 2012)

<table>
<thead>
<tr>
<th>SETTINGS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communities ever subsidized from 1999 to 2012</td>
<td>531</td>
</tr>
<tr>
<td>Communities with ongoing activities in HP</td>
<td>397</td>
</tr>
<tr>
<td>Promoting Betel-quid Free Communities</td>
<td>233</td>
</tr>
<tr>
<td>Promoting Smoke-Free Communities</td>
<td>217</td>
</tr>
<tr>
<td>Promoting Safe Communities</td>
<td>82</td>
</tr>
<tr>
<td>Promoting Healthy-Ageing Communities</td>
<td>193</td>
</tr>
<tr>
<td>Promoting Healthy Workplace</td>
<td>7,411</td>
</tr>
<tr>
<td>Health Promoting Schools</td>
<td>3,699</td>
</tr>
<tr>
<td>Certified by BHP</td>
<td></td>
</tr>
<tr>
<td>Healthy Communities</td>
<td>84</td>
</tr>
<tr>
<td>Baby-Friendly hospitals</td>
<td>144</td>
</tr>
<tr>
<td>HP Workplaces</td>
<td>303</td>
</tr>
<tr>
<td>Age-Friendly Hospitals</td>
<td>32</td>
</tr>
<tr>
<td>Certified by WHO Collaborating Centers</td>
<td></td>
</tr>
<tr>
<td>Healthy City</td>
<td>21</td>
</tr>
<tr>
<td>Health Promoting Hospitals</td>
<td>91</td>
</tr>
<tr>
<td>Safe Community</td>
<td>19</td>
</tr>
<tr>
<td>Safe School</td>
<td>46</td>
</tr>
</tbody>
</table>
International Certification (Nov. 2012)

- Healthy Cities: a total of 10 cities/counties and 11 districts joined in the Alliance of Healthy Cities in the WPRO.

- Safe Communities and Safe Schools: a total of 19 communities and 46 schools were approved by the WHO International Community Safety Promotion Center.

- Health Promoting Hospitals: 91 Hospitals have joined the WHO International Network of Health Promoting Hospitals.

Health Promoting Hospitals

- Establishment of Taiwan HPH Network (1st Network in Asia), Dec. 2006
- Taskforce on HPH and Environment was approved to set up with 4-year periods by General Assembly of International HPH Network in 2010. --Dr. Chiou is the leader
  --164 Taiwan hospitals and 10 foreign institutions have joined this task force.
- Dr. Chiou was elected as the Chair of International HPH Network in Apr. 2012
- The 20th International HPH Conference was successfully hosted by Taiwan in April of 2012 – the first time it’s outside of Europe.

- International HPH Network established in 1990
- Up to Nov. 2012 (data from: www.hphnet.org)
  -- over 900 member hospitals from 40 countries
  -- 40 National/Regional HPH Network

TAIWAN
Healthy Ageing

1. Four Key Components of Proactive Approaches to Healthy Ageing
   - Preventive services and Disease management
   - Age-friendly health services
   - Community health promotion for elderly
   - Towards an age-friendly society

Preventive Services for Adult and Elderly

<table>
<thead>
<tr>
<th>Item</th>
<th>Target</th>
<th>Interval</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult preventive health services</td>
<td>People aged 40-64</td>
<td>3 years</td>
<td>Physical examination, Health education, Blood test, urine routine test</td>
</tr>
<tr>
<td></td>
<td>People over 65 years old</td>
<td>1 year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>People who suffering from polio over 35 years old</td>
<td>1 year</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indigenous people over 55 years old</td>
<td>1 year</td>
<td></td>
</tr>
</tbody>
</table>
Universal coverage of health services

- Provided jointly by National Health Insurance and Bureau of Health Promotion
- Scope:
  - evidence-based screenings, such as screening for: hypertension, hyperlipidemia, diabetes, obesity, GFR, health consultation, cervical cancers, CRC, breast cancer, oral cancer.
  - immunization (elderly flu shot),
  - smoking cessation,
  - acute and chronic illness care,
  - medications,
  - surgeries,
  - basic dental services, etc.

