NURSING CARE IN TAIWAN

Department of Health, R. O. C. (Taiwan)

Nursing Care in Taiwan

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Foreword

Two years ago, we published the internationally acclaimed "Hospital Care in Taiwan" which documented the development and accomplishments of Taiwan's hospitals, giving the general public an in depth look at Taiwan's medical field. This time around, we are publishing "Nursing Care in Taiwan" in order to continue to share Taiwan's history of nursing, the current accomplishments, and what the future holds in terms of its planning and goals.

Whether you speak of the educational or the technical facet, Taiwan's nursing has stepped up to the level of the world's standards due to the collaborative efforts of all those involved. However, there are no official published materials that detail and introduce the professional development of nursing in Taiwan currently, which is why our goal is to aggressively plan and help the people of Taiwan take a step closer in understanding our nursing care, and to furthermore shed light and help foreigners understand our nursing care to facilitate future cooperation in matters of health industry. Now there are many countries eagered to learn the accomplishments of Taiwan's National Health Insurance (NHI) program, the fact that 50% of Taiwan's medical personnel are in nursing signifies their contributions to the implementation of NHI and should be applauded. In the future, Taiwan's surpassing accomplishments in nursing would be a great subject to present to the world.

The International Council of Nurses (ICN) is a large international nursing organization consisting of 128 country members globally. Although it is not a governmental institution, it is a NGO with official affiliation with the World Health Organization (WHO) and also a member of the World Health Professions Alliance. The ability of Taiwan to be a member of ICN is evidence of the international recognition given to Taiwan's nursing field, especially in this extreme political climate. Furthermore, it shows the hard work and dedication of Taiwan's nursing community. Thus, we have a great opportunity to bring our outstanding professional nursing to the international stage, and to look forward to the bridge that this book will become, from Taiwan to the rest of the world.

Lastly, we thank the professional writers and dedication for all who have contributed to completing this book. You have all worked amazingly hard and best wishes to you all.

Department of Health, Executive Yuan
Minister

May, 2008

Foreword

Since the early days of nursing development in Taiwan, from training conducted by the public health nurses and medical personnel sent by the World Health Organization, to the independent development in Taiwan's nursing profession now, the long-term cooperation and endeavors by the government, field of medicine, and field of education have brought nursing to an international level and become a pride of Taiwan.

The most significant development is the establishment of Taiwan International Health Action (Taiwan IHA) in 2006. The organization consists of professionals in medical care, nursing, and public health, and the professionals have subsequently being deployed to foreign countries to give aid, with the most recent cases in the Marshall and Solomon Islands. Taiwan IHA has travelled to these diplomatic allies, established health centers and deployed long-term personnel to assist in the examination and improvement of local medical conditions to the enthusiastic response and appreciation of their local government and citizens.

In order to document the growth of nursing in Taiwan, we have published "Nursing Care in Taiwan." Through the writings of professional scholars, beside from detailing the history of our country's nursing profession, current conditions, and future prospects, it refinedly presents the dedication and accomplishments of nursing personnel. This is an elaborate and multi-faceted book that delves into the current health conditions in Taiwan, nursing education, nursing research, nursing practice, and the development of nursing organizations and other topics. In order to adapt to the constant changing times, this book also points out challenges that Taiwan's nursing profession will face in the future.

As a member of the nursing profession, I resonate with the great meaning in this book. In the debate of Taiwan's participation in World Health Organization, nursing has become a very potent facet in our promotion of medical and health diplomacy. With the dire circumstances Taiwan has faced in our diplomatic endeavors, only by ever increasing and contributing our professional abilities can we let Taiwan connect to the rest of the world.

Hopefully the publishing of this book, it can shed more light on the importance and appreciation that the nursing profession deserves. Also, hopefully this book can encourage my nursing colleagues to continue to record the history of Taiwan's nursing profession to share our experiences and achievements with the world and increase Taiwan's international visibility.

Department of Health, Executive Yuan
Deputy Minister

May, 2008

Preface

Ching-Min Chen, Yu-Mei Chao(Yu) & Yeur-Hur Lai

Taiwan's modern medicine was inspired by 17th century European missionary disseminating the concept of medical care. The earliest anecdote of "nursing" in Taiwan can be traced to 1865. In early times, the task of caring for a patient was mainly dependant on females and the details of their tasks were similar to maid services. The nature of this type of work deeply impacted the common perception of the nursing profession. During the time of Japanese ruling in Taiwan (1897-1945), nursing education was conducted through hospital-base apprenticeship training. This lasted until Taiwan established its first nursing school in 1947, bringing nursing to the scientific era. Since 1949, along with the immigration of Chinese government to Taiwan, more nursing schools were established, licensure regime developed, and the professional status of nursing was finally developed. However, not until 1991, the nursing was recognized as a profession through the implementation of the Nursing Act. Since then, the educational level of nursing has improved dramatically. Beside the establishment of many graduate institutes for training masters and doctors in nursing, all nursing vocational schools were upgraded to junior colleges, formally bringing nursing into the professionalization era. These classic milestones in the development of the nursing profession can be found through detailed records for international perusal and comparison.

Due to the loss of Taiwan's membership in United Nations in 1972, we were forced to leave the World Health Organization (WHO) which drastically reduced the exchange of information and cooperation in international health cooperation. However, the democratic movement in the end of the 80s and the beginning of the 90s not only helped Taiwan successfully transform into a democratic state, but also helped the citizens of Taiwan to begin to contemplate the international status of Taiwan and our participation in global topics. At the same time, our government broke the rigid "One China" policy and shifted to a meaningful and flexible diplomatic stance. In the year 2000, after the first party transition and the inauguration of President Shui-Bian Chen, he began to promote "civilian diplomacy" and with the unlimited creativity and energy of the Taiwanese people broke free from the oppression of China. In 1997, the re-gaining of the WHO membership was listed as the foremost diplomatic goal of Taiwan. In 2002, President Chen further established the "Cross Departments Initiation Committee for WHO" which included members from Ministry of Foreign Affairs, Department of Health, Overseas Compatriot Affairs Commission, and Department of Economics, and also civilian organizations, together with the goal of joining the WHO in order to protect the basic health rights of the 23 million citizens in Taiwan and meet the obligations of being a global citizen. However, after many years of work, efforts have been unsuccessful due to pressures from China.

Although we are not a member of WHO and cannot receive vital information and technical support from the organization, for many years, the quality of life and health status of Taiwan are still improving. Due to the endeavors by government, civilian groups, and medical personnel, and the ever present nursing personnel, the basic health right has not only be ensured, but life expectancy has continued to be prolonged, as is quality of life. As we are living in the global village of the 21st century, where diseases are without borders, we must be more aggressive in our bid to join the WHO. Despite the relentless oppression of China, Taiwan has simulated many plans. Following the current model of government working with NGOs, on the one hand, make Taiwan's issue

an important agenda in annual discussions of WHA; and on the other hand, to continuously lobby to gain the support of health departments of other countries. One of the important strategies is to maintain multiple channels of communication with international organizations relating to health, to gather information and promote the medical advancements of Taiwan. Moreover, inviting internationally renowned medical experts to visit Taiwan and help our friends to understand and support Taiwan. Looking at the health-related international organizations that Taiwan is currently belongs to, the International Council of Nurses (ICN), is the only organization which recognizes Taiwan instead of China as an official member country. As ICN is a member of the World Health Professions Alliance, they have influenced over many policies of the WHO, making the nursing profession the most likely profession to achieve our goal in comparison to other medical professions. However the introduction of nursing as a profession in Taiwan is very scattered and related organizations are unable to fully discuss the development of nursing related topics. Therefore, under the promotion and support of the Department of Health, this book hopes to publish both the Chinese and English versions to fully document the historical development, current status, and future developments, and to give Taiwan's nursing profession an international pathway to receive global recognition.

In order to fully detail the beginnings, current status, and future developments of Taiwan's nursing profession, we invited 17 experts from the various fields of nursing to collect important historical data to full detail our current status and make forecasts for our future prospects. Besides from being the leaders of their fields, the writers of this book all possess Chinese and English writing skills that will hopefully convey related information of nursing. The contents of this book are arranged by chapters, with the first being Taiwan's current health situation and then chapters two to five which explains the historical background, current situation and future development of nursing in education, research, practice and nursing organizations. Especially in chapter four, Taiwan's nursing practice further explains in eight detailed sections, being: Adult care, Maternal & Child Care, Women's Health Care, Long-term Care, Hospice Palliative Care, Occupational & Environmental Health Nursing, Public Health Nursing, and School Health Nursing. Finally, in chapter six, we detail the important challenges that nursing in Taiwan will face in the future, including Nursing Manpower, Nurses' Working Conditions and Salaries Status, Disaster Nursing, International Health Cooperation, Policies and Plans for Nursing Development, Aging, and Advanced Nursing Practice.

Hopefully the publishing of this book can leave many precious historical information to improve the domestic and international understanding of the nursing profession in Taiwan. Taiwan's nursing profession is well developed, but with the advancement of society's economic conditions and the trend of having less children, youths who are willing to devote themselves to nursing are decreasing. The publication of this book can help the people of Taiwan understand this professional healthcare and be an important instrument for promoting the nursing profession. It will also be beneficial for future cooperation with international health organizations and a boon for the government's diplomatic ties, and practical approach to the joining of WHO.

NURSING

Chapter 1

Health Care in Taiwan

Hsiu-Hung Wang

Chapter 1
Health Care in Taiwan

Taiwan is a long and narrow island from north to south, with a surface area of 36,000 square kilometers (14,400 square miles) and located to the southeast of China near the arc of the Pacific Rim. To the north is Japan and the Okinawa islands, and to the south the Philippines islands which makes Taiwan a central hub in Asia. We are categorized as a mountain rising from the sea and formed by the push of the Asia continent and Philippines plates. Taiwan has a unique geography in which a central mountain range stretching from north to south, creating a harsh terrain. Other than high mountains, there are also deep valleys, dunes, and plains, giving Taiwan all types of terrains[1]. Thus, Taiwan has its unique health issues.

I. Taiwan Overview

The history of Taiwan can be traced to 7,000 years ago. From 7,000 years to about 400 years ago, the ancestors of aborigines began drifting to Taiwan, becoming the earliest known citizens of Taiwan. In the Naval Age of the 16th century many westerners sailed to the Far East to establish colonies, trade activities and since Taiwan is at a cross point of the eastern continents and seas, it became a focal point of both eastern and western powers[2].

In the early 17th century, the Dutch established a colony in An-Ping (now Tainan) and begin to engage in missions, trade, and participate in various acts of production. They recruited many Hans from the coastal regions of China to populate Taiwan and began the multi-cultural history of Taiwan. Afterwards, in the short period of political power by the Chengs and around 200 years of rule by the Qin dynasty, Hans began to migrate to Taiwan, creating a local Han society. With the expansion of imperialism towards the end of the 19th century, Taiwan became a colony of Japan. During the 50 years of Japanese rule, Taiwan was transformed from a traditional society to a modern society and at the end of the Second World War in 1945, it escaped from colonization. The latter half of the 20th century Taiwan experienced its historical economic miracle and the process of democratization and was witnessed by the world[2]. In facing the beginning of the 21st century, Taiwan is approaching a new economic and political mode of international competition from the new democracy, economic freedom, and globalization of the world. Currently, Taiwan has superior public facilities, a convenient transport system, complete communication services and medical system among others.

We wish our people to lead longer, healthier and more comfortable lives. It is under this ideal that several positive results have gradually yielded. For instance, the “harm reduction of HIV/AIDS” project saw decline for the first time decline in the number of HIV infections, and in the 2006 competitiveness assessment of the World Economics Forum (WEF), the low incidence of AIDS in Taiwan was rated the first together with 24 other countries[3]. The values created by the National Health Insurance (NHI) have been the object of study by countries; and in the year 2006 alone, 273 visitors came to Taiwan to study the program. The Health Affair, a leading international journal on global health sciences and services, in a research paper on the

The Health Insurance IC Card (Photo courtesy: DOH)

National Health Insurance of Taiwan published in 2003, states that by the equity indexes of financial sharing specified by the World Health Organization, the ratio of medical expenditures of Taiwan's National Health Insurance to the disposable incomes of households, that is equity of financial sharing, is superior to many major developed countries in the world[3].

Judging from the WHO travel advisory schedule, SARS reined China, Hong Kong, and Taiwan for 63 days, 52 days and 28 days respectively[4]. This shows that the Taiwan government was no less efficient than governments of other countries. The infection rate per 100,000 population was lower than in other areas. The DOH timely proposed an organizational reform plan and instructed the Center for Disease Control to establish a National Health Commanding Center (NHCC)[5] in hope of strengthening its functions and operations in preparation for the onslaught of emerging diseases like SARS in the future[4].

At the end of 2006, the total registered population in Taiwan was 22.87 million; of them, 11.59 million were males, and 11.28 million were females. The sex ratio (male population/female population × 100) was 103; and the annual growth rate of population was 4.66 ‰. Upon the impact of the declining birth rate, the age structure of population in 2006 presented a static pyramid pattern of low birth rate and low death rate. By the age structure of population, the proportion of the aged population to the total population reached 7% in 1993, making Taiwan an aged society. The proportion of the 0-14 age groups has declined from 34.7% in 1976 to 18.1% in 2006, by 16.6 percentage points. In the same period, the proportion of the 65 and above elderly population has increased from 3.6% to 10.0%; the aging of population is increasingly significant. The dependency ratio (0-14 population + 65 and above population/15-64 population × 100) has declined from 62.1% in 1976 to 39.1% in 2006, primarily due to the rapid decline of the young dependency ratio (0-14 population/15-64 population × 100) and the steady increase of the elderly dependency ratio (65 and above population/15-64 population × 100) (Figure 1)[3].

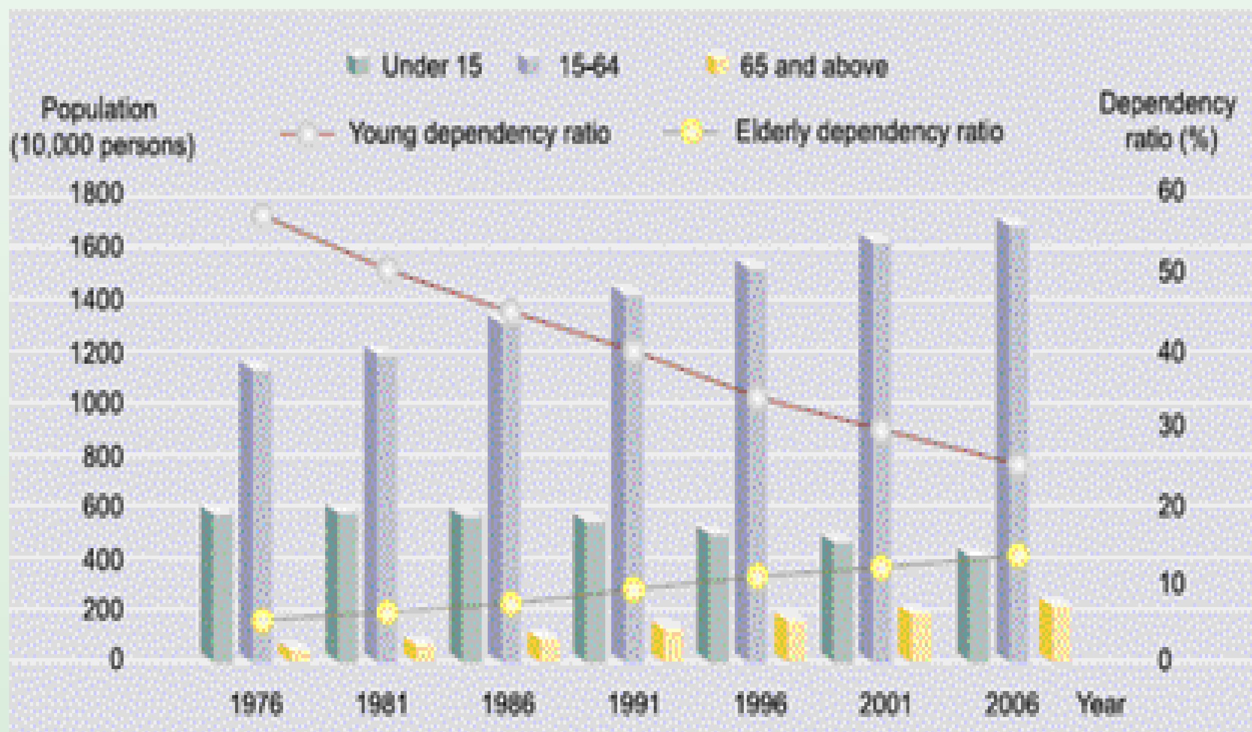

Figure 1. Age structure of population by year

II. Health Care of Taiwan

A. Vital statistics

1. Birth and deaths[3]

Along with changes of the society and values, fertility in Taiwan has declined year by year. The crude birth rate (number of births in the year/midyear population × 1,000) has declined from 15.2‰ in 1996 to 9.0‰ in 2006, a historically low level. The crude death rate (number of deaths in the year/mid-year population × 1,000) has increased slightly from 5.7‰ in 1996 to 6.0‰ in 2006, resulting in the decline of the natural increase rate of population (crude birth rate less crude death rate) to 3.01‰ (Figure 2).

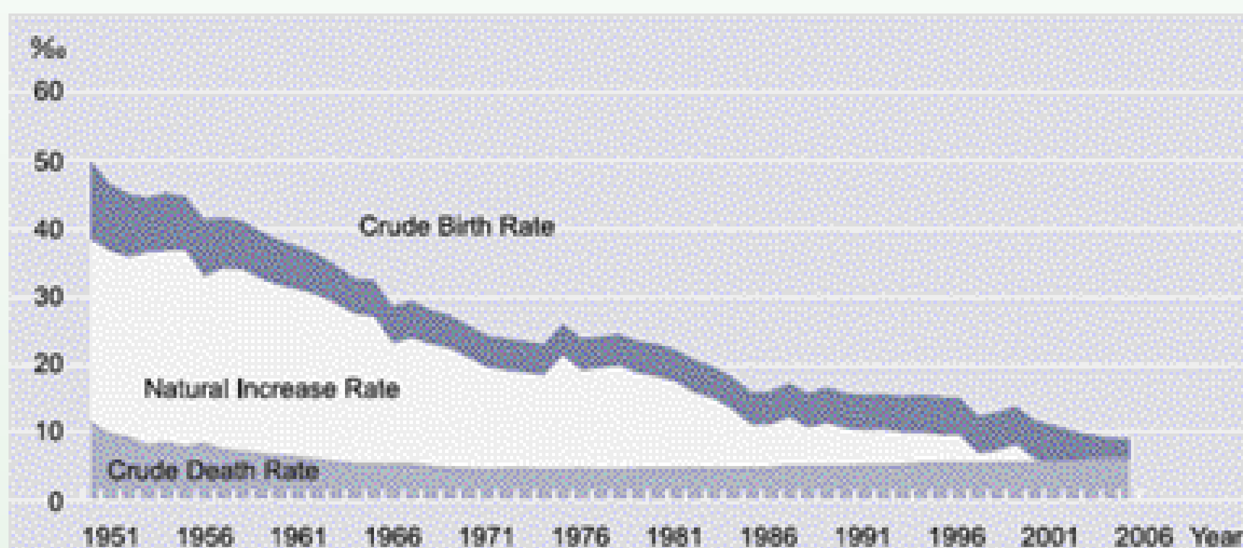

Figure 2. Crude birth rate, crude death rate and natural increase rate of population by year

2. Life expectancy[3]

In the last ten years (1996 to 2006), the life expectancy at birth for both sexes has increased by 2.5 years from 75.0 years to 77.5. For males, it has been increased by 2.2 years from 72.4 to 74.6 years; for females, by 2.7 years from 78.1 to 80.8 years. The life expectancy at birth of the females is higher than that of the males.

3. Ten leading causes of death[3]

Along with changes in the socio-economic structures, improvement in living standards, and improvement in health and medical care, the major causes of death have shifted from primarily acute communicable diseases in 1952 to chronic diseases such as malignant neoplasm and cardiovascular diseases, and accidents and injuries.

The number of deaths in 2006 was 135,071, at a death rate of 591.8 persons per 100,000 population, an increase of 23.4% compared to 1981. The ten leading causes of death in 2006 were: (1)malignant neoplasm, (2)cerebrovascular diseases, (3)heart diseases, (4)diabetes, (5)accidents and adverse effects, (6)pneumonia, (7)chronic liver diseases and cirrhosis, (8)nephritis, nephrotic syndromes and nephrosis, (9)suicide, and (10)hypertensive diseases. As compared to those listed of 1981, tuberculosis was no longer on the list; malignant neoplasm was first leading cause since 1982, and its mortality ever increasing, and was the largest increase in all causes of deaths. Accidents and injuries, for the effective prevention and control, showed the largest decline of all causes (Figure 3).