Disease management for chronic conditions

Ex.
- Diabetes
- Hypertension
- Chronic kidney disease
- Depression
- Asthma
- etc.
Components of disease management -1

- Evidence-based guidelines for diagnosis, management and follow-up
- Training and certification for healthcare providers based on the guidelines
- Team-based care by doctors + nurses, dieticians, care managers, etc.
- Cooperation between providers
- Quality indicators and monitoring of performance
- Extra pay for good performance

Components of disease management -2

- Planned care according to the guidelines, with:
  - Patient registry
  - Computerized decision support and reminding for providers
  - Regular review of complications
  - Reminding for patients to return for treatment and follow-up
  - Personal health record for patients to carry
- Patient empowerment:
  - Health education and shared decision making
  - List of resources (ex. for group physical activity, healthy foods, etc.)
  - Patient groups
Taiwan’s Framework of Age-Friendly Hospitals and Health Services

- Based on:
  - WHO age-friendly principles
  - WHO Standards of Health Promoting Hospitals
- 32 Hospitals in Taiwan are Age-Friendly certified (November 2012)
- Working Group on HPH and Age-Friendly Health Care was approved by General Assembly of International HPH Network in Apr. 2012 -- Dr. Chiou is the leader

Community Health Promotion for Elderly National Program on Healthy Ageing

2009-2012
Priority topics in community

<table>
<thead>
<tr>
<th>1. Physical activity</th>
<th>5. Smoking cessation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Falls prevention</td>
<td>6. Mental health promotion</td>
</tr>
<tr>
<td>3. Nutrition</td>
<td>7. Social participation</td>
</tr>
<tr>
<td>4. Oral health</td>
<td>8. Screening</td>
</tr>
</tbody>
</table>
Health promotion station

Fall prevention exercise show

Grandpa-grandma fun contest; Will have 1000+ teams in 2011
Community screening

WHO Age-Friendly Cities - A Guide

Figure 6. Age-friendly city topic areas

Global Age-friendly Cities: A Guide
Age-Friendly Cities Project

- **in 2010**: 1 pilot city
  - Commitment of the mayor and inter-department cooperation of the city government
  - Collecting the views regarding the problems, needs and priorities from the elderly;
  - Developing locally-tailored age-friendly city indices
  - Review of age-friendliness in major policies and services

- **in 2011**:
  - Develop a three-year action plan based on the results of needs assessment and self-assessment
  - Apply to the WHO Global Network of Age-friendly Cities.
  - Extend to 8 counties/cities.

- **in 2012**:
  - 20 cities/counties participate

**Vision**

- **in 2013**: all counties/cities in Taiwan

---

President Ma visited seniors in Chia-Yi City

*(the first pilot age-friendly city in Taiwan)*
President Ma led all to pledge toward an age-friendly society

Elderly health promotion indicators: -1

Exercise, Community participation, Check-up & Fruit

Source from:
Exercise, 5 Fruits & Vegetables: Behavioral Risk Factor Surveillance System (BRFSS)
Community participation: National Health Interview Survey (NHIS)
Check-up: Use of Prevention Healthcare Services for Adults
Healthy Ageing

2. Prevention and Control of Major Chronic Diseases -
Cancer as an example
- Screening for Major Types of Cancer
- Quality of Cancer Care
Burden of Cancers in Taiwan

- Cancer has been the number 1 killer in Taiwan since 1982.
- The cancer death tolls continued to rise until 2007 and accounted for 28% of total deaths and 10.1% of National Health Insurance expenditure in 2011.

The trend of mortality of 10 leading cancers
Cancer -- Incidence & Mortality Rate

Cancer is the top leading cause of death in Taiwan. The incidence and mortality rates are both higher than many other countries.

<table>
<thead>
<tr>
<th>Incidence rate</th>
<th>Mortality rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>181.0 China</td>
<td>124.6</td>
</tr>
<tr>
<td>244.1 Taiwan</td>
<td>120.7</td>
</tr>
<tr>
<td>266.9 UK</td>
<td>115.8</td>
</tr>
<tr>
<td>241.4 Spain</td>
<td>109.5</td>
</tr>
<tr>
<td>274.3 Italy</td>
<td>110.6</td>
</tr>
<tr>
<td>300.4 France</td>
<td>107.3</td>
</tr>
<tr>
<td>314.1 Australia</td>
<td>102.8</td>
</tr>
<tr>
<td>282.1 Germany</td>
<td>105.9</td>
</tr>
<tr>
<td>300.2 US</td>
<td>104.1</td>
</tr>
<tr>
<td>262.4 Korea</td>
<td>100.5</td>
</tr>
<tr>
<td>201.1 Japan</td>
<td>94.8</td>
</tr>
<tr>
<td>150.5 Thailand</td>
<td>93.6</td>
</tr>
<tr>
<td>142.9 Malaysia</td>
<td>93.4</td>
</tr>
<tr>
<td>196.0 Singapore</td>
<td>90.1</td>
</tr>
</tbody>
</table>

Age-standardized rate (ASR), 1/100,000, 2008

Source: 1. GLOBOCAN 2008, IARC

Objectives of National Cancer Control Program

- Long term: reducing standardized mortality rate by 10%

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Target</th>
<th>2009</th>
<th>2013</th>
<th>2013 lifetime screening rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical Ca.</td>
<td>3-yr pap smear (or HPV) for female aged 30-69</td>
<td>58%</td>
<td>70%</td>
<td>-</td>
</tr>
<tr>
<td>Breast Ca.</td>
<td>2-yr mammogram for female aged 45-69</td>
<td>11%</td>
<td>30%</td>
<td>55%</td>
</tr>
<tr>
<td>Colorectal Ca.</td>
<td>2-yr i-FOBT for people aged 50-69</td>
<td>10%</td>
<td>50%</td>
<td>70%</td>
</tr>
<tr>
<td>Oral Ca.</td>
<td>2-yr visual inspection of oral cavity for smokers and betel-quid chewers aged 30+</td>
<td>28%</td>
<td>50%</td>
<td>70%</td>
</tr>
</tbody>
</table>
Strategy of Cancer Control

- Establish healthy lifestyle
- Promote cancer screening
- Improve quality of treatment
- Palliative care
- Cancer research
- Cancer surveillance

Lower cancer mortality

Strategic Actions:

1. Public heath education
2. Forum to collect opinions from different organizations
3. Complete HPV vaccine policy assessment report
4. Free vaccination for teenagers in low-income household and remote areas from 2011

Healthy Lifestyle

- HPV vaccination
- Hepatitis vaccination and treatment
- Healthy diet, exercise, obesity control
- Tobacco hazard prevention
- Betel quid health hazard prevention

1. Public health education
2. Create betel quid-free environment in schools, workplace, army and communities
3. Betel quid quitting services
## Strategy - Promote Cancer Screening

<table>
<thead>
<tr>
<th>Cancer</th>
<th>Target</th>
<th>Tool</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cervical Ca.</strong></td>
<td>Women aged $\geq 30$</td>
<td>Pap smear</td>
<td>3 years</td>
</tr>
<tr>
<td></td>
<td>Women refused Pap Smear</td>
<td>HPV test</td>
<td>5 years</td>
</tr>
<tr>
<td><strong>Breast Ca.</strong></td>
<td>1. Women aged 45-69</td>
<td>Mammography</td>
<td>2 years</td>
</tr>
<tr>
<td></td>
<td>2. Women aged 40-44 with family history</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Colorectal Ca.</strong></td>
<td>People aged 50-69</td>
<td>i-FOBT</td>
<td>2 years</td>
</tr>
<tr>
<td><strong>Oral Ca.</strong></td>
<td>Betel-quid chewers and smokers aged $\geq 30$</td>
<td>Oral mucosa exam</td>
<td>2 years</td>
</tr>
</tbody>
</table>