4. Ten leading causes of cancer death[3]

The number of deaths due to cancer in 2006 was 37,998, at a death rate of 166.5 persons per 100,000 population, an increase of 117.4% compared to 1981. The ten leading causes of cancer death in 2006 were: (1)lung cancer, (2)liver cancer, (3)colon-rectum cancer, (4)female breast cancer, (5)stomach cancer, (6)oral cancer (including oropharynx and hypopharynx),

(7)prostate cancer, (8)cervical cancer, (9)esophagus cancer, and (10)pancreas cancer. As compared to those listed of 1981, nasopharynx cancer and leukemia were no longer on the list; whereas female breast cancer, oral cavity cancer, prostate cancer have become major causes of cancer death. For the effective screening, the number of deaths due to cervical cancer has declined, the only one of all causes (Figure 4).

5. Neonatal, infant and maternal mortality rates[3]

With the advancement in public health, infant mortality rate (deaths of infants under one year of age/number of live births × 1,000) and neonatal mortality rate (deaths of infants under four weeks of age/number of live births × 1,000) have in general declined, except a slight

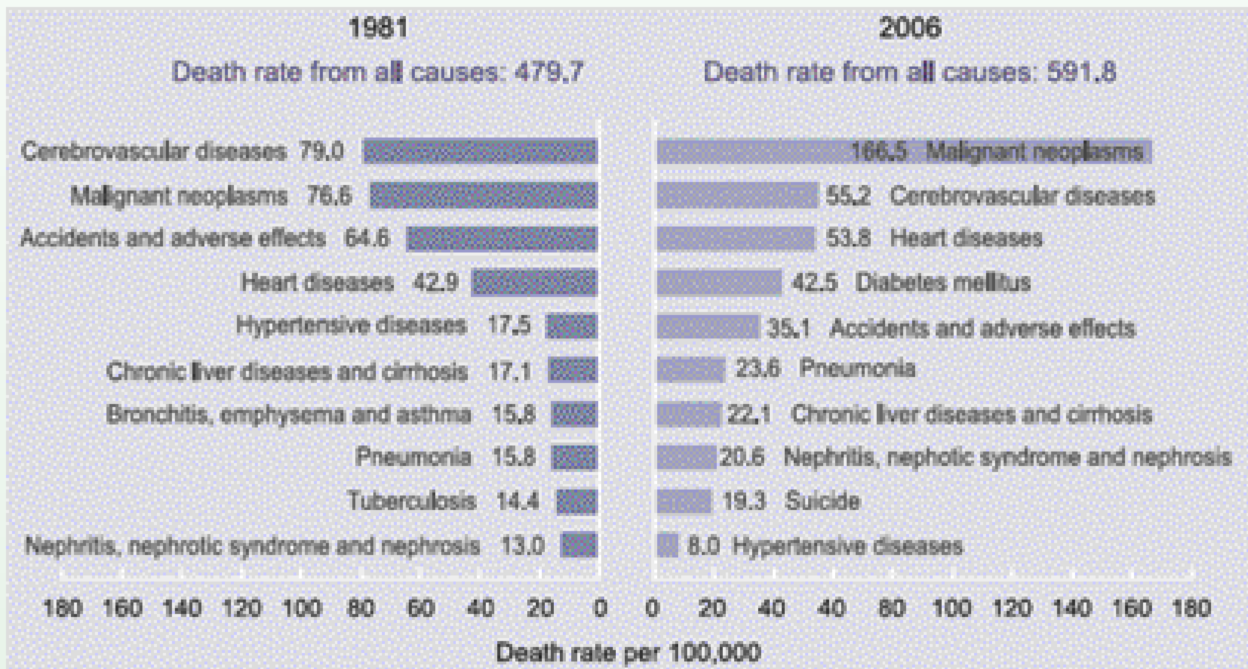

Figure 3. Changes in ten leading causes of death

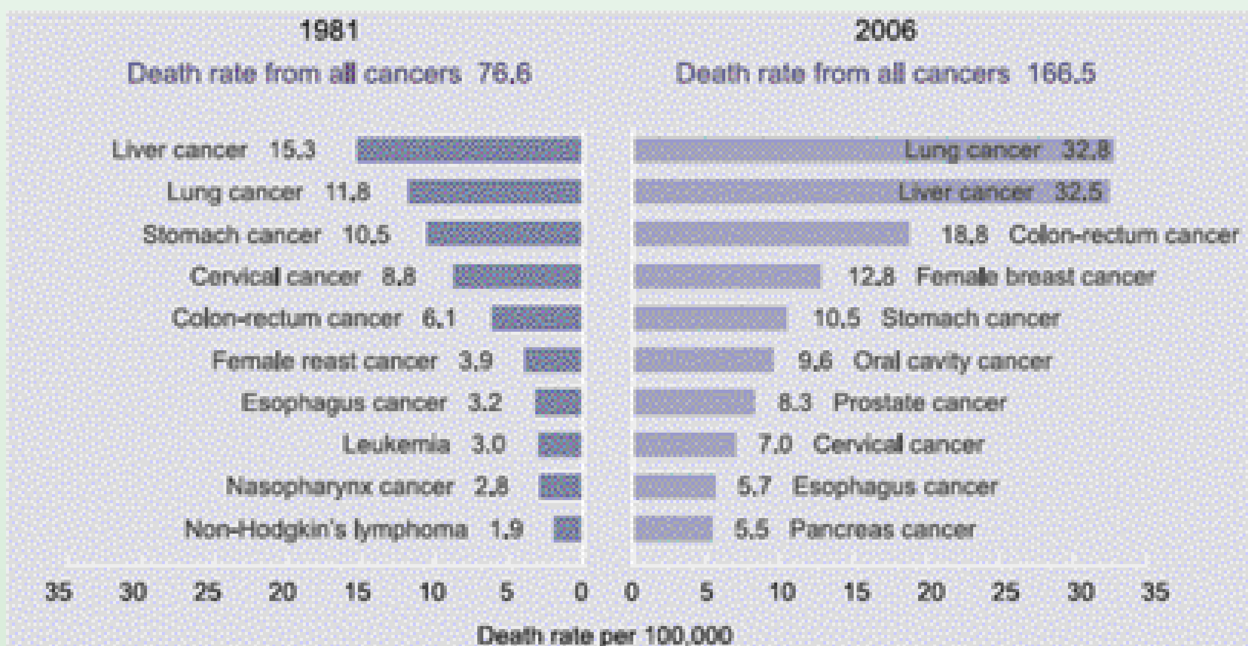

Figure 4. Changes in ten leading causes of cancer death

increase in 1995 due to the new practice of birth reporting. In 2006, the neonatal mortality has declined to 2.7‰, which was about 44% decline of that of 1971 (6.2‰). In the same period, infant mortality rate has dropped from 15.5 to 4.5‰. Maternal mortality rate has also declined from 39.7 per 100,000 live births in 1971 to only 7.3 in 2006.

B. Health care delivery system

1. Medical care resources[3]

To balance the distribution of medical care resources, in accordance with the Medical Care Act and the medical care network plan, a regional medical care system has been established. Through regional supervision and organization, health needs of the local residents are assessed, and plans to improve various regional medical care resources and standards of regional medical care have been implemented.

(1) Current status of medical care institutions: The number of both public and private medical care institutions has been increasing year by year. At the end of 2006, there were 547 hospitals, and 19,135 clinics. The number of hospitals is declining year by year; while the number of clinics is increasing. The number of patients served by each medical care institution per year is declining year by year to only 844 per institution. The number of institutions per 10,000 population has increased year by year from 6 in 1989 to 8.4.

(2) Current status of hospital beds: Since the implementation of the National Health Insurance, though, for management efficiency and competition, the number of hospitals has declined, the number of hospital beds, however, has increased sharply. There are currently 148,962 hospital beds (including general beds and special beds); of them, general beds account for 65.4% of all. Beds of the DOH-affiliated hospitals and county/city hospitals account for 16.7%; those of other public hospitals account for 19.6%; and those of corporate and private hospitals affiliated to medical schools account for 34.5%; and those of other private hospitals account for 29.2%. Beds in private hospitals are 1.7 times more than beds of public hospitals. There are altogether 96,595 general beds in all medical care institutions (including 72,932 acute general beds, 4,188 chronic general beds, 6,073 acute psychiatric beds, and 13,054 chronic psychiatric beds), averaging 65.12 beds per 10,000 population. The planned goal of the medical care network has been attained.

(3) Current status of medical manpower: The control measures are in place for the development of various kinds of medical manpower in Taiwan. The ceiling for the development of western medicine physicians is in principle 1,300 medical students per year. Manpower of other kinds of medical personnel is under special control. Applications should be made prior to the establishment of schools; and the applications are reviewed by the Ministry of Education for control purposes. Planning for physician manpower in the future will be based on the goals of balanced distribution of physician manpower resources. Periodic assessment mechanisms will also be set up. The number of medical personnel licensed and in practice is shown in Table 1[3].

Since 2006, Taiwan has completed the “nursing manpower resources management information system” which is the “first” and “only” active medical manpower resource management system that operates in real-time. Everyday this system updates data, making it the backbone of manpower resource management. It can cross analyze statistics with variables such as sex, age, practicing situation, certificates, area, and rights. For instance, on March 20th 2008 the system displayed that 206,754 nursing personnel in Taiwan held license, with 126,004 (60.94%) employed, 79,663 (38.53) unemployed, and 759 with their own practices (0.37%); the age group data showed that 12.02% were below the age of 24, 44.03% were between the ages of 25-34, 22.38% were between the ages of 35-44 and 21.57% were above the age of 45. Also, data showed that Taiwan has 2,967 public health nurses, and 123,037 clinical nurses (Table 2 & Table 3).

Table 1

Medical Manpower, 2006

Category	No. Licensed	No. Practicing	No. Practicing /10,000
Physician	50,933	34,899	15.26
Chinese medicine doctor	10,893	4,743	2.07
Dentist	13,802	10,412	4.55
Pharmacist (assistant pharmacist)	45,943	27,413	11.99
Nursing personnel	373,034	109,538	47.90
Dietitian	4,529	1,138	0.50
Medical technologist (technician)	17,244	7,459	3.26
Physical therapist	4,261	2,395	1.05
Physical therapy technician	3,130	1,378	0.60
Occupational therapist	2,027	1,286	0.56
Occupational therapy technician	467	172	0.08
Medical radiology technologist (technician)	5,765	4,053	1.77
Clinical psychologist	649	413	0.18
Counseling psychologist	808	24	0.01
Respiratory therapy technologist	1,360	1,078	0.47

Table 2

Nursing Manpower, 2008

Practicing status	Licensed		Practicing		Unemployed		Self-employed		Application for stoppage		Others	
age	n	%	n	%	n	%	n	%	n	%	n	%
18-21	4,177	2.02	1,096	0.87	3,081	3.87	0	0.00	0	0.00	0	0.00
22-24	20,668	10.00	13,474	10.69	7,181	9.01	12	1.58	0	0.00	1	0.37
25-29	49,821	24.10	37,775	29.98	11,949	15.00	66	8.70	9	16.36	22	8.06
30-34	41,200	19.93	29,418	23.35	11,605	14.57	128	16.86	22	40.00	27	9.89
35-39	24,859	12.02	15,568	12.36	9,116	11.44	116	15.28	15	27.27	44	16.12
40-44	21,429	10.36	12,381	9.83	8,854	11.11	136	17.92	7	12.73	51	18.68
45-49	14,840	7.18	8,196	6.50	6,489	8.15	107	14.10	1	1.82	47	17.22
50 and above	29,760	14.39	8,096	6.43	21,388	26.85	194	25.56	1	1.82	81	29.67
Total	206,754	100.00	126,004	100.00	79,663	100.00	759	100.00	55	100.00	273	100.00

Table 3

Practicing Number of Clinical and Public Health Nurses, 2008

Type	n	%
Public health nurses	2,967	2.35
Clinical nurses	123,037	97.65
Total	126,004	100.00

2. Community health care system[3]

To meet the post-SARS reform needs of medical care system, since 2004, a pilot project on the establishment of community public health (disease control) groups has been executed. The functions of the groups are to promote prevention and health promotion in community, to integrate resources of disease control and medical care, and resources of

public and private sectors. The establishment of community public health (disease control) groups and strengthening of their functions is to promote the integration of health and medical care of communities in health promotion, medical care and disease control, to identify and resolve health problems of the residents, and to realize community healthcare model and the establishment of disease and medical care network by interacting with health bureaus, health stations and community medical care groups (consisting of clinics and their collaborating hospitals).

Since 2005, action has been taken to actively promote a pilot project on integrated services by community public health (disease control) groups. Household records are set up jointly by community hospitals, clinics and health stations to review medical care needs of the residents, to offer them adequate services and referral, to fully practice the functions of family medicine systems, and to form together with community hospitals a community medical care network to provide comprehensive holistic medical care. By 2006, 303 community medical care groups and 20 public health (disease control) groups have been set up. At the same time, community medical care group demonstration spots were also set up, and an evaluation system of the quality of community medical care was established. The framework of the community health and medical care system is shown in Figure 5.

3. Long-term care service systems[3]

Acting on the policy of "aging in place", through the vertical and horizontal integration of government agencies at various levels, linkage of health professions and community support services and establishment community long-term care systems, the government hopes to enable disabled individuals to maintain independent, autonomous, safe and dignified life capacity. Special care models have also been developed to provide the mentally and physically impaired with comprehensive care services.

(1) The establishment of a single-channel management mechanism for long-term

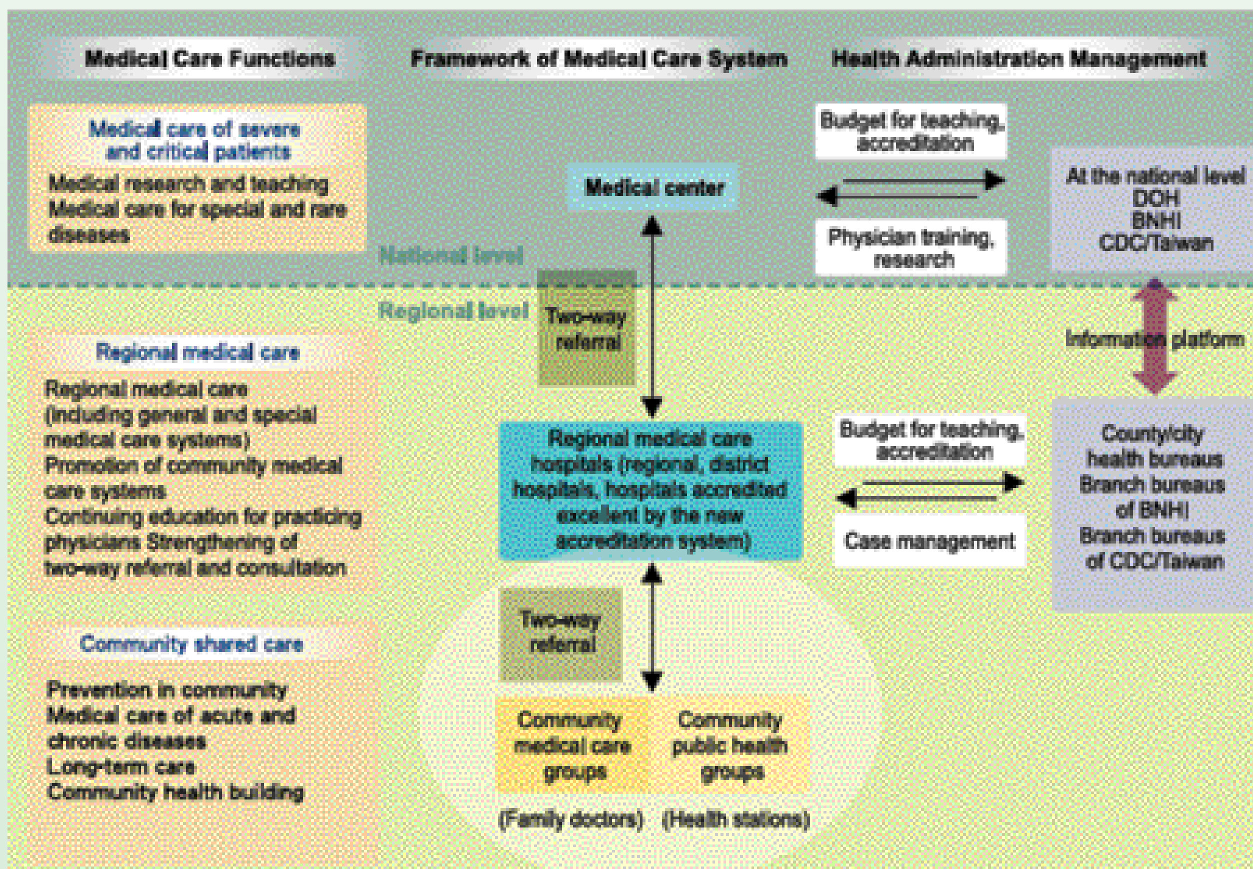

Figure 5. Community medical care system

care. 25 counties and cities have been supervised to set up long-term care management centers.

(2) The development of a pluralistic long-term care service network to strengthen care resources in community, and the realization of ideals of aging at home and aging in community. The priority of the plan is on community care supported by institutional care. Hospitals and nursing homes are encouraged to provide home care services. There are at present 311 nursing homes, 468 home care institutions and 22 day care centers.

(3) Medical care and rehabilitation services, such as auxiliary aid centers for medical care and rehabilitation, joint assessment centers on child development, and a care model for the mentally retarded, are actively provided to the mentally and physically impaired to intensify medical care for the less privileged groups.

4. Psychiatric care and mental health[3]

As a result of social transformation, human relations have become isolated and social support systems weakened. Consequently, social and psychological problems have increased day by day, and the prevention of psychiatric disorders and the enhancement of mental health have become important issues of concern. For this, the Department has spared no efforts in promoting medical care for psychiatric patients, in planning for mental health services, promoting health education of physical and mental health, and providing counseling to the public on mental health, in order to prevent the occurrence of post-trauma stress syndromes and other related psychiatric disorders.

(1) To improve medical care services for psychiatric patients, governments at various levels and private sector institutions are subsidized each year to develop or improve their facilities for psychiatric care, rehabilitation, and psychiatric nursing care to make psychiatric care to be more accessible to patients.

(2) To encourage psychiatric patients of stable conditions, patients with deterioration of local functions, and patients likely to be rehabilitated and yet are in long-term stay in medical institutions, to return to the community. The community rehabilitation facilities have been substantiated to strengthen community rehabilitation services. By the end of 2006, services have been provided to 2,539 patients by community rehabilitation centers; and 3,365 beds were available at houses of restoration.

(3) To effectively manage the care of patients in community, work has been done to conduct registration of the community follow-up care systems for psychiatric patients in 25 counties and cities. At present, 76,105 patients are under case management; they are given follow-up visits in accordance with the guidelines on visits for the follow-up care in communities under the Department of Health.

(4) Municipality and county/city governments are subsidized to set up community mental health centers to provide community residents with mental health care and counseling, and to promote education on mental health. Thus far, 25 such centers have been set up throughout the country, and the goal of one center for each county/city has been attained.

(5) A national action plan on strategies for the prevention of suicide was approved in May, 2005. The plan is formulated on the concept of prevention in three stages and by five levels to provide overall planning for the drafting of short-, mid- and long-term prevention goals from three dimensions, multi-directionally, selectively and indicatively.

(6) In November 2005, a suicide prevention reporting and a concern system were activated. In December 2005, a suicide prevention center was set up (commissioned to the Taiwan Depression Association); and a 24-hour hotline, 0800-788995, was set up to provide the public with professional counseling services.

C. National health expenditure[3]

The per capita health expenditures have shown steady increase since 1991. After the

implementation of the National Health Insurance in 1995, the national health expenditures as percent of GDP has increased from 5.1% in 1994 to 5.5% in 1995, and to 6.1% in 2006. In the last ten years, the per capita health expenditures have increased year by year, from NT$ 10,828 in 1991 to NT$ 30,230 in 2005, an increase of 180.6%.

D. National health insurance profile

The National Health Insurance, the most important social infrastructure in Taiwan, was initiated on March 1, 1995. For the sustained management of the program and to protect the rights of the people to medical care, a number of measures have been promoted.

1. Current status of insurance underwriting

The National Health Insurance, initiated on March 1, 1995, is a mandatory social insurance for all citizens of Taiwan. By the end of 2006, a total of 22,484,427 persons (not including armed forces) were covered, giving a coverage rate of more than 99%, and the goal of universal coverage is almost attained. To protect the rights to medical care of the less privileged groups and to lessen their economic burdens on insurance premiums, various measures have been taken; including subsides to insurance premiums, assistance to people with overdue premiums, and reducing financial burdens of patients of major illnesses and injuries.