## Evidences of Cancer Screening

<table>
<thead>
<tr>
<th>Screening tool</th>
<th>Effectiveness/Mortality (screening interval)</th>
<th>ICER (screening interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pap smear</td>
<td>↓ 60-90% (3-5 years)</td>
<td>12.3 thousand USDs (3 years)</td>
</tr>
<tr>
<td>Mammography</td>
<td>↓ 21-34% (1-3 years)</td>
<td>40.3 thousand USDs (2 years)</td>
</tr>
<tr>
<td>Oral mucosa exam</td>
<td>↓ 43% (3 years)</td>
<td>11 thousand USDs (2 years)</td>
</tr>
<tr>
<td>i-FOBT</td>
<td>↓ 18-33% (1-2 years)</td>
<td>Dominated</td>
</tr>
</tbody>
</table>
Strategy - Promote Cancer Screening

- Promote screening through mass media and working with NGOs and enterprises
- Provide accessible services (mobile clinics)
- Subsidize hospitals to integrate cancer screening into daily practice
  - reminding system in the outpatient service
  - patient-friendly screening services
- Establish an effective referral and follow-up system for screened positive cases
- Conduct QC program to ensure screening quality
  - personnel training and certification
  - medical institution accredited and regular quality evaluation
  - data analysis, feedback and monitoring

Positive Predictive Value & Case Yield of Screening Program, 2011

<table>
<thead>
<tr>
<th>Cancer</th>
<th>PPV</th>
<th>Case Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-cancer</td>
<td>Cancer</td>
</tr>
<tr>
<td>Cervical</td>
<td>1/2</td>
<td>1/5</td>
</tr>
<tr>
<td>Breast</td>
<td>1/17</td>
<td>1/17</td>
</tr>
<tr>
<td>Colorectal</td>
<td>1/2</td>
<td>1/19</td>
</tr>
<tr>
<td>Oral</td>
<td>1/22</td>
<td>1/36</td>
</tr>
</tbody>
</table>
The Trend of Incidence & Mortality of Cervical Cancer in Taiwan

The age-standard mortality and incidence rate of cervical cancer declined to 62% and 51% largely every year are qualified for application among 43 qualified hospitals, 41 hospitals received certification.

Strategy - Improve Quality of Cancer Care

- Subsidize hospitals to enforce “Regulations for Cancer Care Quality Assurance Measures”
- Conduct the accreditation program of cancer care
  - hospitals with more than 500 new diagnosed cancer cases every year are qualified for application
  - among 43 qualified hospitals, 41 hospitals received certification.
- Develop quality indicators of cancer care to evaluate the performance of hospitals
  - data analysis, feedback and monitoring
Performance on the core measures of breast cancer treatment

The ratio of histologic or cytologic confirmation before surgery: 81%

The ratio of adjuvant chemotherapy in breast cancer patients with tumor bigger than 1cm and age under 60: 84%

The ratio of adjuvant chemotherapy in stage 2-4 breast cancer patients with age under 60: 91%

The ratio of tumor size showed in pathologic report: 98%

The ratio of post-operative radiotherapy in breast cancer underwent MRM with more than 3 positive nodes: 71%

The ratio of post-operative adjuvant radiotherapy following breast conserving surgery in stage 1 breast cancer: 85%

The ratio of post-operative adjuvant radiotherapy following breast conserving surgery in stage 1 to 3 breast cancer: 84%

The ratio of less than ten examined axillary lymph nodes in carcinoma in situ (lobular or ductal): 84%

The ratio of breast conserving surgery performed in stage 1 breast cancer: 47%

The ratio of breast conserving surgery performed in stage II breast cancer: 29%

The ratio of breast conserving surgery performed in T1 breast cancer: 48%

The ratio of breast conserving surgery performed in T2 breast cancer: 44%

The ratio of sentinel node sampling in stage 1 and 2 breast cancer with tumor size less than 3 cm: 49%

The ratio of more than ten examined axillary lymph nodes in invasive carcinoma (lobular or ductal): 68%

Note:
1. Medical Center
2. Regional Center

6 counties without any qualified hospital

No. of Hospitals

Legend:
- 0
- 1
- 2
- ≥ 3

Qualified hospital
The ratio of more than ten axillary lymph nodes examined in invasive carcinoma (lobular or ductal)

![Graph showing the ratio of more than ten axillary lymph nodes examined in invasive carcinoma. The EUSOMA minimum standard is 85%. The average for the period 2007-2008 is 69.2%. The average for 2009 is 67.7%.]