2. Insurance financing[3]

When the National Health Insurance was initiated in 1995, the premium rate was set at 4.25%. The various revenue-increment and expenditure-saving measures, and the strict monitoring of financial affairs executed by the Bureau of National Health Insurance has prolonged the financial balance originally set for five years to September 2002, when the premium rate was slightly adjusted from the original 4.25% to 4.55% to maintain the minimum financial balance for the next two years.

In the period between March 1995 and end of 2006, the insurance revenue, calculated on the basis of authority and responsibility, was NT$ 3,515.474 billion; whereas the insurance cost was NT$ 3,514.047 billion. In the year 2006 for instance, the insurance revenue was NT$ 382.121 billion; whereas the insurance cost was NT$ 382.21 billion, giving a deficit of NT$ 89,000,000. The cumulative safety reserve funds are NT$ 1.427 billion; lower than the one-month total insurance payments (about NT$ 31.8 billion).

To make specific recommendations to resolve the financial problems of the National Health Insurance, the NHI Supervisory Committee set up a special group for study and review. At the provisional meeting of the Committee in December 2006, it was resolved that: (1)the safety reserve should not be zero; (2)expenditure-saving measures of the NHI should be specifically defined and should bear no negative impact on the quality of medical care; and (3)items in the basic hypothetic conditions that are to be adjusted by law should be implemented immediately. The Bureau of National Health Insurance has, acting on the resolutions of the meeting, studied and drafted several items for financial adjustment. In the future, matters of adjustment that are required to be announced by law will be handled in coordination with the adjustment of basic wages to alleviate the financial difficulties of the National Health Insurance.

3. Insurance benefits and payment systems

To reasonably control medical costs and to promote the balanced distribution of medical care resources, since July 2002, the global budget payment system has been universally practiced. At the micro-level, the payment schedules and the claim review systems have been reformed. Measures taken include Quality-based Payment Scheme (such as a plan to improve payments for five major diseases, a pilot project on integrated medical care by family doctors), expansion of the case-payment system, and studies on the formulation of RBRVS. The case-by-care review has been shifted toward the establishment of the medical care pattern review based on profile analysis[3].

In accordance with regulations of the National Health Insurance Act, the global budget for the year is proposed by the Department of Health before the start of a fiscal year. After the approval by the Cabinet, the budget is referred to the NHI Medical Expenditure Negotiation Committee, which will then call meetings of payers and health care providers to reach an

Guidance Meeting of Long-term Care Policy in Kaohsiung City (Photo courtesy: DOH)

agreement on the total amount and methods of allocation[3].

To improved accessibility of the insured to medical care services, the Bureau of National Health Insurance has contracted many medical care institutions around the country. By the end of 2006, there were 23,207 institutions that has signed contract with the NHI; between them, 18,289 are hospitals and clinics, 4,036 are pharmacies, 21 midwifery clinics, 132 community psychiatric rehabilitation institutions, 486 home care institutions, 213 medical laboratory institutions, 22 physical therapy clinics, and 8 medical emission institutions. In 2006, the average number of outpatient visits per person per year was 13.82[3].

4. Public disclosure of quality information or release[3]

The review of medical costs is divided into procedure review and professional review. The procedure review is made by administrative staff to check the accuracy of the information on the claims submitted by medical institutions, and to make sure that the claims meet the various payment regulations of the payment schedules. In the process of the professional review, claims are either randomly or intentionally sampled through computers by the Bureau of National Health Insurance. Medical and pharmaceutical experts with experience in teaching, clinical care, or practical experience are then invited by the Bureau to form a medical care service review committee and regional medical care service review subcommittees to review these sampled claims.

To publicize information on quality of medical care is to protect the rights of the public to medical care; it is also a reliable way to promote the universal upgrading of the quality of medical care. The Bureau of National Health Insurance hopes that by publicizing quality criteria for professional medical care services of medical care institutions, people will have access to the results of medical quality monitoring, they can then supervise in some way the upgrading of medical care quality.

5. Reform of the National Health Insurance System[3]

The National Health Insurance is the most important social infrastructure since the beginning of the Republic. It is a public policy that has benefited most people. It is also an

important link in the promotion of national development, maintenance of social security and protection of the rights of the people. However, in the rapid aging of population, and the escalating costs of high-tech medical care, medical expenditures have exceeded revenues from insurance premiums. Adjustment of premium rates, their contribution and medical care payments is not easy. On top of these, there are the threats of the emerging communicable diseases. These and other factors have succumbed National Health Insurance to financial risks. To meet the challenges, reform of the National Health Insurance System has been promoted vigorously to assure the sustained management of the National Health Insurance.

The NHI Second-Generation Task Force of the Executive Yuan has, after several years of planning, submitted a final report. The report contains policy recommendations in four aspects, strengthening the provision of information to enhance the quality of medical care, balancing the finances and improving service purchasing efficiency, expanding diversified social participation in NHI policies, and constructing a rights and responsibility accountable NHI organizational system. Amendment of laws for the second-generation NHI is actively planned.

(1) Goals of reform: to assure the reliability of medical care.

(2) Core values:

a. Quality: to make public information on medical care and medical care quality available to give people more choices; to strengthen mechanisms of upgrading the quality of medical care; payment systems will be reformed in the direction of encouraging high-quality medical care.

b. Equity: Insurance premiums will be collected on the total incomes per household to expand the premium base. People of low-income are guaranteed medical care following the current system. People of high income share more insurance premiums. Households of the same incomes share the same insurance premiums.

c. Efficiency: Classification of the insured will be modified from the current 14 items in six categories to two categories. When individuals change jobs or have salary adjustments, they are no longer required to change their insurance status by moving-in or moving-out of the scheme. The two Committees will be merged to promote a mechanism to link revenues and expenditures.

E. Chinese medicine and Chinese medicine nursing

Chinese medicine is a very popular medical industry in Taiwan, and Taiwan is the first country globally to pay for Chinese medicine through national health insurance[6]. Therefore, raising the quality of Chinese medicine personnel, ensuring the quality of services and care, and providing the public with a safe environment for the use of Chinese medicine has always been a focal point of institutionalizing Chinese medicine in Taiwan. In order to achieve these goals, Taiwan has in recent years promoted plans such as "Chinese medicine doctors' education plan," "Raising the quality of Chinese medicine care quality plan," and "plan for establishment of Chinese medicine departments in hospitals" and others. Also, the medium length plan of "plan to establish bedside education for Chinese medicine (2002-2008)" was instilled to continue the education for Chinese medicine personnel. In the task of executing assessment on Chinese medicine, the first assessment has been held in 2006 and results showed that bedside education and training should be the main focus of Chinese medicine[7].

In 2006, 672 nurses have participated in the continuing education of Chinese medicine nursing care, accounting for 57.8% of all nurses in Chinese medicine hospitals. A plan to promote quality of Chinese medicine nursing care is implemented. The curricula include basic principles of Chinese medicine, training in nursing care and advanced training.

III. Conclusion

Public health is an indicator of a country's advancement. The lengthening of the average life expectancy in Taiwan, lowering of death rates among the newly born and babies, the advancements made in medicine, and health insurance policy are all on par with U.S. and other European countries, but there is still room for improvement. The current challenges we face are the transformation of types of disease and the aging population. In order to maintain the physical and mental health of the people, the Department of Health has held the executive meeting of national health administration in January of 2008 and invited central and local medical personnel, scholars, and related departments to join in the discussion of the "Healthy People 2020: Taiwan Health White Paper" . The future prospects in health promotion are lengthening the healthy average life expectancy, promoting a healthy quality of life, disease prevention, decreasing co-morbidity and premature death, promote equality in health, lessen the gap in health in various stages of life, decrease the difference in health due to social background, decrease the difference in health due to physical and psychological factors, and others. By creating an environment that supports health, promoting healthy lifestyle, and increasing the quality of healthcare, we will achieve the ultimate goal of helping people to live longer, live healthier, and live more comfortably.

National Conference of Health Administration (Photo courtesy: DOH)

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NURSING

Chapter 2

Nursing Education in Taiwan

Yu-Mei Chao (Yu)

Taiwan's contemporary medicine is initiated by the European medical missionaries of the 17th century who first imported the concept of "nursing" into Taiwan. The earliest record can be traced back to 1865, when the Qin dynasty was forced to sign the Tianjin Treaty after losing to the united armies of the English and the French. Due to the signing of this treaty, Taiwan was forced to open four commercial ports in the north and south of Taiwan. At this time James Laidlaw Maxwell, M.D. from the Church of Scotland arrived as a medical missionary to introduce western medicine in Taiwan, and on the other hand preach the virtues of Christianity. Several years after Maxwell arrived in Taiwan, he established a small hospital that accommodated 8 patients, which becomes one of the hospitals in Taiwan that overcharge hospitalization[1]. Afterwards, western missionaries began to establish hospitals in Taiwan on larger scales, such as the Fu-Bei-Kai hospital which was established within Taipei in 1879 by Canadian missionary Rev. George Leslie Mackay[1,2]. The care of hospitalized patients in their recovery and daily lives were handled by female missionaries or assistants in training, and thus, the concept of "nursing" began to germinate in Taiwan.

I. Taiwan's Nursing Education during Japanese Rule (1895-1945): Establishing Hospital-Based Training Courses

In 1894 the Qin dynasty and Japan was in the battle of Ja-Wu, and under the restrictions of the Treaty of Shimonoseki, Taiwan was ceded to Japan and subsequently became colonized by the Japanese. Due to the change of ruler, the development of Taiwan's nursing education began to be influenced by the Japanese system. In 1897, the Japanese setup the first "Nurse's Training Program" in the Taipei Hospital, which was the former name of the current National Taiwan University Hospital. This nurturing program of nursing personnel became the beginning of public nursing education in Taiwan. The students admitted to the "Nurse's Training Program" were usually females who graduated from elementary school, with a portion of students being graduates from "2-year-post-elementary class". In the beginning, 30 students were accepted every year, among them, only 5 students were of Taiwanese origin. The training in this "Nurse's Training Program" was highly strict, and even after completing two years of solid nursing education, one year of obligatory clinical service was required in order to receive a graduation diploma, which was also used as a nursing professional license. Thus, the government began to implement the nursing licensure system in Taiwan. Afterwards,the Japanese local government separately promulgated the "Taiwan Midwives Rules", "Taiwan Nurses' Rules", "Taiwan Midwife's Examination Rules", and "Midwife's Crash Course Rules", and other rules and laws from the period between 1922 and 1924 in order to consolidate the management and operation of "nurses" and "midwives". Then, after 1923, the Japanese government started to open hospitals in Keelung, Yilan, Shinchu, Taichung, Tainan, Jiayi, Kaoshiung, Pingtung, Taitung, and Penghu, one after one, offering the "Nurse's Training Program" in each of the hospital, making it a total of 11 nurses training facilities in Taiwan[1]. Each of these "Nurse's Training Program" was, headed by physicians, who were responsible for teaching nursing courses. The students studying in these hospital programs was under the system of part work and part study, that means the students' tuition and living cost were covered by the hospital and in exchange, the students were asked to take some nursing duties assigned by the hospital.

As for the training of midwives, in the earlier stages, they were influenced by the "Nurse Training Regulation" and "Midwife Training Regulations" set by the Taipei Hospital in 1910.

The requirements for becoming a midwife were: 1)complete their obligatory year as a qualified nurse, with superior grades and 2)receive further training for a year. This is why the role of a midwife was seen as an advanced practice of nursing in the system. But, the first official training program for midwives in Taiwan was not inaugurated in the Taipei Hospital until 1922[1]. Another "advanced" nursing practice being promoted in Taiwan during the Japanese rule was the training of "Public Health Nurse". However, the official training program was delayed till 1941, the year when Japan detonated the Pacific war. The requirement of entering into this "Public Health Nurse Training Program" was the same as that of a "midwife", which required one having to complete the "nurse" qualification. Due to intense competition, rarely any Taiwanese were ever accepted into this program in the early years. Those who passed the examination as "Public Health Nurse", were sent to Tokyo, Japan, for a three month intensive training course on basic public health and nursing care[1,3]. The primary role of the public health nurses was to conduct home sanitation visitations, checking health examinations for every family member, conducting tuberculosis prevention and treatment, providing school health and occupational health services in the factory, and even tasks such as attending birth at homes and other community services[4], initiating a practice model for the public health nursing in Taiwan.

In addition to the "Nurse's Training Program" run by the government during the Japanese occupation (1895-1945), there was also a "Nurse's Training Program" at the Red Cross Hospital run by the Japanese Red Cross in 1918[1,3]. This program trained many wartime medics and nursing workforce for health care needs in both in-land Taiwan and the Japanese occupied war-zone abroad. Another important channel of training for Taiwan's nursing workforce was conducted by the medical missionaries who came to Taiwan after 1860, at the "missionary hospital". As David Landsborough, a doctor from the Presbyterian Church of England, completed the construction of the Chunghwa Christian Hospital in 1927, he invited Miss Isabel Elliot (1881-1971) of British nationality to open nursing training courses. James Laidlaw Maxwell Jr. (1873-1951) also hosted the "Shin Lo Hospital" in Tainan and in the 23 years that Maxwell Jr. spent in Taiwan, he put much effort in training young medical personnel[1,3]. A noteworthy event is that in 1911. G. Gushue Tailor, M.D. (1883-1954) of Newfoundland accepted the position as superintendent of "Shin Lo Hospital" and focused on training local medical workforce while under the colonization of the Japanese. In 1917, with the support of Taiwan's Chen, Da-Luo, Dr. Tailor translated his book - The Principles and Practices of Medical and Surgical Nursing into Taiwan's "He-Luo" dialect by using Roman alphabet. The book was titled of "Lai Goa Kho Khan Ho-Hak", which became the very first complete nursing textbook in Taiwan[1,2]. The entire book comprises 657 pages and was used as the training textbook of nurses in "Shin Lo Hospital" and "Chunghwa Christian Hospital". As for the newly constructed "Mackay Memorial Hospital" in the

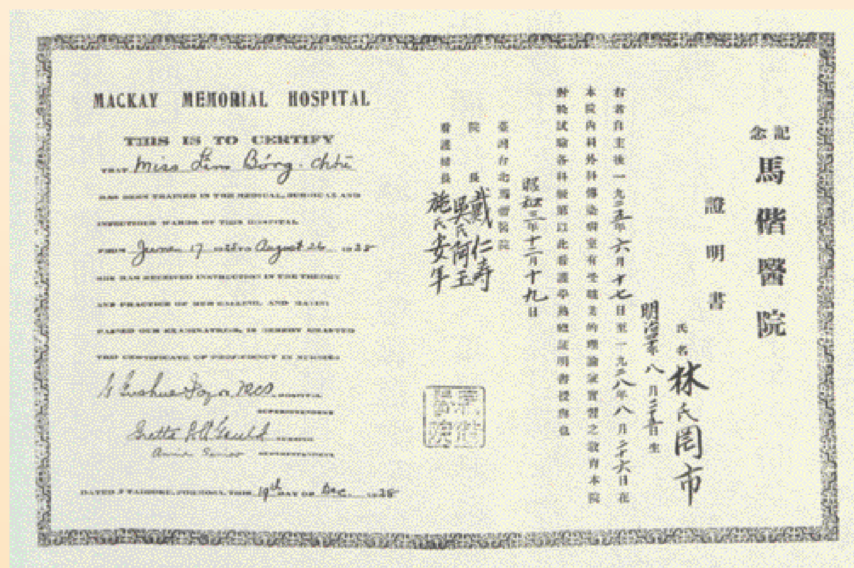
MACKAY MEMORIAL HOSPITAL
THIS IS TO CERTIFY
記念
馬偕醫院
證明書

Figure 1. **Nurse's graduation certificate issued by Mackay Memorial Hospital in 1928**[1]

north, Reverend William Guald (1861-1923) introduced his daughter, Miss Gretta Gould, who met all nursing qualifications and have an in-depth nursing experience. In 1923, she was appointed as the head of the nursing department in "Mackay Memorial Hospital"[1,2]. This was the first established nursing department of all hospitals in Taiwan at that time, she is the first nurse who took the role of a departmental manager in the hospital. Under the guidance of Miss Gretta Gould, "Mackay Memorial Hospital" began to offer a 3-year nursing training program in 1923 and even though Taiwan was under Japanese rule at the time, the graduation diploma of this program (figure 1) was written both in Chinese characters and English, which was significantly different from what the Japanese governmental training programs has done, and is worth noting.

After 1937, because Taiwan was still a colony of Japan, quite a number of Taiwanese nurses were dispatched to and stationed in Japanese occupied war zones in China. After the Pacific war broke out in 1941, Taiwan became a bombing target of the "allies". As a result, the quality of nursing training programs in Taiwan began to drop due to greater demand of nurses and to prepare them in a short period of time to meet aid relief needs for the war (figure 2)[1,4,8]. According to limited data, at the time of Japan' s surrender in 1945, statistics of the certified nurses in Taiwan was a total of 820, with 508 being of Taiwanese descent and 312 being Japanese origin; while certified midwives, then, totaled 2,961, with those of Taiwanese descent totaling 2,098 and 863 being Japanese origin[3]. The number of midwives was actually three to four times more than that of nurses, suggesting that midwives contributed greatly and actively to the health of women and children at that time[3].

Figure 2. **Wartime nurses under Japanese colonization in 1945**[1]

II. Facing Political and Cultural Change in Early Period of R.O.C. Retreatment to Taiwan: Between 1945 and 1956

Japan announced unconditional surrender on August 15th of 1945. After losing the civil war completely to the Chinese communist party, Kuomintang (KMT) government fled to Taiwan in 1949, and forced the entire Taiwan society to face another unprecedented political and cultural upheaval. The medical care system which has been gradually established into place over the 50 years of Japanese rule, was suddenly turned inapplicable overnight and Taiwan's nursing training system had to face a great change. The KMT government hastily transferred their political system that implemented in China mainland to Taiwan. Thus, the Taiwan Provincial Commanders Public Department was set up in October, 1945 and the Ministry of Education became one of the nine local level departments in Taiwan[5]. Due to the turn of these events, the nurse's training programs established during Japanese colonization were either transformed or closed completely. From that point forward, the training programs of nursing workforce was officially reframed under the jurisdiction of the Ministry of Education. As a result, the name of "Taipei Imperial University" was changed to "National Taiwan University". The courses in all vocational nursing high schools were unified into a standardized curriculum, replacing the courses of "nurse's training program" taught independently in every hospital during Japanese occupation. These nursing

vocational "high schools" included: "National Taiwan University Hospital Nursing Vocational High School", (established in 1950), "Taipei Medical Vocational High School" (established in 1947), "Tainan Nursing and Midwifery Vocational High School (established in 1953), and "Taichung Nursing Vocational High School (established in 1955) were all established during this time, and recruited students graduated from junior high school[1,3]. The heads of these vocational high schools were all individuals with professional nursing backgrounds, which is different from the hospital nursing programs during Japanese rule that were headed by physicians.

In order to follow the international trend of upgrading the educational level of nursing and quality, Taiwan Provincial Educational Department approved a proposal to inaugurate "Taipei Nursing College" in 1954, which recruits only high school graduates[1,3]. Taiwan Nursing College offered students a 3-year nursing curriculum. As early as 1947[7], the National Defense Medical College (NDMC) enrolled high school graduates based on the enrollment examinations for its Nursing Department, and the recruitment requirements were not the same as other universities since NDMC is under the jurisdiction of the Department of National Defense. Other colleges and universities adopted the"National Joint Entrance Examination of Higher Educational Institutions" system designated by the Ministry of Education, implemented in 1954. For this reason, National Defense Medical College was always somewhat segregated.

In the early stages of the KMT government's retreat to Taiwan, the nurses of Japanese origin faced deportation due to the political shuffle. Furthermore, KMT coercively introduced both spoken and written Chinese in Taiwan, which forced many Taiwanese nurses trained in the Japanese system to leave the nursing profession, and resulted in a severe shortage of nursing workforce in Taiwan. Luckily, during this period, several noteworthy nursing figures appeared. There were two Taiwanese nurses, Chen, Tsui-Yu (Stella) and Chung, Shin-Shin who were educated in Japan's Tokyo St. Luke's Women's College[3,8], and other nurses who fled from China, including Chou, Mei-Yu (with a master's degree in nursing education from Columbia University in 1948), Hsia De-Zhen (with a master's degree from University of Michigan), Hsu Ai-Zu (with a master's degree in Nursing Education from Columbia University), Chu Bao-Tien (with a masters degree in Public Health from Harvard University in 1948), and Yu Tao-Chen (with a master's degree in Nursing Education from Columbia University in 1947) and other nursing professionals[10]. Moreover, during that period, WHO and other American and Canadian organizations that previously offered support in the KMT rule, established branches in Taiwan and began to make plans for Taiwanese nursing educators to receive advanced degrees. Based on records around 1948, Chen, Tsui-Yu (Stella)[6,8] was the only Taiwanese nurse with a BSN degree, which shows the scarcity of qualified nursing educators back then. Due to the policy of sending young nurse educators to North America to receive their advanced nursing education, the nursing education system of Taiwan, quickly shifted from the Japanese model to the North American model[9].

III. Stepping into a New Stage of Normal Development: from 1956 to 1997

In the history of nursing education in Taiwan, one of the most crucial events in upgrading the level of education in Taiwan was the policy by Ministry of Education (MOE) to start a Bachelor of Science Nursing (BSN) degree program at the National Taiwan University. The degree program was established in response to a resolution made in the "West Pacific Nursing Seminar" of WHO held in Taipei, in1952. Therefore, the planning for this program fell onto the shoulder of Ms. Chen, Tsui-Yu (Stella), who was the head of National Taiwan University Hospital Nursing Vocational High School. Finally, on August 9th, 1955, National Taiwan University received a formal approval document No. (44)10320[10] form the MOE to establish the Department of Nursing

within the NTU's College of Medicine. The first class of 23 nursing students was recruited in 1956 through the channel of National Joint Entrance Examination of Higher Educational Institutions. After the completion of a 4 year nursing curriculum, 19 students were granted the BSN degree. This new policy from MOE opened up the door to an authentic "higher education system" for nursing education, and changed the historical context that nursing education system was long been categorized at vocational skill level and was places only under the jurisdiction of MOE's Department of Technological and Vocational Education. This change in jurisdiction also significantly influened many nursing institutions to adopt new theory and philosophy, teaching strategies, usable resources, and educational goals.

From 1956, nursing education in Taiwan gradually entered into a stage of a normal development by the endeavors of various fields. In the past 40 years, Taiwan's nursing education and profession has gone through unprecedented speed of development alongside the miraculous social and economic development in Taiwan. Since the first Taiwanese nurse completed her Ph.D degree from America in 1979, one by one, nurses with doctorate degrees begun to take the role of the head/or dean of the school of nursing in Taiwan. These nurses usually pursued advanced nursing studies in USA[3,9]. With the emergence of these new nursing leaders, a solid foundation for nursing education in Taiwan was established. Below are 12 historical events selected for the readers to understand the revolutionary development of nursing education in Taiwan.

A. July, 1958- the first private Nursing and Midwifery Vocational High School was approved to open in Taiwan

B. July, 1960- National Taiwan University Hospital Nursing Vocational High School was closed due to a decision made by the MOE.

C. November, 1961- the Ministry of the Interior granted nurses who graduated from university or junior college the title of "Professional Nurse".

D. March 17, 1962- the Ministry of Examination of the Examination Yuan announced the "Medical Personnel Examination Act," setting regulation and rules of "Professional Nurse" and "Nurse" licensure examinations, including the qualifications for taking examination, methods of examination, and subjects of examination.

E. July, 1963- the "Taiwan Provincial Taipei Nursing and Midwife Vocational High School" and the "Taiwan Nursing and Midwife Vocational High School" were merged and upgraded to a new Nursing Junior College, offering a 5-year nursing program.

F. August, 1979- the first Master Program in Nursing Science was stablished at the Department of Nursing of NDMC, with the approval from the Ministry of National Defense.

G. August, 1981- "Taiwan Provincial Nursing and Midwife Junior College" became the "National Nursing Junior College" and the program of "nursing and midwife combined training course" was closed.

H. May 17, 1991- the first "Nurses' Act" in Taiwan, ROC, was promulgated.

I. August, 1994- the MOE approved the name change and elevation of status of "Taipei

Table 1
Taiwan's Nursing Workforce by Educational Level by Year

Year	Vocational High School	Junior College	BSN Program
1960	68%	20%	12%
1980	48%	46%	3.8%
1995	44.5%	51%	4.5%
2005	11%	60%	29%

Nursing Junior College" to "National Taipei Nursing College."

J. March 1, 1995- National Health Insurance scheme was implemented and all the citizens of Taiwan were covered in the insurance as regulated by law.

K. August, 1997- the first Ph.D program in nursing was inaugurated in National Taiwan University and 3 students were admitted in the first class.

L. August, 1997- based on the newly amended "Junior College Law", MOE approved Hung-Kuang Private Nursing Junior College and Fooyin Private Nursing Junior College to upgrade to the status of "Technical College" [1,3,8-11].

The organization of MOE has been divided into many departments, including the Departments of Higher Education, Technological and Vocational Education, Secondary Education, Elementary and Junior High School Education, Social Education, Physical Education and several other agencies. Before 1995, those educational institutions granting bachelor degree, master degree and doctorate degree were under the jurisdiction of MOE's Departments of Higher Education. The educational institutions granting diploma or associate degree were under the jurisdiction of the Department of Technological and Vocational Education of MOE. However, clear demarcation of jurisdiction between the two Departments were eventually dissolved by an opening of a RN-Bachelor degree program in National Taipei Nursing College, beginning in 1994. In 1995, the "Vocational College Law" was amended, and a new clause was included in article 3, stating that "in order to upgrade the quality of technical and vocational education, the Ministry of Education may select those junior colleges which meet the criteria of the requirements of a "university" to promote to a status of "Technical College". The criteria of the requirements, application and review process of a "Technical College" will be stipulated by the Ministry of Education". Thus, it began to blur the line between the so called "technical" and "higher" education systems. Taiwan's nursing workforce began shifting away from junior college level diploma to the college/ university level with BSN degrees (see table 1).

While Taiwan's nursing education moving towards a course of normal development, two education systems began to disappear in Taiwan. One of them is the midwifery education system, and the other is the hospital nursing training program operated by the western missionaries. Since 1956 to 1981, the model of Taiwan's midwifery education was carried out by nursing vocational high schools or nursing technical junior colleges combined programs. Graduates from these nursing and midwifery combined programs, in fact, were qualified with a "nurse" and " midwife" licenses at the same time, if they passed both the national licensure examination. However, owing to the rapid medicalization of the women's health services and the shifting of community–based medical services to the hospitals-based medical services in Taiwan, midwives eventually lost their competitiveness in the medical workforce. The number of those who actually worked as a "midwife" dwindled quickly. In 1996, there were only 30 midwife birth centers registered with the Bureau of National Health Insurance, and continued to drop to 21 in 2006[12]. Thus, many nursing vocational high schools and nursing technical junior colleges gradually changed the combined programs to a "nursing" program. Eventually, the system of midwifery educational programs faded away in history[3].

As for the development of the missionary hospital nursing training programs which were booming during the Japanese rule, only one program in Mackay Memorial Hospital was able to change its name and formally registered under MOE as "Mackay Memorial Hospital Nursing Vocational High School" in 1970. All other missionary hospital training programs gradually closed down. The major reason for the closing of these missionary hospital nursing programs was that they failed to meet the requirements of establishing an educational institution set by MOE, under the KMT rule. For instance, Mennonite Christian Hospital Nursing Training Program was originally established in 1951. Although Mennonite Christian Hospital

authority sought for an approval of running the Nursing Training Program from MOE in 1971, but MOE's requirement of having military officers stationed in the school and providing mandatory Military Training Courses to the students were totally against their religious beliefs and doctrines. As a result, the hospital decided painfully to close down the last nurse training course in 1975[13]. Other hospital nursing training programs, such as the one in Puli Christianity Hospital, also had to go through the same path of Mennonite Christian Hospital and eventually closed its training program after the 12th class (1958-1973)[14].

Since then, the development of Taiwan's nursing educational system has broken away from the education system under the jurisdiction of the hospital. Looking back at the past 100 years, alongside the great changes in both macro and micro environment, the nursing educational system in Taiwan has finally developed into a complete educational system with an equal foundation comparable with other professional educational systems. This has given nursing profession the responsibility bestowed from the society and nursing profession as a whole, so that it will continue to advance towards the greater good for the people, nationally and internationally.

IV. Enhancing the Quality of Nursing Education in Taiwan: Consolidation and Improvement period: 1997-Now

After a 100 years, the development of Taiwan's nursing education finally transformed its structure from being a "vocationally trained" entity, to a complete educational system encompassing PhD programs in 1997. As we enter into the first decade of the second millennium, the development of nursing education in Taiwan has not faltered. The development of nursing education between 1997 and 2007 has focused on the improvement of the quality of education and integration. Therefore, we would like to take this opportunity to share the following important events with the readers:

A. August 1999 and August, 2000-upgrading the level of Midwifery Education, "Fooyin Private Technical College" opened a post RN-Midwifery BSN program and "National Taipei Nursing College" opened a post RN-Midwifery MS degree program, respectively.

B. November 2000-as a result of the amendment process, the title of "Nurse Practitioner, NP" as one of the legal names of nursing personnel in Taiwan was officially included in the new "Nurses' Act".

C. July 2005- all the Vocational Nursing High Schools were either closed or upgraded to Junior Colleges by Ministry of Education. An era of vocational education for nursing since 1943 has completely ended.

D. August, 2005-a nursing Ph.D degree program was approved by the MOE, and was inaugurated at "National Taipei Nursing College". This is the first doctorate nursing program ever established in colleges/universities, under the jurisdiction of the Department of Vocational and Technical Education, MOE.

E. June, 2006-Taiwan Nursing Accreditation Council (TNAC), the first nursing peer-review body, was established with financial support from MOE, in the Higher Education Evaluation & Accreditation Council of Taiwan[3.9.11.15.16.]

In 2006, there are a total of 39 schools offering basic nursing education programs in Taiwan. Within these schools, those under the jurisdiction of the "Department of Higher Education" of MOE, are 12 and if the Nursing program at the NDMC is included, then, the number would turn up to a total of 13 nursing programs. As for the nursing schools/departments under the jurisdiction of the "Department of Technological and Vocational Education" of MOE, there are a total of 26 (see Table 2). Thus, with 39 education institutions providing nursing educational programs, the program has the most professional schools/colleges compared to other health disciplines in Taiwan.

Table 2

Number and Types of Taiwan Nursing Educational Facilities (2005)

		Higher Education (13* Schools/ Department)	Technical and Vocational Education (26 Schools/ Departments)
Degree Programs	PhD	6	1
	Master of Sciences	14 **	5
	Bachelor of Sciences	13	12
Associate Degree Programs	5-year courses		24◎
	2-year courses		
	Day courses		17
	courses		15
	Part-time-on-job courses		25

*** Includes the Department of Nursing, National Defense Medical College**

**** National Yang Ming University Opened Two Kinds of Master Degree Programs, and the Private Yi Sho University Has Not Opened a Master Degree Program**

◎ National Taipei Nursing College and Ya Tung Technical College Do Not Open" 5-year Associate Degree program"

In order to continue improving the quality of Taiwan's nursing education to nurture competent nursing professionals to meet with the new societal needs, the Department of Technological and Vocational Education of MOE, invited Professor Chao (Yu), Yu-Mei to lead a planning committee to design a peer-review accreditation system for nursing, after crossing many administrative obstacles, along with full support from the "Medical Education Committee" of the MOE. The TNAC then, was officially established in June of 2006, at the Higher Education Evaluation & Accreditation Council of Taiwan. The primary mission of TNAC is to set up a shared set of common core standards for evaluating nursing educational institutions in Taiwan. Based on these common core standards, all the nursing educational institutions would be reviewed, empowered and strengthened by nursing peer-group comprising of experts. Therefore, nursing educational institutions in Taiwan, would gradually move toward self-governance and will be heading to the road of continuous quality improvement and further development. The specific goals of establishing TNAC are described as below:

A. To establish professional core values for Taiwan's nursing education and consolidate its' standards.

B. To set regulations and procedures for reviews, including on-site review, for the Associate Bachelor and BSN programs.

C. To ensure that the quality of nursing education is improved and people's health in Taiwan is protected and patients would benefit from the better qualified nursing workforce.

D. To actuate self-governance mechanism in every nursing educational organization through TNAC's inputs and encouragement to reach the level of continuous self-development in every nursing educator and so to the educational system.

E. The long term goal of TNAC endeavor is to prompt a continuous advancement of nursing education in Taiwan[15].

V. A Prospect for Taiwan Nursing Education

In the process of establishing TNAC, the representatives from all levels of nursing educational programs emphasized that the work and responsibility of TNAC should be a key enhancer to integrate the existing gaps between and among the three nursing systems, including nursing education, licensure examination and employment in Taiwan. After intensive discussion and revision for 3 years, the planning committee led by Dr. Chao (Yu) has come up with an agreeable statement on the "Role and the Responsibilities" of a basic nursing educational program in Taiwan as: (1) cautiously choosing the right students to educate; (2) offering relevant nursing education to the students; (3) enabling students to pass the "Professional Nurse" licensure examination; (4) nurturing every student to become a competent and trustful "Professional Nurse" for the patients and their family members[15].

Furthermore, due to an amendment of the "Nurses' Act" in 2000, the term "Nurse Practitioner, NP" became one of the legal professional titles in Taiwan. This allows the advancement in nursing practice to operate under a clear legal framework. However, question as to how we plan for the educational standards and requirements of preparing for this new "advanced" nursing development in Taiwan was often raised. In order to assure that education for the needed advanced nursing practitioners is indeed meeting the societal expectation, the TNAC, identified and published the new educational goals for the MSN degree and Ph.D. programs in March, 2008[16]. These educational goals will serve as a new guideline for nursing educational institutions offering graduates nursing programs in Taiwan. The new educational goals for the graduate programs leading to MSN and Ph.D degrees, are briefly described below:

A. The goals of a nursing graduate program leading to a MSN degree are stated as:

The educational content and objective of a MSN program is to educate advanced nursing practitioners who possess the basic core values and professional skills learnt in basic nursing education and during the course of nursing graduate studies, she/he should further cultivate advanced professional competencies which is coupling with solid theory base, deft professional skills, effective professional autonomy and independent judgment. The graduates from a MSN program are expected to resume the professional roles, such as Nurse Practitioner (NP), Clinical Nurse Specialist (CNS), Advanced Community Nurse (CAN), Family Nurse (FN), Nursing Administrator (NA) or Clinical Nurse Educator/Preceptor, and etc.

B. The goals of a nursing graduate program leading to Ph. D. degree are stated as:

The educational content and objective of a Ph.D. degree in nursing is to educate nursing researchers and nursing leaders who possess core professional competencies and values as an advanced nursing practitioner. During the course of graduate studies she/he should further cultivate into a nursing experts who is able to conduct independent research with solid and rigorous scientific approach that contribute to nursing knowledge base and improve the nursing profession, as well as the quality of health care in Taiwan.

In conclusion, with the full support from the Ministry of Education and the high expectations of our society, the future development of Taiwan's nursing education should aim at not only cultivating the greatly needed professional nursing workers in Taiwan, but also nursing experts who can serve as leaders on the international stage.

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Chapter 2
Nursing Education in Taiwan

Chapter 3

Nursing Research in Taiwan

Yeur-Hur Lai

Chapter 3
Nursing Research in Taiwan

Nursing research is the use of the scientific method to verify or correct the current nursing knowledge or develop new nursing knowledge to further improve nursing care and nursing education, directly or indirectly, and act as a catalyst to the development of the nursing profession and the science of nursing. In recent years, Taiwan's nursing research has been prosperous and this article will discuss nursing research in Taiwan in different perspectives, including I. the important elements in the process and development of nursing research in Taiwan; II. the current status of nursing in Taiwan and the main research developments; III. the publishing of thesis on nursing research in Taiwan; and IV. the future prospects for nursing research in Taiwan.

I. Important Elements in the Process and Development of Nursing Research in Taiwan

It is very difficult to determine when the earliest nursing research in Taiwan began, but the early nursing research in Taiwan was highly connected to the Nurses Association of R.O.C. (now the Taiwan Nurses Association). The first publication published by the Taiwan Nurses Association was in 1954. "Nursing Magazine" without a doubt played a very important role in the development and publishing of nursing research papers, and with the increasing number of research papers and theses being published, a special magazine dedicated to research titled "Nursing Research" was officially launched in 1993, which later began to circulate in English during 2001. This step further internationalised publications in nursing research in Taiwan and in many instances received the National Science Council's award for superior scientific publications, thus marking its importance in nursing research for Taiwan.

The most effective catalyst for the development of nursing research in Taiwan throughout the last twenty years is the surging acceptance of nursing education by highly educated individuals. In 1979, Taiwan's first doctor of nursing, Ms. Yu Yu-Mei returned to Taiwan and began to heavily promote nursing research. She spearheaded the use of qualitative research to examine the cases in nursing care and through these experiences, trained the nursing lecturers of National Taiwan University and implemented qualitative research in the examining of clinical internship and case disease experiences of nursing students. This is without a doubt the beginning of Taiwan's nursing research. In early 1980, the nursing faculty of National Taiwan University cooperated with the then nursing school professor Dr. Ida Martinson from University of Minnesota to begin a series of research on families suffering from children cancer patients and the problems they face along with their needs in care. With the data obtained in these studies, the Childhood Cancer Foundation was formed in 1981 and became the most important support and economic source for child cancer patients. The establishment of this foundation is definitely one of the most important contributions by nursing research in Taiwan. Although the research was somewhat primitive, it systematically exposed nursing research data. The ramifications of this study were not in the results, but it was an important step in giving a voice to childhood cancer patients and their families. In this scenario, nursing research successfully promoted the quality of care and improvements in the environment of child cancer patients.

Nursing personnel are the largest population of workers in the medical system, but their training and curriculum are yet varying. That is why an overall improvement of their educational preparedness is an important task that must be quickly accomplished. Since 1980, especially after 1990, the improvement of the educational system have trained more nursing personnel with master or doctorate degrees, and leading to more programs being established due to the improvement in quality of the educators.

A significant amount of nursing personnel now have received master and doctorate education, causing a rise in nursing personnel with superior educational backgrounds and at the same time, spurring the development of nursing research and the publishing of nursing research papers.

What cannot be ignored is the emphasis by the general environment of Taiwan and the health care system to clinical studies. In the research applications to the National Science Council and the publishing of related research papers, the emphasis and competition by all medical and healthcare fields in general on nursing research have given more opportunities for professional nursing personnel and nursing researchers to participate in the development of research proposals. In the past few years, beside the research funding groups in various departments, governmental departments or significant research facilities including the National Science Council, National Health Research Institutes, Department of Health, Bureau of Health Promotion, and health care related groups or foundations have provided channel for application of research proposals. The widespread level of research proposals has become an important factor in the advancement of Taiwan's nursing research.

II. The Current Situation of Nursing Research and Main Research Developments

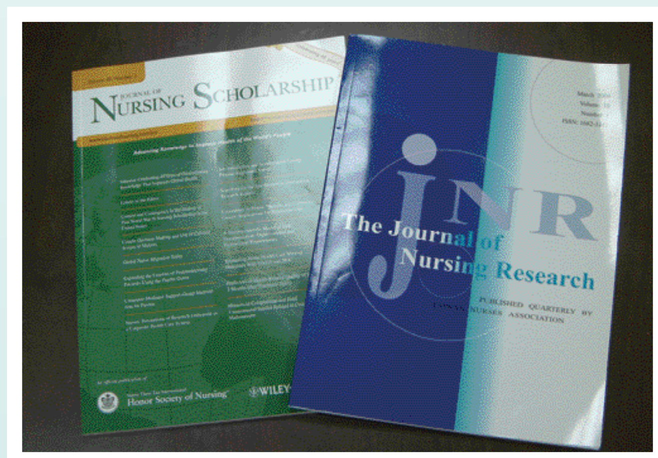
Taiwan's nursing research has seen rapid growth in the past 20 years, with a wide range of research topics, but it is still a basic reflection of the important health topics in Taiwan's society. This article will use sources such as research proposals funded by governmental agencies and papers published by researchers from the Taiwan Nurses Association to categorize the topics of research. Basically, the bulk of Taiwan's nursing research can be identified under 11 major topics, including (1)cancer care, (2)chronic diseases care, (3)elderly healthcare, (4)women and children healthcare, (5)psychiatric care, (6)preventive care, (7)long-term care, (8)epidemic prevention and care, (9)patient safety and quality of care, (10)nursing education and nursing labor research, and (11)research on the care of new residents.

A. Cancer care research

Cancer is the leading health risk for the people of Taiwan. Since 1982, cancer has been the number 1 cause of death in Taiwan for 26 straight years. From the moment of diagnosis, treatment, survival, until the terminal period, cancer patients and their families suffer from extreme problems and stress. Studies have explored the impact of cancer, revealing to patients the results of their diagnosis, care for patients and their families, cancer patient quality of life, the exploration of cancer related symptoms or group symptoms, the burden of the care giver, cancer care theory and topics, cancer pain treatment, the problem of cancer patient fatigue, cancer treatment side effects and related problems, and studies

B. Chronic disease care research

Apart from cancer, cerebrovascular diseases, heart diseases, diabetes, chronical liver diseases, kidney diseases, and high blood pressure are all chronical diseases which are also common causes of death in Taiwan. Much research is done on these diseases in Taiwan, including inquiries into the quality of life for chronical disease patients, the acceptability of high blood pressure patients in taking their medication, reasons of stress for heart disease patients, cerebrovascular disease patient rehabilitation and related topics which includes training for swallowing, an inquiry into the burden the care giver of cerebrovascular



disease patients experience, common symptoms of chronical disease patients such as fatigue, sleep and nutritional problems, and the research and testing on the autonomous care of chronical disease patients.