- Medical center
- Regional hospital

No. of patients who received MRM, RM or BCS (excluding patients who received chemotherapy or radiation therapy before mastectomy, metastatic breast cancer or SLNB)

**Strategy - Surveillance and evaluation**

- **Mortality:**
  - Death certificate and registry

- **Morbidity and healthcare utilization:**
  - **Cancer registry:** launched in 1979, hospitals ≥ 50 beds
  - Household registry + **Cancer screening registry**
  - Claim Data of National Health Insurance

- **Surveillance on risk factors:**
  - Behavioral risk factors surveillance system (every year)
  - National Health Interview (every 4 years)
  - Measurement on obesogenic environments

- **Evaluation of public awareness and practice, etc.**
Special Health Topics

- Preventive healthcare services for aboriginal adults
- Oral care for people with disabilities
- Services for new immigrants

Preventive healthcare services for aboriginal adults

(A) Provided once every year for aboriginals aged 55 years and older since July, 2010.

(B) An aboriginal version handbook of adult preventive health services was compiled and distributed to the eligible groups to improve their compliance with preventive healthcare and self-management of health.

(C) 28,000 aboriginal adults availed themselves of the services in 2011, and the number of users is expected to be 29,000 in 2012.
Oral care for people with disabilities

Oral health of people with disabilities was inferior to that of the general public, and the Five-Year Oral Health Program for people with disabilities was conducted in 2008.

(A) 12 home service teams were established during 2010-2011 and provided oral care services to 4,000 people with disabilities
(B) Provided oral care services to 25,000 people with disabilities at homes and 154 specialized institutions during 2008-2012

Services for new immigrants

(A) Enroll in the National Health Insurance
(B) Reproductive health promotion and management: 99%

(C) Enhance mandarin ability
(D) Life skill education & guidance
Health Promotion Research and NCD Surveillance

Sources of NCD Surveillance Data

- **Registration system**
  - Household registration system (MOI)
  - Birth reporting system (BHP)
  - Death reporting system (DOH)
  - Cancer registration (BHP)

- **Administration system**
  - The National Health Insurance data (BNHI)
  - MCH service data base (BHP)
  - etc……

- **Survey**
NCD Surveys on population across lifespan

<table>
<thead>
<tr>
<th>Infant</th>
<th>Child</th>
<th>Adolescent</th>
<th>Adult</th>
<th>Elderly</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Health Interview Survey (NHIS) 0-100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition and Health Survey in Taiwan (NAHSIT) 0-100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Survey on Prevalence of Hypertension, Hyperglycemia and Hyperlipidemia in Taiwan (T3H) 15+</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Taiwan Birth Cohort Study (TBCS) 6mo+</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Taiwan Fertility and Family Survey (TFFS) 20-49</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Taiwan Longitudinal Study on Aging (TLSA) 50+</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Children and Adolescent Behaviors in Long-term Evolution (CABLE) 7-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global Youth Tobacco Survey (GYTS) 13-18</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Risk factors Surveillance System (BRFSS) 18+</td>
<td></td>
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<tr>
<td>Global School-based Student Health Survey (GSHS) 13-18</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Adult Smoking Behavior Surveillance System (ASBS) 18+</td>
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</tr>
<tr>
<td>Community-based survey</td>
<td></td>
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<tr>
<td>Student self-administered survey</td>
<td></td>
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<tr>
<td>Telephone survey</td>
<td></td>
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</tr>
</tbody>
</table>

Application of Internationally Comparable Tool

WHO protocol

- Global Youth Tobacco Survey (GYTS, 2004 ~)
- Global School Personnel Survey (GSPS, 2004 ~)
- Global Health Professions Student Survey (GHPSS, 2009 ~)
- Global School-based Student Health Survey (GSHS, 2012 ~)

Others

- Washington Group Questions on Disability (NHIS, 2013)
- The European Health Literacy Survey (NHIS, 2013)
Thank You

If you have any questions or suggestions, please contact Vivian Liu at chliu@bhp.doh.gov.tw

Cherishing Life, Promoting Health