C. Elderly care research

Like other advanced countries, the aging of the population is a main topic of discussion in Taiwan's healthcare. Related studies include care for the debilitated elderly, depression amongst the elderly, pain problems of the elderly, the burden experienced by the care givers of the elderly, improving the health of the elderly, nutritional problems of the elderly, bodily functions of the elderly and autonomous care as well as other topics.

D. Women and child healthcare research

Studies relating to children include research on children disease groups, research of child cancer patients, child cancer survivors, children with asthma, improving the health of children with asthma, burden experienced by the care giver of children with cancer, and the study of healthy children who are overweight. Studies on women include the various problems women face during pregnancy and birth, research on using non medication based treatment to improve menstrual or birth pains, the effects of pregnancy on the physical and psychological state of women, and the health problems of women who have chronical diseases.

E. Psychiatric care research

Psychiatric related care research includes the early detection and confirmation of mental illnesses, patients suffering from depression, the violent actions of patients with mental illnesses and their prevention, the study of stress levels in families of mental illness patients, the impacts of marriage violence on the psychological level, suicide prevention and related care, the mental illnesses of the aboriginal people, mental health care in relation to drug abuse, and autism related health discussions.

F. Preventive care research

Research on preventive care includes topics such as the benefits of exercise for the health, child nutrition and obesity, the harms of smoking, early detection of cancer, developing healthy lifestyles to improve health, improving the health of the elderly through community care, studies of healthy communities and healthy cities, women's health maintenance in

communities, prevention of osteoporosis in women and others.

G. Long-term care research

Research in long-term care include the long-term care of patients with chronical disease and related problems, the problem of long-term care for the debilitated, and various health promotions to improve the health of patients with chronical diseases, such as autonomous care methods, the intervention of support groups to improve a patient's understanding and methods of treatment towards their disease, quality of life study on long-term care patients and care givers, the cost medicine care related to long-term care, and the quality of treatment for long-term care patients.

H. Prevention and care of epidemics

Related research includes AIDS prevention, the curbing and prevention of highly dangerous groups, the symptoms and emotional distress of AIDS patients, tuberculosis prevention, the research and prevention of respiratory tract diseases and others. Although nursing personnel in Taiwan care for many of these types of diseases, but there are very little related research projects, indicating that more research should be done in this field.

I. Patient safety and quality of care

Without a doubt, patient safety is the most basic and highly important aspect of every modern medical facility. Related research includes installation of a safe medication dispensing system, how to safely monitor chemotherapy and drug safety, and how to reduce the number of patients who fall and other research topics.

J. Research on nursing administrative projects

The role nursing manager in a hospital is to effectively increase the quality of care, construct a safe environment for care, effectively control medical costs, and execute related research projects. This type of nursing research is currently most commonly found in nursing publications, published in nursing magazines circulated within hospitals, or given in seminars. Relatively speaking, they are rarely released to an international publication.

K. Nursing education and nursing labor

Research related to nursing education, including initiating and testing new teaching methodologies of nursing, testing new educational content and their affect on educational results. The estimation of nursing labor and exploration of the nursing personnel population is usually conducted through large scale surveys and analysis which helps in the understanding of demands in nursing personnel. Furthermore, in recent years research relating to nursing education also includes a redefinition and revaluing the role of nursing, such as the series of research dealing with good nursing care and its core elements.

L. Research on the care of new residents

According to estimation, with the recent increase of new residents marrying into Taiwan from other Asian countries, one out of five new born babies will be delivered by a new resident. The care of nursing personnel to children of different cultures is a question that has given way to many research topics, such as pre-birth health studies, the education of these children, the understanding and use of new residents in regards to Taiwan's medical healthcare system, but these studies are merely in their beginning stages.

III. The Publishing of Taiwan Nursing Research Thesis

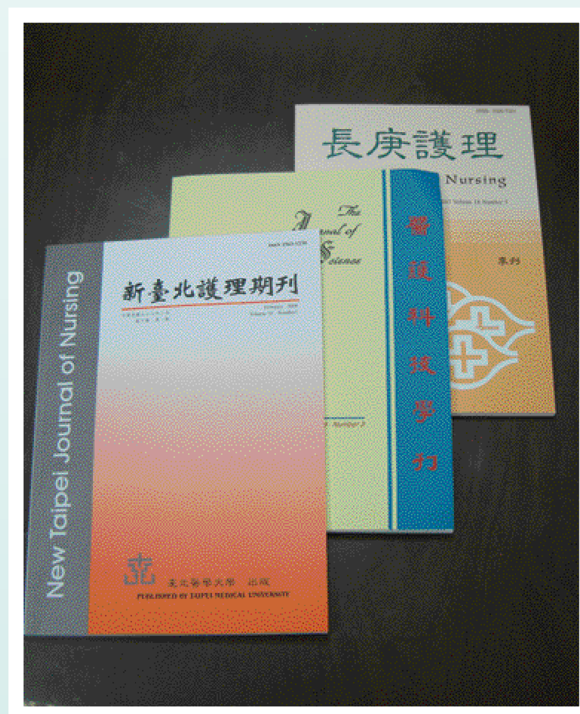
Due to the emphasis of the Taiwan healthcare system and medical world on factual data and the published thesis papers, publishing research papers at important local or international conferences is another important task of clinical nursing personnel and nursing researchers. Every year, the Taiwan Nurses Association hosts a conference to discuss research papers, acting as an important channel of communication between Taiwanese and Chinese researchers. Furthermore, due to the continuous development of various nursing specialist associations or academic nursing associations in Taiwan's medical world, the related conferences for research papers held each year are highly progressive. Taiwan's nursing researchers are also very enthusiastic with the international publication of their research papers, such as with the International Council of Nursing(ICN), Sigma Theta Tau International, Honor Society

for Nursing, International Society of Nurses in Cancer Care(ISNCC), Biennial Research Congress and other important international nursing organizations all have research papers submitted by Taiwan's researchers, educators, and clinical personnel. It is evident that Taiwan's nursing research is very enthusiastic to report its findings.

Furthermore, in terms of publishing thesis papers on monthly publications, Taiwan has many nursing publications, including The Journal of Nursing Research, Nursing Magazine, and Factual Nursing being the three publications from the Taiwan Nurses Association. Of the three, The Journal of Nursing Research is published in English and is focused on researching materials in their original languages. Specialized clinical associations also have publications for review by their peers, such as Oncology Nursing Magazine (published by the Oncology Nursing Society of Taiwan). Various schools and medical facilities also have publications available for peer review such as National Taiwan Nursing Magazine (National Taiwan University Hospital), Chang Gung Nursing Magazine (Chang Gung Hospital), Veterans Nursing Magazine (Taipei Veterans General Hospital), Tzu Chi Nursing Magazine (Tzu Chi University), New Taipei Nursing Magazine (Taipei Medical University) and others. Taiwanese researchers have also published many research papers in renowned international publications, including Nursing Research, Birth, The Journal of Clinical Nursing, Cancer Nursing, Journal of Advanced Nursing, and others. Various researchers have also published papers in other related fields in scholarly publications, such as Pain, Journal of Pain and Symptom Management, Journal of Supportive Care in Cancer, Palliative Medicine and others. From the results of these published works, it is evident that nursing research and the publication of these papers has gone through tremendous growth in the past 10 years.

IV. The Future of Taiwan's Nursing Research

Without a doubt the tremendous growth of nursing research in Taiwan has proved that Taiwanese nursing personnel have gone through significant growth in the topics of nursing science and clinical nursing. In future development, consideration must be given to the general environment of care to towards the needs of Taiwan's population by facing challenges such as the ever increasing cost of medical treatment and level of quality of healthcare. Other challenges that must be faced are the increasing amount of the elderly and chronical disease population, effectively plan and implement measures to promote good health, in-depth research on the connection between chronical disease nursing of the elderly and community care, the testing of patient safety models, nursing education and the multifaceted roles they play and an exploration into their nature, and large scale planning for the sustainable utilization of nursing labor. Lastly, cross industry cooperation linking clinical nursing and basic medical related research is needed in order to realize the scientific aspect of nursing research and engage in the exploration of case studies of patients and care experiences. These are all the tasks that the nursing researchers of Taiwan will have to strive towards in the future.



NURSING

Chapter 4

Nursing Practices in Taiwan

I. Adult Care

II. Maternal & Child Health

III. Women's Health Care

IV. Long-term Care

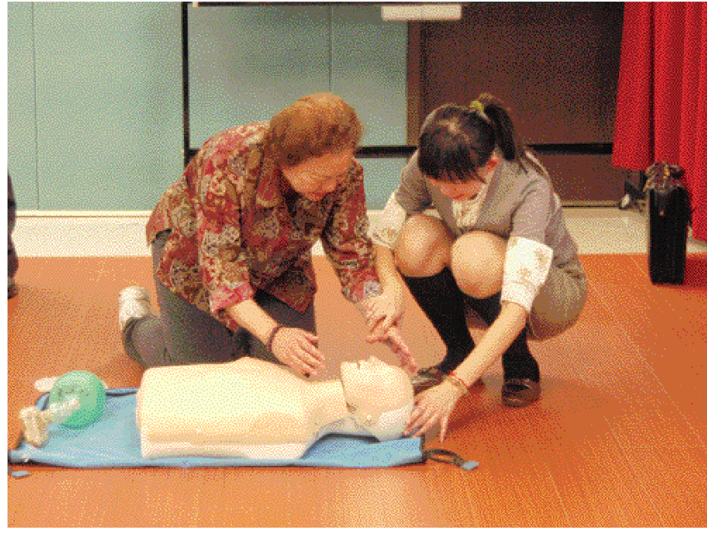
V. Hospice Palliative Care

VI. Occupational & Environmental Health Nursing

VII. Public Health Nursing

VIII. School Health Nursing

Chapter 4
Nursing Practices in Taiwan



Nursing is a science, also an art; and more importantly, it is an irreplaceable facet of health care. Applying professional knowledge and skills, nurses sustain and promote human health, help patients quickly recover and regain their health. To those who cannot fully regain their health, nurses assist them by helping them adopt their life, ease the physical, emotional, and spiritual illnesses and their various impacts.

Thus, the scope of nursing practice is very broad.

This chapter describes the nursing practices of Taiwan in the following eight sections: Adult care, Maternal & Child Care, Women's Health Care, Long-term Care, Hospice Palliative Care, Occupational & Environmental Health Nursing, Public Health Nursing, and School Health Nursing.

NURSING

Section I

Adult Care

Siew-Tzuh Tang

With the changes in our society such as the increasing in the senior population along with changes in lifestyles, the types of diseases that have begun to change lead to a rise in the population with chronic diseases. When analyzing the leading causes of death, except for accidental deaths, pneumonia, and suicide, all other causes of death are usually traced to a chronic condition, such as cancers, strokes, cardiovascular diseases, and diabetes being the most threatening conditions to the health of Taiwanese[1]. According to statistics from National Health Insurance Bureau, 78% of Taiwan's medical expenditures are spent on the care of patients with chronic diseases, with 80% of patients using ambulatory care having chronic diseases. Since the implementation of the National Health Insurance program in 1995, the health care delivery system has quickly evolved and acute hospital care has become the main mode for Taiwanese people. According to the statistics in 2005, more than NT153 billion was spent for hospital care by approximately 1.8 million patients, which accounts for 33.8% of total medical expenditure. Compared to 299.4 billion was spent by 22.3 million people on ambulatory care[2], acute hospital care still plays a vital role in facilitating the health of Taiwanese people. However, due to the ever increasing costs (from 220 billion NT in 1995 to 452.4 billion NT in 2005, more than doubling in 10 years)[2], hospitalization expenditures have been targeted as the main source of health reform. To contain the costs of healthcare, shifting the primary setting of healthcare from hospital to outpatient to reduce the length of stay during hospitalized has been the global solution. The nursing profession is the largest group of medical manpower in Taiwan. In order to meet the needs of Taiwanese people, nursing practices have also shifted their focus to achieve the high efficiency and quality of care to offer patients' comprehensive and continuous care. To achieve this goal, in addition to clinical nurses, new roles and functions have been evolved, such as "case manager", "nurse practitioner", "discharge planner", "home health nurse", "hospice nurse" and others. In the following sections, the presentation of current development of adult care in acute hospital setting is focused on the concepts of "continuity of care" and "patient safety".

I. Continuity of Care

Continuity of care is providing patients a holistic multi-disciplinary and across-care services model through cooperation and communication among health care team. Traditionally, health care costs were reimbursed by the fee-for-service scheme, which sometimes led to unnecessary use of resources. In 1983, the U.S. established a new payment system for seniors' healthcare with the prospective payment system by diagnostic related groups (PPS by DRGs) to solve this problem. The Taiwan's Bureau of National Health Insurance began to implement the global budget system in 2002 and it has been planned that in 2008, the health insurance payment will revert to the DRG (diagnosis related group) payment structure for hospitalized patients. Responding to this change, many hospitals have aggressively developed case management, clinical pathway, and discharge

planning services to ensure quality of care and to decrease costs. By improving cooperation within health care team, cost-effective services could be realized.

A. Case management

The basic principles of case management sprout during the World War II. In order to provide psychiatric patients with necessary community services after their discharge, in 1985, the America's New England Medical Center under the DRG system initiated a system in which nurses act as case managers in this care system. Subsequently, this model became widely used in acute and long term care settings with an emphasis on managing high volume, high costs, and high risk patients. "Case Managers" are health care professionals who are trained in case management through cooperating with physicians and other members in the health care teams to provide a continuous health care service. Through continuously monitoring and modifying health care processes by assessment, planning, implementation, cooperation, monitoring, and evaluation, they ensure that the care provided will achieve the best desired outcome to meet the health needs of the particular case.

In Taiwan, many hospitals have already begun to implement case management on specific diseases and to evaluate its effectiveness on quality of care and cost reduction:

1. For diabetic patients, implementation of case management can increase compliance rate of regular clinic follow-ups by 86% and improve patients' knowledge of disease, diet controlling, and blood pressure/blood sugar controlling[3]. 85-90% of patients are very satisfied or satisfied with this model of care. Other studies showed that significant improvement was found on patients' body weight, diastolic blood pressure level, HDL-C and LDL-C, total cholesterol, and triglyceride levels by case management[4,6]. ER use (0.1 times vs.0.4 times), total cost (173.3 NT vs.605 NT), frequency of hospital stay (0.1 times vs.0.3 times), costs (37,160 NT vs.50,404 NT) and total health care expenditures (22,723 NT vs. 30,948) of patients who receive case management are all lower than those who do not receive it[5].
2. In the care of patients with chronic heart failure, with the home-based case management model, it was found that heart functions of patients significantly improved. The average length of stay was reduced by 5.3 days, and total health care expenditures and emergency care expenditures were reduced 41.8% and 6.5% respectively[7].
3. For patients with chronic obstructive pulmonary disease, although implementation of case management doesn't seem to reduce length of hospital stay or health care expenditures, patient knowledge and satisfaction with health care significantly increased[8]. For the care of patients with pulmonary tuberculosis, case management increased the complete treatment rate from 72.8% to 86.6%[9].
4. For patients with breast cancer, those under case management services received more social support and their level of uncertainty was dramatically decreased. Satisfaction with the service was above 80% and most patients felt that the benefits from case management are significant[10]. Furthermore, since implementation of this model of care, rates of patients transferring to other hospitals has significantly decreased (from 28.1% to 8.9%) and rates of completion of treatment has risen (from 86.7% to 91.5%)[11].

B. Clinical pathway

Clinical pathway is a team work process and a basic guideline for case management. It is a health care process focusing on implementation of key events according to a preset timeline to ensure quality and efficiency. The key events include examination, treatment, medication, diet, activities, nursing teaching, discharge planning, and so on. Furthermore, by establishing standard guidelines such as a timetable, estimated length of stay, resources utilization and variance analysis, the optimal quality of care can be achieved. Soon after the Taiwan government inaugurated a compulsory universal National Health Insurance on 1 March 1995, hospitals have continued to develop new clinical pathways, such as:

1. Coronary artery surgery. Although patients

under clinical pathway after coronary artery surgery did not show significant changes in health care expenditures or satisfaction, there is a decrease in length of stays in both ICU (from 6.2 days to 4 days) and average hospital stay (from 22.4 days to 19.6 days)[12].

2. Ischemic stroke. The clinical pathway of patients with ischemic stroke significantly reduced the average length of stay (from 17.5 days to 8.9 days) and health care expenditures (from 59,803 NT to 31,883 NT, a 47% decrease), improved physical activity, and increased patients' and family caregivers' satisfaction with health care professionals[13].
3. Chronic pulmonary dysfunctions. For patients with chronic obstructive pulmonary disease, although the implementation of this clinical pathway did not improve the degree of dyspnea and physical endurance of patients, it did significantly decrease the average length of hospital stay (from 12 days to 7.2 days) and health care expenditures (from 28,885 NT to 13,878 NT). It also increased both patients' and staffs' satisfaction[14]. Standards of procedures for respirators weaning and classification of patient's care helped 52% of patients successfully wean respirators at an earlier stage. It also reduced the length of hospital stay for patients on respirators from 142 to 104 days and by an appropriate referral, each patient can save 295,106 NT in health care expenditures per year[15].
4. Total hip/knee replacement. Patients under a clinical pathway for hip or knee joint replacement surgery can reduce their average length of stay (from 10.4-11.7 days to 9.1-9.3 days and 11.9-20.2 days to 11-14.4 days, respectively) and decrease health care expenditures (by 4,105~7,943 NT and 9,345 NT, respectively), while satisfactions for both patients and health care providers increased[16-18].
5. Hepatoma. A clinical pathway for patients with transcatheter arterial embolizations for hepatoma did not dramatically reduce length of hospital stay (only about 0.4 days), but patients are satisfied with most of health care service. There is a significant increase in patient satisfaction with nursing explanation of possibility and treatment of fever and approximately 6.8% decrease of health care expenditures. For health care professionals,

except for a low agreement on the statement that implementation of clinical pathway can reduce work responsibility (63.9%), all other indexes have a support rate of over 83%, and especially in the statement that implementation of clinical pathway can increase quality of care achieved a 100% agreement rate[19].

C. Discharge planning

Since 1994, the Department of Health has been looking for a coordination care between acute and long term care system to address the impact of increasing prevalence of chronic diseases in an aging society. The goal of the plan is to link acute care with supportive care to provide hospitalized patients a continuous care, and promote efficient use of health care resources. The Department of Health took a lead in initiating the program of discharge planning in 2004, A total of 137 hospitals participated in the program and created a new role "discharge planners". Discharge planning begins at the moment when a patient is admitted into a hospital. Discharge planning includes assessing health care needs of patients, providing appropriate discharge placement and referrals to maintain the continuity of care, strengthening self-care abilities for both patients with chronic disease and their caregivers. The primary goals of discharge planning are to (1) shorten length of stay, (2) facilitate efficient utilization of hospital beds, (3) increase patient satisfaction with services, and (4) successfully control health care expenditures. Taiwan has already incorporated discharge planning for patients with spinal surgery, hip replacement, and osteomyelitis. A combination of strong home care service, nursing education, and arrangement for post-discharge placement, it has been shown that 83.9% of patients under discharge planning service could comply with follow-up appointments and the majority of patients were able to take their medication at a regular schedule and adhere to the suggestions regarding healthy lifestyle. In addition, the overall level of satisfaction for their discharge planning services was high[20]. Studies showed that, 6 months after they return home, the "perceived general health" of stroke patients under discharge planning services improved[21]; furthermore, when discharge planning is applied to adult leukemia patients who were under chemotherapy by offering home care education and telephone follow-up consultations, it is observed that during the 4th week of discharge, patients' self-care ability, infection control and symptom distress are all better than those reported by patients under routine care[22].

II. Patient Safety

In recent years, patient safety has become a subject that is gaining more attention globally. Patient safety is "preventing, avoiding, and changing any actions that may result in unfavorable results or injury in the process of health care, including mistakes, deviations, and accidents"[23]. In studies of the prevalence of medical errors in the U.S., England, Australia and other countries, the prevalence of medical errors is 2.9-16.6% (on an average of 10%)[23]. In 2002, there were many incidences of medical errors reported in Taiwan, such as the Bei-Cheng incident and the Chong-Ai incident which resulted in many deaths and further pointed out the problem of safety issues in health care systems in Taiwan. Furthermore, the epidemic of SARS (severe acute respiratory syndrome) highlights the importance for hospitals to have appropriate protective measures for ensure patient safety. Therefore in February of 2003, the Department of Health invited experts from clinical, academe and governments to establish the "Patient Safety Committee", and to set patient safety as one of the required items in hospital accreditation. In 2004, the Taiwan Joint Commission on Hospital Accreditation commissioned the Joint Commission of the U.S. on Accreditation of Healthcare Organizations (JCAHO) and other related information to establish the "Taiwan Patient Safety Reporting System" with the goal of ensuring patient safety in Taiwan through a safe healthcare environment. Analyzing early reports in 2007 showed that in 3 years, there were 10,644 reported incidents with 18% being accidental incidents, 35% did not cause injury to the patient, 9% caused minor injuries, 24% caused medium level injuries, 3% caused severe injuries, and 1% led to deaths or permanent losses of

function[24]. Furthermore, many hospitals have also established other safety committees: such as operational room management committee, hospital infection control committee, equipment safety maintenance committee, etc., to reduce medical errors and to ensure patient safety. Also, in 2005, the Department of Health commissioned the National Health Research Institute to give general suggestions in their "Nursing white Paper in Taiwan" to strengthen Taiwan's professionalism and nursing service[25]. The following sections will provide information on the first four out of six goals on patient safety that were established in 2005 (including drug safety, infection control, accuracy of surgical site marking, accuracy of patient identification, prevention of falls, and incidents reporting) from a professional nursing perspective.

Drug Safety: Checking Orders and Mapping Medication Cards (Photo courtesy: Taipei Medical University Hospital)

A. Drug safety

Treatment by medications is a common procedure for most patients, therefore, highlighting the importance of drug safety in nursing care. Many hospitals continually set up standard guidelines and procedures on drug safety, such as "standard procedure for drug safety," and "standard procedure for drug safety for high risk population"[26], "standard procedure for drug safety for IVs"[27]and others. In addition to guidelines for drug safety, nursing teaching, recording, and evaluating of nursing care also have been established. In response to the increasing aging population, Chen and Liu[28] summarized the causes and impact of drug misuse among elderly patients and established the role and function of nurses. Lai and Zeng[29] provided a detailed description on the highly dangerous treatment of thrombolysis and established the "guideline for anti-coagulation drugs," which details how to proceed with a patient's admission assessment, monitoring vital signs and consciousness, conducting blood tests, and evaluating the side effects or drugs interactions to reduce the likelihood of bleeding, infarction, or death. Cancer has been the leading cause of death since 1982, accounting for 28.1% of total deaths in 2006, therefore, the following sections are focused on drug safety issues for cancer patients by two large scale surveys of chemotherapy and pain management.

1. Drug safety for chemotherapy on cancer patients

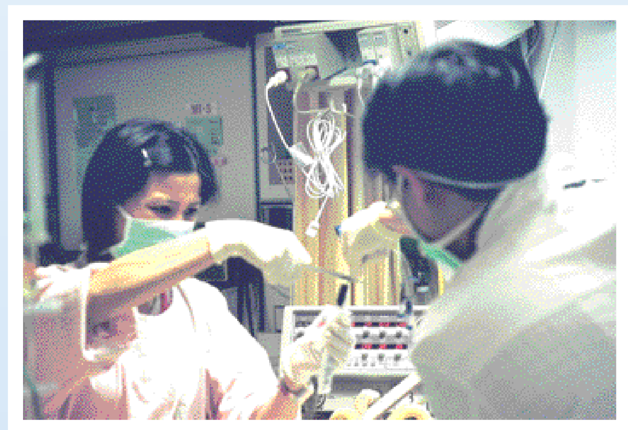
Providing cancer patients with a safe, effective, and without injury care is the goal of cancer treatment. Effective cancer treatments (including chemotherapy and radiation therapy) may induce many injuries, especially for chemotherapy where a patient's whole body is treated by toxic chemical agents. Administering wrong drugs to a patient can lead to death or a permanent injury. Therefore, the Bureau of Health Promotion, Department of Health passed the "Guideline of Quality Assurance for Cancer Treatment Act" stating that all hospitals treating cancer patients must set up a safety monitoring and management mechanism for chemotherapy, including with a specialist responsible for chemotherapy prescriptions, guidelines for dispositions of cellular-toxic materials (i.e., dispensing, storage, and handling of leakage and extravasation of chemotherapy). In 2006, the Bureau of Health Promotion, commissioned scholars to use both patient records and electronic charts to retrospectively collect data from 7 cancer centers regarding their chemotherapy prescriptions, strategies for prevention of side effects and patient monitoring for the 5 key cancers to explore the safety precautions and administration of chemotherapy in Taiwan[30]. From the 1052 patient records which were randomly selected, it was reported

that: (1) Although the American Society of Health-System Pharmacists suggests that from the moment of chemotherapy treatment started until administration of chemotherapy is completed, it is required that there is a double-checking mechanism in place to reduce the chances of error, results indicated that 1.8 - 64% prescription is given by only one doctor without double-checking by others; (2) Cisplatin, a drug commonly used for treating cervical, rectal, oral, and lung cancer was audited for preventive and monitor measures for renal toxicity. Results indicated that as high as 87.6% orders would check the creatinine level before treatment, but the rate of hydration to preserve renal function before administering Cisplatin was 22 - 100%; (3) Cisplatin is a strong emetic-induced chemotherapy, and can induce delayed vomiting. Before treatment, 49-94.4% of patients were given an anti-emetic medication. However, for patients who did receive anti-emetic drugs, up to 30-50% of the prescriptions did not include 5Ht3 abstract; (4) 36.6 - 95% of medical charts recorded information provided to patients and family members, mostly was for side effects (17.8 – 92.2%), and rarely for the overall treatment planning (0 – 58.6%) or explanation of selected chemotherapy (0 – 72.5%). These results indicate that in Taiwan, the overall quality of care for cancer patients with chemotherapy is at a certain standard, but the variances among hospitals are significant. In the future, continuous auditing is needed and should be promoted to all hospitals which provide cancer treatment, to ensure the quality of chemotherapy and to reduce the adverse events of chemotherapy.

2. Drug safety for use of narcotics for cancer pain management on cancer patients

Pain remains one of the most common and detrimental symptoms suffered by cancer patients, especially for patients at their end of life. Research indicated that 60-90% terminally ill cancer patients suffered from unrelieved pain. Adequate and appropriate pain management can avoid unnecessary suffering, enhance physical functioning, and improve quality of life at the end of life. In 1990, the WHO established a three-step ladder for cancer pain relief. Studies showed that implementation of this program can reduce pain and with a satisfactory rate of 93.8%, and can significantly improve a patient's quality of life. However, in reality, studies showed that 25-82% of cancer patients still suffer from unnecessary pain. Health care systems and professionals do not fully use the state-of-science knowledge at hand to properly treat and adequately relieve pain for cancer patients, and it is the primary reason why terminally ill cancer patients cannot achieve a satisfactory level of pain relief. Since a full scale investigation on pain control and the appropriateness of cancer pain management was unavailable, in 2003–2004, the Bureau of Health Promotion commissioned a survey for 2,185 terminal cancer patients in the 24 hospitals in Taiwan[31]. The purposes of that study were to characterize the current status of pain control of terminally ill cancer patients, the types of drugs used, routes of administration of narcotics, and the appropriateness of pain management as baseline data for future improvement.

Study results indicated that among patients surveyed, 62.4% were suffering from different degrees of pain; among those cancer patients suffering from pain, The frequency of pain was reported as “usually” or “almost constantly” for 30.2% of the study participants and 39.7% of the cancer patients with pain indicated that the pain was “fairly intense”, “very intense” or “almost unbearable”.



Approximately 84.2% of the cancer patients with pain received pain medication. Narcotics were administrated to 89.3% of the patients who received analgesics, while only 41.6% of the patients who received pain medication were treated by non-narcotic analgesics. Pain medication was most frequently administrated by oral route (78.4%) and around the clock (66.3%) or continually (22.0%). The inappropriate traditional practices of cancer pain management such as the regular use of intramuscular injections, Meperidine (Demerol), and sole reliance on "as-needed" analgesic administration was found as 5.0%, 4.4%, and 11.7%, respectively, which were all lower than the figures documented in the literature. However, approximately one-fourth of terminally ill cancer patients with pain received multiple narcotics or multiple routes for administration of narcotics. The appropriateness of such practices is questionable for at least half of them.

Although terminally ill cancer patients are highly satisfied with pain relief treatment (0-10 points in the Likert scale, mean=8.28, SD=1.4), 23.6% of patients felt that they had received too little pain medication. 7.5% of patients reported that they must wait for a long period of time for pain medication. For patients who felt they had waited too long for pain medication, the median time to receive pain medication was 10.0 minutes (mean 25.3 ± 36.5; range1-180). 26.1% of patients indicated that, during their hospitalization, their pain treatment was not explained in a way that they could understand.

The results indicate that current pain management for non-hospice terminally ill cancer patients in Taiwan is generally in accordance with the standards proposed by the WHO and the American Pain Society in using the simplest and the least invasive pain management modalities and scheduling doses on a regular base. However, the types of narcotics and the routes and frequency of administering these drugs should be further considered. In addition, the amount of pain medication should be carefully tailored by healthcare professionals to meet the needs (pain intensity) and desires (patients' expectations about the right amount) of terminally ill cancer patients with pain. Timely and appropriate analgesic treatment is recognized as the cornerstone of pain relief. Clinicians' pain-management practices should be explained in a consistent and understandable manner, and respond to requests for pain medication within the expected time frame. By taking the patient's pain intensity and expectations of pain relief into consideration, appropriately selecting analgesics and the route and the frequency of analgesic administration, cancer pain may be adequately relieved. Therefore, unnecessary side effects and resources consumption may be avoided and quality of life may be improved for cancer patients at their end of life.

B. Infection control

Early from the 1980s, the Department of Health had already highlighted the importance of infection control in hospitals, and called up experts both locally and internationally to initiate various plans to manage the problem of hospital infection. In addition to clearly stating the importance of infection control in medical law, infection control was recognized as a high priority in hospital accreditations. The Center of Disease Control established a national infection control consultation task force, published information on infection control, held several conferences on the issues of infection control, trained infection control physicians, nurses, and medical technicians, and requested that all hospitals to establish an infection control committee to set up infection control policies. In hospitals, although infection control specialists take a leading role, nurses who provided bedside care also played very important roles in infection control because they play a significant role in prevent and detect infections from intravenous injections and external tubes. With advances in medical technology, use of invasive treatments becomes a norm, especially for intravenous infusion. However, the vulnerability of patients (i.e., immunocompromised), methods and duration of administration increase the likelihood of infection. Therefore, many hospitals have specific guidelines and committees

overseeing this technology and procedure to control infection. Recently, the Peripherally Inserted Central Venous Catheter (PICC) has been introduced into Taiwan. The standard operation procedure and a rigor infection control system can kept the PICC related infection rates at 1.75/thousand days[32].

C. Accuracy in operations

Surgery is a critical medical procedure in modern medical care. However, operation rooms are one of the most susceptible environments to medical malpractice. The major mistakes in surgeries are primary due to human errors, such as an error in patient identification, surgical site, or error in procedures. All of these mistakes lead to dire consequences. In 2006, the Department of Health set "increasing the accuracy of operations" as a goal in order to ensure patient safety in hospitals and recognized "operation malpractice" as one of the 27 preventable severe mistakes that should not occur in hospitals. Based on studies, failing to set a standard procedure and a lack of final confirmation are the most common errors to occur in operation rooms[33]. In order to accurately identify patients and to avoid errors in surgical site and operation procedures, most hospitals have a "Patient Safety Committees" to setup a confirmation policy during operations. This program increases accuracy for operations. One study showed that the "Operation Patient Safety Check List" can achieve a 100% confirmation of patient identity, operation site, and procedure[34].

D. Accuracy in patient identification

Accurate patient identification is one of the basic and important elements of all types of medical care. To correctly identify patients and prevent any accidents occurring from misidentification, many hospitals have established a "Standard Patient Identification Procedure" and implement it on hospital wards, delivery rooms, long term care units, emergency units, and ambulatory settings[35-37]. The results from a project conducted by nurse to improve patient identification prior to medication indicated that before the implementation, the accuracy rate of patient identification was only 39%, but after initiation of intervention for improvement, the accuracy rate increased to 100%[38]. Furthermore, in addition to the traditional bracelets and anklets, some hospitals have aggressively used radio frequency identification (RFID) for identifying patients[35], such as identifying and tracking newborn babies or psychiatric

Patient Identification before Surgery (Photo courtesy: Nursing Department, Taipei Medical University Hospital)

patients. A pilot study conducted by the National Information and Communications Initiative Committee reported that after applying this system, there is a 100% accuracy rate in preparing and administering drugs[39].

III. Conclusion

Based on the two concepts stated above, continuity of care and patient safety, applied to the most common diseases of malignancies, cerebrovascular disease, heart disease, diabetes, and chronic obstructive pulmonary disease, there are many effective models of care that have been established and implemented in hospitals. Those models of care did show a potential for significant improvement in quality of care and reduction of health care expenditures. However, the majority of studies reviewed in this report were conducted in a single hospital with small sample size. There is a lack of large scale multi-centers and rigorous studies. In the future, there should be more large-scale research programs across populations and settings to test the effectiveness of nursing interventions on patient outcomes. In an era when all hospitals are eagerly to shorten length of stay due to the cutback on the budget for health care expenditures but also at a extreme pressure to maintain a high quality of care, nurses who stand at the frontlines of patient care should seek every opportunity to apply the state-of-the-science of knowledge to guide the development of evidence-based practices to improve the quality of hospital care for adult patients with chronic diseases. By doing so, clinical nurses, nursing leaders, hospital executives, and other interested stakeholders in Taiwan will collectively drive a health care system that is more performance-oriented high quality health care.

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Section II

Maternal & Child Health

Li-Mei Chen

I. General Situation of The Maternal & Child Health in Areas of Taiwan

A. Development of the maternal & child health policies in areas of Taiwan

The definition of maternal & child health under the world health organization (WHO) is defined as: "maternal & child health is the promotion of the health and rights of maternal and child, and at the same time promoting a harmonic living environment under this dynamic changing world". In 1995, the maternal & child health committee designated their goals, thus the importance of the promotion of maternal and child health were seen as a very important task. Article 156 of the Taiwan constitution stipulates: "a country is the foundation of development, and should protect mothers by initiating policies to protect women and children". This shows that that maternal and child health is the cornerstone of societal health. Since 1945, Taiwan state government has implemented (1966.7~1982.6) to encourage midwife practitioners; First stage of the 5 year program to improve maternal and child health (1970.7~1975.6), Second phase of 5 year program (1975.7~1980.6) and third phase of 5 year program (1980.7~1985.6) where all aimed to improve Taiwan state's maternal and child nutrition health plan. Since the 4 year program of NHI, maternal health management, infant and child management and nation health 3 year program 1998.7~2001.12)-health improvement and protection of maternal and children[1], where all health plans for building and improvement of the fundamental structure of the maternal and birth health.

B. Development of maternal and child health in Taiwan

Health indicators are one of the tools used to measure the changes in the health of the public. It is often used as a tool used to measure the development of maternal and child health, the development explained in numbers, are described as below:

1. Number of births, crude birth rate and fertility rate of childbearing age women[2]

(1)Number of births

The statistical information from the National Statistics, Republic of China indicates that the number of birth has been gradually decreasing every year. In 1958, the birth rate was 413,679 people; 410,783 people in 1978; 271,450 people 1988; 227,070 people in 2003; 205,854 people in 2005 and 204,459 people in 2006.

(2)Crude birth rate

The statistical information from the National Statistics, Republic of China

indicates that the crude birth rate has been gradually decreasing every year. In 1958, the crude birth rate was 41.7 in a thousand; 24.1 in a thousand in 1978; 12.4 in a thousand in 1998 and 9 in a thousand in 2006.

(3)Fertility Rates for Women of Childbearing Age

The statistical information from the National Statistics, Republic of China indicates that the fertility rates for women of childbearing age have been decreasing progressively each year. In 1951, the fertility rate was 7.04 in a thousand; 3.7 in a thousand in 1971; 1.72 in a thousand in 1991; 1.4 in a thousand in 2001; 1.8 in a thousand in 2004 and 1.12 in 2005 and 2006.

By looking at the numbers of births, crude birth rate, and fertility rates for women, of childbearing age, the population in Taiwan is gradually decreasing, hence the "childbirth encouragement" is a very important cross-functional policy in Taiwan

2. Maternal mortality rate, infant mortality rate and neonatal mortality rate[3]

(1)Maternal mortality rate

According to statistical data from the department of health (DOH), the maternal mortality rate is reduced to its bottle neck but is still within an ideal range. The ideal range for maternal mortality rate in developing countries ranges from 7~15 in a hundred thousand. In 1958, the maternal mortality rate was 122.91 in a hundred thousand; 54.03 in a hundred thousand in 1968; 22.48 in a hundred thousand in 1978; 9.09 in a hundred thousand in 1988; 8.8 in a hundred thousand in 1998 and 7.3 in a hundred thousand in 2006.

(2)Infant mortality rate:

According to statistical data from the DOH, the mortality rate of infants changed from 41 in a thousand in 1958; 20.71 in a thousand in 1986;9.91 in a thousand in 1978; 5.34 in a thousand in 1988; 6.6 in a thousand in 1998 and to 4.6 in a thousand in 2006. Due to the fact that burial records of stillborn babies in Taiwan are succinct, many new born babies that die are treated as stillborn, and there is also the possibility of parents forgetting to report the birth and death of babies, making the estimation of infantile deaths lower than it might be in reality. Therefore, birth reports have been heavily promoted since September of 1994, and after hard work, birth reports are slowly becoming complete.

(3)Neonatal mortality rate:

According to statistical data from the DOH, the neonatal mortality rate changes are as following: In 1958, the neonatal mortality rate was 18.11 in a thousand; 8.10 in a thousand in 1968; 3.48 in a thousand in 1978; 1.79 in a thousand in 1988; 3.3 in a thousand in 1998 and 2.94 in a thousand in 2006. In the past, failure to report or a lower figure might be reported, causing an underestimate of neonatal mortality rate , however, since 1994, the situation has been significantly improved due to the implementation of the report of birth.

II. Maternal & Child Health Service

A. Maternal health care

1. Prenatal health care services

Since the implementation of National Health Insurance (NHI) since March 1995, the insurance covers ten times prenatal examination. According to the data from Bureau of National Health Insurance (BNHI), the rate of utilization has increased

from 91.92% in 1995 to 198.96% in 1997[4]. In comparison to the results published by Mei-Li Chen in 1996 and 2005[5], 99.4% and 99.5% are considered relatively low, but is a very outstanding result, and is a very positive influence on pregnancy. When care givers perform antepartum examination, besides routine examinations, they will also proactively provide education on the techniques and knowledge on maternal and infant care. Through group interaction and discussion, they will also provide relative health care consultation, helping mothers solve physical and mental problems.

2. Child birth care

The evolution of child birth personnel has changed from "Hsian-sheng ma", "midwife", to gynecologist[6]. Before 1960 (and including 1960), majority of child births are not carried out by medical professionals; In 1960~1970, child births are carried out by midwife businesses ran by individuals or by midwifes that work for the department of health, where they travel to their homes and give birth to the child and at the same time provide relative information on after birth care and knowledge for the public; As medical advance, there are more physicians and that the education level of the public advances in 1970, the number of physicians that practices child birth increases year by year. According to the DOH statistics and maternal and child health statistics[1], the percentage of physicians performing child birth was only 7.79% in 1957; 29.94% in 1967; 64.66% in 1977; 93.79% in 1987; 99.9% in 1997 and 99.9% in 20025. This is the result of years of hard work and effort of gynecologists, striving for better health for maternal and child health. The implementation of NHI in 1995 was also a policy implemented by the government to provide effective care and service from the hospitals and clinics to those who are in need.

3. Breast feeding

National survey results published in 1989 indicated that the percentage of mothers to provide pure breast feeding for a period of a month was only 5.4%, combination of breast feeding and others was 21.2%, which totals a mere 26.6%[7]. Hence, the is the main reason why the government commenced a three year plan to officially promote the concept of breast feeding[1] and also certified the mother-infant amity hospitals; encouraging public and private institutes or public places to set up nursing rooms or breast milk collection rooms. Through the mass media promotion via international breastfeeding week; training for information agents of breast feeding and related breast feeding studies, care personnel have been aggressively promoting a policy of breast feeding, from pre-birth sanitation education to promoting the positives of breast feeding and encouraging mothers to do so. Mothers are encouraged to breast feed upon birth, and are supported in doing so to establish the first intimate connection between mother and child. 24 hours after birth, and with mother and child both in the room, the mother is supported and educated on the breast feeding techniques, then later on followed up to understand the progress in breast feeding and to provide related sanitation education and inquiries. Furthermore, genial relations between mother and child is included as a criterion in hospital assessment (3%) and considered as an assessment index of the mixed review assessment held by the Public Health Bureau[8]. Due to the determination of government units that have worked to improve the situation, studies in 1996 found that it had been raised to 40.9% and in 2003[5], to 63.3% showing significant improvement. However, compared to advanced countries such as the 73.8% in U.S and 84.5% of Canada in 2003[9], there is still room for improvement.

B. Child health care

1. Birth report[10]

In order to obtain prompt, accurate, and complete track of the changes of the birth rate, enhance the time efficiency of the maternal and child health service, and to increase the accuracy of the data regarding to the mortality rate of infants, neonatal, and peripartum, DOH selected Yi-Lan county, Taichung county, and Nantou county as the pilot counties of "birth report plan". This plan was designed so that the clinic/hospital

or institutes that assist in child birth can proactively report any births or mortality to the report system. After several negotiations with the department of interior, "birth reporting procedure" was announced in 1994 together with the new amended "birth certificate" and "death certificate". This paper-based birth report policy was implemented in March 1995 which increased the birth report efficiency. After the availability of this reporting system via the internet, in 2002, the 24 hour "web-based birth information transmission system" was established. Trial promotion was implemented in 2003 (paper and internet based); Nation wide birth report and information transfer via the internet was implemented in 2004.

2. Child prevention health care service[11]

Regular health examination and evaluation is a good method to discover child disorders in the early stage. The first stage of the 5 year program on maternal and child health reform was implemented (1970.7~1975.6) and explicitly stated "infant health examinations"; and in the second stage of the 5 year program on maternal and child health reform (1975.7~1980.6) it was also explicitly stated that pediatricians be established. Since the launch of NHI in 1995, implementation measures of prevention health was announced, which officially covered child prevention health care service, those children under the age of one are reimbursed four times each year, with intervals of two to three months; Children above one years of age and under three are reimbursed once; Children aged above three and under four are reimbursed once, which adds up to six times. The service includes body check up and health consultation, and adheres to the Department of Health's national health insurance plan. Since July 2004, the number of reimbursement has increased from six to nine times, and the service age has also increased from 0-4 to 0-6. Today, as the increase number of foreign spouses, preterm birth, low birth weight, congenital defect, delay in development and other incidences, Bureau of Health Promotions under Department of Health promoted "Primary health units infant health management model pilot program" in 2006-2007, using Taipei and Chang-Hwa counties as testing grounds, and furthermore established the Public Health Bureau infant management work guidelines, related forms and guiding (assessed), educational training, guidance (assessed), and posting results for group analysis. The test period lasted only a year and much time was spent on communicating, compromising, and correcting. It is hoped that promotion can continue for this project to bring more basic sanitation and healthcare units to join and establish consensus for superior child prevention health care service. This can hopefully be implemented in other cities and counties to raise the quality of child prevention health care service, and to promote and protect child health.

3. Immunization

As indicated by the WHO, there are six infectious diseases that are threatening children in developing countries, for example, diphtheria, pertussis, new born tetanus, polio, measles, and tuberculosis, which can be prevent by vaccination, hence decreasing the infant mortality rate. Taiwan was facing this problem back in 1950 to 1960. Today, the vaccination rate is higher than 92%. The vaccination of chickenpox since 2004 and the Department of Health' s vaccination schedule is a main focus of this topic. Moreover, hospitals and clinics also provide self-paid three-in-one vaccine (diphtheria, pertussis and tetanus), four-in-one (diphtheria, tetanus, acellular pertussis, and Hameophilus influenzae type B), five-in-one (diphtheria, tetanus, acellular pertussis, hameophilus influenzae type B and polio), and six-in-one (diphtheria, tetanus, acellular pertussis, hameophilus influenzae type B , polio, and hepatitis B) for individuals to select. The medical personnel does not only inject the vaccine, but also provide information on things to look out after the injection and also disease related health education.

4. Oral Health

The DMFT for children in Taiwan is considered to be slightly higher than average. According to the results publish by Bureau of Health Promotion, DOH in 2006, the number of tooth that are decayed was 2.58 per child and that the prevalence of tooth decay was 37.30%. This was a significant improvement compared to 2003, where the number of tooth that are decayed was 2.74 and the prevalence was 69.32%. However, compared to the nearby countries such as 1.7 in Japan in 2005 and 1 in Singapore in 2004, and the target index set by the WHO oral cavity in 2010, the number of tooth decay for children under 12 to 2, there is still quite a distance. The importance of how to enhance the oral cavity hygiene of children, regular dental check up and the use of adequate fluoride is very important.

5. Posture establishment for children at the age from 0-6[12]

The growth and development data is a very positive and sensitive index in maternal and child health. The best index used to track the development and growth of children is the height and weight indices. Other than that, the circumference of the child's head, body mass index (BMI) and weight for length index are also important indexes to monitor the growth and development of children. Previously, Taiwan used the growth curve from studies in foreign countries as pediatric clinical data. Since 1980, the Executive Yuan established a standard method to measure the height and weight of children aged from 0-6 and conducted pioneer research. In 1982, 1996-1997, and 2002-2003, child posture standard research was conducted and that growth curve was established and published accordingly, which built the a reference standard for Taiwan's child posture, which serves as the clinical reference applied in national wide pediatrics and family medicine.

C. Health care of new immigrants

According to the data published by the Department of Interior[2], spouse of foreign nationality (not including origin of mainland China) accounts for 7.1% of total marriage in 1998; 11.74% in 2004; 15.47% in 2004; 9.78% in 2005 and to 6.68% in 2006; which clearly identifies that the trend in the past two years have slowed down. Spouse of foreign nationality (including China, Hong Kong, and Macau) gave birth to 10.66% of the total birth rate in 2001; 12.46% in 2002; 13.37% in 2003, and decreased to 13.19% in 2004; 12.89% in 2005 and 11.7% in 2006. Since the age of marriage and birth giving are lower than local female residents in Taiwan and their obstacles in language culture, all might lead to obstructions in health care. In half of the foreign spouse married, the spouse gets pregnant after moving to Taiwan in a short period of time, therefore it is important to give medical information and aid to those people who carry the children of the next Taiwanese generation.

Hence, on September 10, 2004, the government announced "Foreign spouse and mainland China spouse care and counsel measures", in which the main focus was placed on the "medical hygiene and health care" by DOH, targeting spouse of foreign nationality. Therefore, Bureau of Health promotion, DOH drafted the "foreign spouse child birth safety management plan"[13], where three main targets were set with 7 implementation strategies and work contents. The following are recommending

Health Education on Maternal & Child Health (Photo courtesy: Community Medicine Center, Taipei Medical University Hospital)

by "foreign spouse child birth safety management plan"[13]:

1. Promote and protect foreign spouse maternity health

(1)Protection during pregnancy

Health check before pregnancy, consultation providing in regards to optimizing the genetic inheritance of the infant and inquiries regarding to genetic inheritance, accept NHI pregnancy examination, and providing subsidy for genetically inheritance screening and high risk pregnancy for filing.

(2)Postpartum care

The correct way of breast feeding can be taught by nursing staff and providing guidance for regulated birth period and balanced diet

2. Health management services provided to foreign and mainland China spouses include

(1)Infant health care

Provide accurate infant health care knowledge, providing neonatal screening to those who are suffering from congenital metabolic disorders, congenital malformation, premature delivery, and under weight and provide necessary guidance.

(2)Neonatal and other hygiene guidance

Encouraging prevention health services and tracking examination result by NHI; encourage prevention vaccination on time; add non-staple food guide, oral cavity care, and injury prevention.

Other than that, problems that arise due to language and cultural barriers can be overcome by well-trained professional translators in each city, to benefit the birth and child health management.

III. Future Prospects

A. Encourage birth

According to the survey of occupation study of Taiwan mothers done by DGBAS, Executive Yuan in 2000 and the census studies by Ministry

of the Interior in 2006[2], the age women giving birth to the first child was 23.0 in 1980; gradually increased to 24.9 in 1990; 26.2 in 2000 and 28.1 in 2006. The total number of births in 1980 was 2.51 which gradually decreased. In 1990, the total number of births decreased to 1.81; 1.68 in 2000 and 1.12 in 2006.

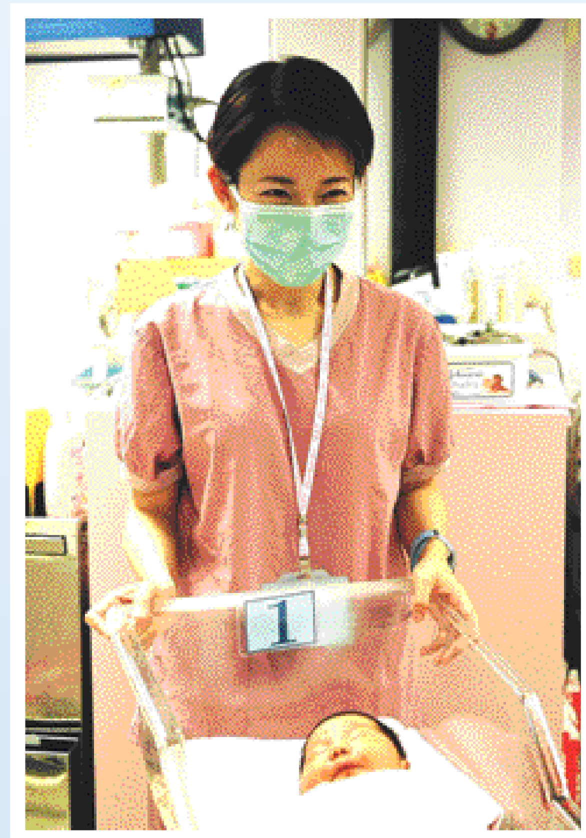
In this new generation with emerging values, as Professor Chi-Liang Yang provided, the new mindset of singles "Five NOs: no marriage, no children, no support, no lives, and no prospects", is getting worse today. Low birth rate is a common phenomenon in developing countries; Taiwan is also facing the same problem. Moreover, the society, economics, education, family structure, and values are changing rapidly, causing the age of marriage to be delayed.

Several problems such as aging population, insufficient labor force, competitiveness amongst countries, increased medical expenditure are derived from low birth rates. To cope with low birth rate, Bureau of Health Promotion, Department of Health is very actively looking at experiences from other countries and implemented and promoted the birth encouragement and health education campaign and at the same time plans a birth advisory network, maternal and infant network to enhance prenatal and infant health care system. Furthermore, Bureau of Health Promotion is also collaborating with Ministry of Interior, Council of Economic planning, and other relevant ministries to discuss policies such as child care services, flexible working hours of women at childbearing age to enhance the willingness of the people to have children. Hopefully through health education, to enhance the idea of "reshapes birth family value", "responsibility shared by both genders in marriage" and "Love your life and respect legacy", will improve people's desire to have children, and to alleviate the country's pressure in demographic structure[14].

B. Establishing regional perinatal care system

New born deaths accounts for around two thirds of the infant mortality rate in developed countries; this is the same in Europe and USA, where four fifths of the death occurs after one week after birth. Studies indicate that the main cause of infant and new born mortality rate is due to "perinatal morbidity", where most die from preterm birth or low birth weight. Prevention and avoidance can be achieved through adequate health care protection.

The aim of the formation of Regional Perinatal Care System15 is to minimize the mortality rate of neonatal and incidence of disease infection, and effectively use the handy access to health resources to satisfy the needs of the maternal, embryo, and neonatal. Therefore, in accordance with this objective, the Taiwan region can be divided into several regions, at different operations level, through integration of different expertise, performing its function and responsibilities. Through early diagnosis of abnormal disorder to enhance the health care quality, and the adequate use and allocation of limited medical resources as well as the early usage of high technology methods to maintain and promote the health of maternal, fetal, neonatal, and infant health. This also serves as the objective and purpose of establishing Regional Perinatal Care system.



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Section III
Women's Health Care

Shiow-Ru Chang

I. The Origin of Women's Health in Taiwan

When it comes to inflicting excruciating pains on the women of China or Taiwan in history, no other way of torture had done more harm than foot-binding. According to records in "History of Taiwan", the turning point in women's health was believed to be the "Anti-foot-binding" movement initiated by Dr. Huang Yu-Jie of Taipei through "Natural Foot Association of Taipei" in 1900. The society at that time in Taiwan responded to this movement with great enthusiasm, therefore, women born after 1910 were basically liberated from the misfortune of foot-binding (Figure 1~3). This social movement was considered a liberation to women's body, similar to American women of more than 160 years ago asking to be freed from wearing "corset" in search of "healthy life" proposed by women's groups of that time. These two movements share many similarities but the true meanings they exemplified were even more profound[1].

What was the process that legalized the role of women as health care providers in Taiwan's society? The earliest form of systematic training and education for nursing staffs in Taiwan could be traced all the way back to the third year of Japanese colonial rule (1987)[2]. Training facility was set up inside the predecessor of National Taiwan University Hospital. Another fact that had cast significant influence on the advancement and development of women's health in Taiwan was midwifery education[3,4]. Formal midwifery education and certification program were established after the Japanese took control of Taiwan under colonial rule. Although the midwifery training facility opened back in 1902, but the training was only available to women of Japanese nationality; it was not offered to women of Taiwanese nationality until 1907 with 10-15 individuals receiving the training each year[5,6].

It is evident that the advancement of women's role as health care providers was first initiated by the colonial government through implementation of official policies, and this is different from the women's movement in USA as it was initiated by the public. Nevertheless, development of women's health in Taiwan and USA did share many similarities, and that is both promote "women's health" through standardized nursing, midwifery and medical education. Backed by formal education of professional disciplines, the pioneers in women's health in Taiwan not only enhanced their capacity and status in society, they also improved women's health. Most notable contribution came from midwifes (Figure 4). Thanks to professional midwifes, women in Taiwan at that time gave the responsibilities of dealing with childbirth, nursing and care to formally trained midwifes instead of those untrained individuals as in the time before. Such transformation had made great contribution in reducing number of death caused by childbirth among women and infant mortality rate of that time (Figure 5). Unfortunately, this progress of advancement began to diminish and disappear as the result of drastic changes in politics, economic, technology, education and culture that occurred after the KMT administration took over the control of government in 1945[3,4,7].

II. The Movement of Women's Health in Taiwan

Since 1945, after suffering from a defeat in China, the KMT administration retreated to Taiwan, this had caused drastic changes in the local politics, culture, language and education, the "women's health" movement promoted by a few women leaders from the colonial era was suddenly cut short. Soon after KMT administration arrived in Taiwan, martial law was implemented thus any social movement advocated by private parties was strictly prohibited. Promoting women's health since then has become the responsibility of the government.

During the 50 years of KMT administration, due to the unique political circumstance in Taiwan, any voices or concerns regarding "women's health" were generally absorbed or spoken by a government that represents a strong father-figure (patriarchy). This phenomenon was not something that advocators of "women's health" hope to see. In 2000, the long-term reign of KMT was discontinued after DPP administration took control of the government; entering the 21st century, the development of women's health movement made a significant advancement as "Equal Sex Act" was passed by Legislative Yuan in January of 2002. The law requires enterprises with 250 or more employees to have day-care service for children under 12 years of age. This has significant meaning to working women as it provides a sense of security for their work.

Although the development of "women's health" underwent different implementation process in Taiwan and USA, but they share certain similarities in the meanings behind various topics: strong emphasis on improving "childbirth health" in the early stage; as education level of women improved and participation right in social events strengthened, issues promoted gradually extended to women's right to medical attention; followed by a rising awareness of feminism which entails prevention of domestic violence and care services for working women[8].

The following table has listed important milestones of "women's health" movement in Taiwan during 1945 and 2007.

Table 1
Commentaries of Women's Health in Taiwan

Year	Key Milestones
1945-1949	• Revision of "Midwifery Act" passed and implemented in Taiwan. • In August of 1949, official enrollment began at "Senior Nursing Vocational School", first principal was Mrs. Chen Cui-Yu, the school was a subsidiary of National Taiwan University Hospital.
1950-1959	• A total of 2 female doctors graduated from National Taiwan University Medical School in 1953. • "Nursing Department" was established at National Taiwan University Medical School in 1956, enrollment was open to female graduates of high schools through national college entrance examination. This had brought nursing education in Taiwan to higher education level. • In 1959, "Women and Children's Health Research Institute of Taiwan" was established, the institute was headed by Mr. Yan Cun-Hui, with its main responsibility to promote "family planning".
1960-1979	• In 1968, Ministry of Interior passed "Family Planning Act of Taiwan". In order to fully promote family planning, this plan made all sorts of contraceptive devices available to women in Taiwan.
1980-1995	• On June 20 of 1984, Legislative Yuan passed "Eugenic Health Care Act" that legalized conditional "abortion".

1980-1995	• In 1985, cross-departmental "Research Institute of Women" was established by Population Research Institute of National Taiwan University, a series of seminar on women's health was conducted. • In 1987, the President declared lifting of "martial law", freedom of assembly by people was no long restricted, many women's groups were established soon after, they included: Awakening Foundation, Warm Life for Women Foundation, End Child Prostitution Association, Assistance for Women Foundation, Homemaker Environmental Protection Foundation, Modern Women's Foundation and Garden of Hope Foundation, etc. • On May 17 of 1991, "Nursing Staff Act" was declared by the President, nursing staffs were allowed to open "care institution", including nursing home, care institution for women after childbirth and providing domestic care service. "Domestic care service" became qualified for compensation by Universal Health Care in 1995. • In 1992, "4 year plan of promoting breast feeding" was initiated by Department of Health. • In 1994, "Domestic Violence Prevention Act' was passed by Legislative Yuan. • In 1995, first "Women's health white paper" was introduced at a seminar chaired by Mrs. Lin Cheng-Zhi, female government official of the ruling party at that time.
1996-2000	• In 1996, Department of Health approved the import of RU-486 and usage of this drug must be under doctor's supervision and within 7 weeks of pregnancy. • In 1997, after the advocation by female legislators, "Sex Violence Prevention Act" was passed. • On May 6 of 1997, "Women's right advocacy commission of Executive Yuan" was established. • On January 22 of 1997, "Sex Violence Prevention Act" was passed. • On June 24 of 1998, "Domestic Violence Prevention Act" was passed. • In 2000, KMT lost control of government to DDP. Mrs. Annette Lu became the first female vice president in the history of ROC, Mr. Chen Shui-Bian became the 10th President of ROC. • In April of 2000, Department of Health declared "Women's health policy". • On May 8 of 2000, Women's right advocacy commission of Executive Yuan passed "Blueprint for women's policy for the next century". It entails: basic right to life for women, freedom, self-control, right for education, right for political participation and right to work. Content of blueprint included the following 8 chapters: 1. personal safety of women; 2. education for women; 3. women's health; 4. work and economic for women; 5. poverty and welfare of women; 6. political participation of women; 7. women and the environment; 8. women and media.
2001-2007	• In January of 2002, "Equal Right to Work Act" was passed, it protects women's job security from damage by care for family or reproductive capacity (for example late shift job or injunction for dangerous work), it enables women to nurture the next generation to become new force of labor (i.e. protection for pregnant women). Its spirit is to provide working women with day-off for nursing, day-off for physical needs, time for breast feed as well as prevention of sexual harassment and women's health agenda…even men get day-off to accompany wife for childbirth. • On January 9 of 2004, Women's right advocacy commission of Executive Yuan passed "Outline for women's policy" and its fundamental principles: both sexes are equal. The policy includes: women's welfare and action plan to help them stay clear of poverty, women's health and medical care, personal safety of women, etc. • On June 23 of 2004, "Equal Right to Education Act" was passed. • On February 5 of 2005, "Sexual Harassment Prevention Act' was passed.

III. Patriarchal Medical Care System and Patriarchal Health Policy

Modern medicine is centered on biomedicine that emphasizes on "proper function of organs", comprehensive care of health is more of a slogan than actual practice. Medical system has always positioned medical professionals, especially the doctors, as the authority while treating patients as "ignorant beings"[9]. Women under the influence of the structure and culture generated by a father-figure (patriarchy) based society are easily depressed. When seeking medical attention, they are often given some sorts of placebos, pain killers or anti-depressant pills; women usually transform psychological pressure to physical discomforts for the sake of seeking medical attention.

Those working in the authority level of professional medical care providers are mostly men, and male doctors often evaluate and handle women's experiences and feeling from what they believe to be an objective, scientific perspective; they ignore the fact that there is limit on medical knowledge, especially when local research and development of women's illness is in an even more serious shortage. Medical treatments that come from a strictly scientific perspective are more than likely biased, arbitrary in nature and unable to explore the whole picture that affects women's health, medical opinion resulted from such biased, arbitrary approach are vulnerable to misjudgments or even mistakes.

Figure 1. **Bao Yu and Mei Nu (Photo courtesy: Jen-Shiu Fang)**

When interacting with female patients, most male doctors often take a discriminative approach continued from a father-figure based society by having preconceived notion of women being naturally sensitive, weak and emotional, for example, painless childbirth has not been actively promoted because some doctors believe mothers without going through the pains of childbirth would not truly love their child in addition to the fact that male doctors are unable to imagine the pain of childbirth.; in other words, the definition of "healthy women" is defined by male care providers and women's opinion do not count. What's more interesting is that the very few number of female doctors generally follow the footsteps of their male counterparts to exemplify their professional capacity in medical decisions and they tend to isolate their experiences as a woman, otherwise they would be regarded as not objective or having lack of professionalism[8].

IV. Women's Health and Feminism

Women's health movement and feminism share deep roots. Feminism was first initiated by a handful of women in response to inequalities experienced by women, believing the fate of women is in the hands of men and this had attracted attention to topics concerning genders, this eventually led to many feminism-based movements that tend to improve women. At that time in USA, European countries as well as countries around the world, the so-called women liberation movement became popular. Women's right movement started between 1960 and 1970 focused on advocating women's health, feminism began to surface in 1960.

French writer Simone de Beauvior had profound influence on feminism, her school of thought is believed to be the feminism of existentialism. Beauvior[10] viewed women as

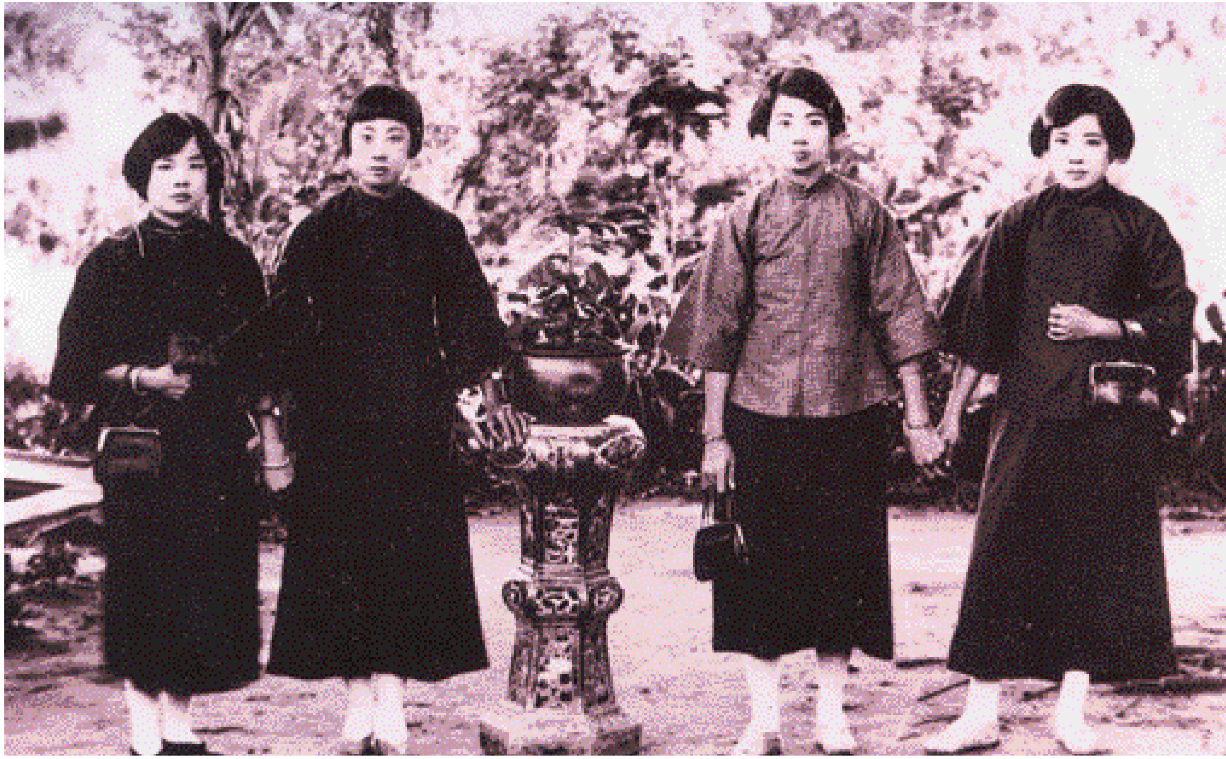

Figure 2. **Female performers of Gu-Yue House (Photo courtesy: Jen-Shiu Fang)**

ovary, as the inessential, as the other and as the object; she agreed with the founding principle of Sartre's Existentialism: conflict between self and other is the source of oppression on women; the right to choose must be based on strong self-consciousness, sufficient courage, confidence and hard works[11]. She proposed women should be empowered; empowerment for women's health and nursing staffs are empowered to take control of women's health. Schools of feminism, other than feminism of existentialism, there is also liberal, Marxist, radical and psychoanalytic feminism.

Even though there are many viewpoints in feminism, they share similar focus on cultural aspect of society; the oppression women suffered in life, its goal is to facilitate equal competition, cooperation and harmony among men and women. Scholars of feminism are set out to look for respect, understanding and strengthened empowerment[12]. The methodology of feminism is to have women share their experiences; research is focused on process, the difference in class between researcher and respective subject is minimized to facilitate trust and to openly discuss and reflect on the life of women[12].

A feminist model for women's health care

Oppression of gender exists in all aspects of women's life and it has crossed the boundaries of modern culture, economic system and even health care services.

Key concepts of the application of feminism in women's health are[13]:

1. Clinical practice and investigation are to focus on women's perspective and experiences, clinical staffs are to listen to patient's life experiences or the voice from patient's world.
2. Feminism is attempting at changing the power structure of medical care system, in other words, changing the relationship model based on father-figure.
3. Women's body has been objectified, body and mind have been separated, and this could be the cause of certain diseases such as anorexia.
4. The goal of feminist practice is to improve women's health on an individual level followed by improving the health of all women.

In 1990, National Institutes of Health of USA established a dedicated office for researching women's health to emphasize

the lack of research on the subject; this office is committed to conduct research topics pertaining to women's health and its effort is supported by a dedicated budget. Although this trend of development is clearly centered on topics associated with women's health but it lacks the perspective of women to implement comprehensive improvement on health issues. In light of the circumstance, it is definitely important to have advance technology on treating medical condition but to incorporate it in a standardized process of pregnancy or childbirth, and to view childbirth as an abnormal, medical condition and to over-stress the danger factor in childbirth that leads excessive medical treatment (i.e. shaving of perineum, enema, episiotomy) and women's inability of having a satisfactory childbirth experience.

Radical feminism is founded on a women-centered perspective, proposing an alternative philosophy of health care, nursing staffs could apply this alternative philosophy in dealing with health care for women and it provides direction for research in women's health care. Meanwhile, it examines existing issues related to women's health and the partnership relationship between nursing staffs and feminism that makes women voice their concerns[14]. Radical feminism is different from liberal feminism whereas it is dedicated in fighting for equality between men and women on all aspects; radical feminism focus on analyzing women's past, present and future experiences, its research structure is founded on women's perspective. For example, if the perspective of liberalism is used in examining the frontline health care, the same or similar services are provided regardless of gender to prevent or identify illness, this basically removes any inequality between genders. On the other hand, if the perspective of radical feminism is taken to design health care services, different design might be taken into consideration in preventing and identifying illness for men and women in an attempt to offer health care service that better fits the needs of women in life, it would better satisfy women's health requirement[14].

V. Women's Health and Nursing

There have been many issues hidden behind women's health for nearly 50 years, health issues of women in Taiwan are limited to only reproductive system[15]. It was not until the time after the 2000 Presidential election that the content of women's health policy started taking the gender factor into consideration, for example: proposing women's health is in worse condition than that of men's, traditional women's health policies ignore social, economic and cultural influences in women's health.

A.Women's health and nursing administration

To ensure gender factor is incorporated in women's health policy, any policy making process should include women's participation. Nevertheless, traditional role of women is to stay home as homemaker and not to get involved

Figure 3. **Sisters of A-Ying (Photo courtesy: Jen-Shiu Fang)**

in public affairs, therefore, many policies related to women's health are in control of men. The fact is that many foreign, domestic experts of women's health are nursing staffs of professional disciplines, how to have more of these experts to participate in policy making process while teaching them gender awareness is the top priority of nursing administration.

Stivers pointed out female leaders must deal with the conflicts the exist between leaders of the respective unit and expectations for women[16], for example: traditional expectation of leaders is rational and determinant, however, traditional view on women's role is submissive, leaders in nursing administration often lose direction struggling between these two different roles. Research of Caroselli indicated that nursing administrators who reveal more female characteristics posses less authority[17].

If nursing administrator could resolve conflicts between the roles of traditional women and leaders using the foundation of feminism while strengthening the roles of each administrative position, this would be beneficial to the making of women's health policies. Take the example of feminism of existentialism, nursing leaders play the role of "others" in public, it is a role recognized by doctors, privately, the same individual also plays the role of "others", a wife in the eyes of a husband, the same just like many other women, the existence of self is very rare. Beauvior believes the fate of women should be in the hand of each woman[11], that being said, nursing leaders are to encourage nursing staffs or women to recognize respective value of existence regardless of circumstances while being a woman who controls her own destiny.

B. Women's health courses and feminism

Current curriculum of nursing programs on subjects pertaining to women's health at domestic institutions, the required courses are mainly about traditional schools of reproductive system, and course content is more than likely encompassing pregnancy, menopause and care provided by nursing staffs, many schools are still in complete focus on courses of reproductive system as mentioned in this section. Out of the 16 schools that offer nursing programs, only four of them (Yang Ming University – Nursing Department, Chang Gen University – Nursing Department, Kaohsiung Medical University – Nursing Department, Fooyin University – Nursing Department) offers courses on women's health in addition to reproductive system of women. Nursing Department, Kaohsiung Medical University even incorporates study of women's health in its graduate school program, however, those courses are only available as electives and whether their respective content is in line with the thoughts of feminism has not been confirmed. Students of nursing programs still have the tendency to approach women's health issues from a traditional perspective that emphasizes on reproductive system and

Figure 4. **Wedding of a midwife Graduating from Ponlai women's study center, Wu Tsai Chu is, after midwife Chen Hsu Leng, an additional midwife in her town. She had many warm stories from her youth, but unfortunately her husband was draged into the army soon after their marriage and never heard from again, leaving this sad wedding photo (Photo courtesy: Chu-Chi Tsai Wu)**

not being able to examine the source of issues related to women's health from a political, social, economical and cultural standpoint. Therefore, it is difficult to derive a permanent solution to the issues of women's health. Callister[18] has pointed out, that nursing students are able to come out with the following benefits after taking courses that have incorporated the elements of feminism:

1. Enhance self-awareness; understand how to improve one's own life and the life of others.
2. Able to understand how social trends influence women's health
3. Able to become an active health care provider
4. Able to integrate community service activities
5. Able to enhance professional capacity of nursing

In addition, according to research results from Boughn & Wang[19], women's health courses founded on feminism enable nursing students to change their attitude and belief towards their respective professional disciplines plus these students are more likely to confirm their role as nursing staff and as a woman.

Women's movement in Taiwan started since 1960 and it has lasted for more than 40 years, however, medical system has long been in the control of doctors that represented a father-figure, this meant rare communication between nursing community and feminism groups. Over time, nursing education failed to enable students with the capacity for taking parts in political activities, therefore, nursing students become accustomed to work in a system of authority that represents by father-figure, and they end up as nursing staffs without any opinion or voice. In light of that, how to encourage nursing staff to regain self-awareness is a top priority in need of further investigation by the nursing community.

Figure 5. **Healthy baby contest held in Yan-Shui Port (1940)**
Salt water port industries jointly held the infant health competition. The white, plump little babies are adorable in their mother's arms. This picture taken afterwards shows that win or lose, the babies are still a mother's treasure (Photo courtesy: Teng -Sung Wu)

C. Women's health and nursing studies

Classification of nursing studies and women's health is mainly in the areas of "women' s reproductive function" and "role playing", Yu[20] has analyzed in women's health studies, it was discovered that, most studies are still revolved around reproductive system and emotional illness, therefore, it is recommended that studies on women's health should be directed on physiology, psychology, development, role, occupation, cultural and political aspects. Wang[21] has also stated that, studies on women's health should take the historical, political, cultural and socioeconomic elements into consideration to discuss respective life experience. Other than approaching issues of women's health from different perspective, actual practices are just as important, especially when more and more experts of nursing studies begin to pay more attention to the cause of illness as well as experiences acquired during medical services[22, 23]. In recent years, there has been a few nursing experts who began to see women's experience related to body change and self-awareness accumulate from a psycho-social-cultural standpoint[24]. Therefore, it is safe to say that studies on women's health have become more diversified while women's subjective experiences are the foundation of philosophical research framework.

VI. Future Prospects

Overtime, women's health policies and discussions have been focused on improving women's reproductive system, as economic, political and social changes take place, employment opportunities for women increase while women's status in society gets to a higher level. Thanks to the promotion of feminism, health requirements with respect to women' s physical, psychological and mind as well as how to improve health conditions of women gradually receive more attention from the general public. Although certain medical schools, public health schools or nursing programs have started offering courses pertaining to "women's health", nevertheless these efforts are still concentrated on the very few numbers of individuals who are interested in women's health and the subject is being advocated on an individual basis.

Different schools of feminism are beneficial to nursing school students in applying their judgments to understand traditional topics of women's health and oppression women suffered in political, economic, social and cultural aspects of life. Through these schools of thoughts, nursing administrators and researchers are able to assist nursing staffs and female patients in regaining their awareness and continuous growth. Therefore, a complete overhaul in curriculum and education of nursing programs is in line for serious discussion for this century; meanwhile, it is necessary to have feminism experts and feminism publications join together to become a political movement. As for any research or practice concerning "women's health", we need to conduct thorough examination and challenge any questionable or doubtful diagnosis. We expect feminism to spread to every level of nursing community in hopes of producing nursing staffs who are empowered to compete in a medical system represented by patriarchy based authority thus enhancing the status and strengthening the power of clinical nursing staffs. The ultimate objective is to apply what we have learned in revolutionize traditional practice to improve women's health on a fundamental level and bring life of better quality to women.

In the end, it is our expectation that dedicated agency on "research of women's health" would be established by the government and supported by budget, integrating experts of women's health from nursing community and professionals from different fields, apply a "women-oriented" philosophy in research structure to design studies meeting the demands of women's life and experiences in order to devise women's health policies that actually satisfy the requirements of women in health care services.

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Section IV
Long-term Care

Lee-Chen Lin

Growing old is natural in everyone's life with its' own missions and needs in development. With the imminent arrival of a senior society and the transition of families having fewer children, the future holds a foreseeable slower growth in economy compared to the growth in population. With senior medical expenses much higher than in their youth, coupled with the transition of Taiwanese society, the change in family structure, and the increase of women in the work place, the question of how to have good medical care to keep healthy people healthy and stop the decline of health of those who are unhealthy are all problems that must be addressed. Furthermore, another important topic is changing the perception towards the senior population. Encouragement should be given to show care, kindness, and respect to seniors to meet their needs instead of discrimination. For example, helping seniors to raise their basic standard of life and maintain their self respect to promote dignified independence, integrate resources from different professions and administrative departments to establish a complete, multi-faceted, and sustainable service to elders. Shaping the society to be one that is friendly to seniors is one of the most important topics of the government's development in medical care benefits.

I. The Current Status of Long Term Care in Taiwan

Due to the decrease in birth rate, the baby boomer population is beginning to enter their senior years. The senior population in Taiwan as of February, 2007 stands at 10.04% of the total population[1]. In 2006, the average life span of males is 74.57 years, with women being 80.81 years[2]. In 2016, the estimated population of senior citizens will surpass 13%, and the youth population (under 14 years) will be a smaller percentage of the total population in comparison, with the gap widening as time goes by. Besides strengthening the health promotion for the arrival of an aging population, the problem of chronical diseases causing varying levels of debilitation and the need for long term care for these patients is a focus of the industry, government, and the field of medicine. According to a census by the Directorate-General of Budget, Accounting and Statistics, Executive Yuan in 2000, approximately 338,000 people in the Taiwan area need long term care, with 53.9% of these being seniors over the age of 65 (approximately 182,351 people, 9.7% of the senior population). The debilitation is caused by the chronical diseases that are associated with aging, therefore increasing the need for long term care. It is estimated that 245,551 people (with early aging in this group taking 5% of the senior population) will need long term care in 2007, more than 270,000 in 2010, and more than 327,000 in 2015, with those needing long term care nearing 400,000 in 2020. Besides the strengthening health promotions, the planning and implementation of the long term care system should be the most important task to be addressed to counter the ever increasing debilitated population.

A. Comprehensiveness, consistency, and continuity principles of long term care

Long term care is a broad term, but it

is about providing a long period of care for those who have been debilitated but still wish to improve their own independent health and related support services. The services include physical and mental health, socializing, and support service. The services range from bedside visits by doctors to sponge baths, and the service is provided through formal or informal arrangements, depending on time and the patient's needs. Patients requiring long term care vary from children with birth defects, adults who need a long period for recovery, youth plagued by chronical diseases and seniors with multiple complicated symptoms. Debilitation is the main reason for long term care. Those who could take care of themselves, even if they possess a physical or mental health problem do not require long term care. On the other hand, those with physical or mental problems who cannot take care of themselves need help.

For some, long term care happens during specific periods, such as when a patient needs to recover from external injury thus needing less time, such as 4 to 6 months. Care may end due to recovery from disease, disease becoming acute, or if the patient has passed away. For others, long term care is without expiration. The goal of long term care is to help a patient maintain their best ability of autonomy, unlike the goal of acute care, which is about full recovery. Long term care is usually given when a patient's situation is deemed unrecoverable, and may deteriorate with time. In reality, care is not about recovery, but its' goals are to help the patient do what they can for themselves depending on their individual conditions.

As stated above, the debilitated does not only need medical and psychological care, but they also need help with their daily lives, to be a part of their community like other normal people. Therefore, continuous, united, and complete services are the core values of long term care in order to fulfill the government's focus on "localized aging." In terms of fulfilling the continuous need for care for the debilitated, we must promote discharge planning, acute healthcare medical facilities, and reduce the amount of acute hospitalization and re-hospitalization cases. To meet the consistency of care and extend "localized aging", various service plans are currently being aggressively promoted, such as: establishing home care and rehabilitation, promoting community rehabilitation and nutrition, food delivery services and others which have decreased the usage rate and expenses of care facilities. Due to the fact that debilitation care is a long and arduous road, day time care and break services can provide a more complete model of care in developing a friendly environment for the debilitated and support in the repair of their environment.

B. Long term care service models in communities, homes, and facilities

Depending on the level of care, long term care services can be divided into technical and non-technical care services. If categorized by service location, it can be divided into facilities, communities, or home care; if categorized by type of care then it can be divided into medical care, or care of daily life. With different areas of care, the type of care is also labeled differently. Care in facilities is called nursing homes; care in communities is day care or community rehabilitation; and care in homes is called home care. Facility care, depending on the degree of care can be split into nursing homes, care facilities, and temporary care facilities; community care can be split into day care, temporary day care, transportation services, break services, home care, and residence care; as for home care, there are services such as live in home care, household chore services, home repair, in house service, meal services, emergency aid, and temporary home care, and others.

Although "localized aging" and "normalized living" are currently the main goals of long term care, but the current National Health Insurance only subsidizes for facility and home services, not home care. The medical system has included the home care of patients with severe diseases and the community rehabilitation of mental patients as covered by National Health Insurance. However, the responsibility of care is mostly on individuals or families, with lack of community services, and the quality of facility services under suspicion. In order to ensure the quality of Taiwan's nursing homes, the Department of

Health listed "strengthening the service quality of long term care" in chapter 5 of its "3 year plan for the long term care of elders" released in 1999. Under chapter five, tasks such as "full scale investigation of nursing homes and to give suggestions, and commend superior facilities," and "commission related professional groups to establish a standard of assessment, create an assessment system through research and discussion" were listed as goals in item 4 and 5. In the same year, Taiwan Long-Term Care Professional Association was commissioned to begin assessment of nursing homes, and in 2003 these assessments were taken to a national level. Since then, the Ministry of the Interior has scheduled national assessment of care facilities every 3 years. In the past, the focus of assessment was on equipment and facilities, but now the focus has shifted to the safety of care, human rights, and quality of life for residents.

C. Characteristics of single-entrynel long-term care

There are many types of services provided by long-term care, and the type of service will differ depending on the degree of severity of the patient's disease, the ability of home caretakers, individual ability, and the home environment of the patient resulting in difficulties when accessing these cases. In order to provide continuous and human service in this complicated and multifaceted long-term care system, there must be a single channel to provide assessment and transfers to provide a consistent, continuous, and effective long-term care service. The goals of long-term management centers are to to provide a single channel service in the consolidation of related people, situations, and resources to ensure appropriate long-term care. The focus of long-term care service is the debilitated, meaning those who have trouble functioning in their day to day lives and need assistance, which includes (1) seniors over 65 and the ADL debilitated; (2) seniors above 65 who are IADL debilitated and live alone; (3) aborigines between 55-64 who are debilitated; and (4) the mentally and physically disabled between ages 50-64 who need long-term care[3]. Besides the debilitated, the characteristics of those who need management are: (1) cases where the problems encountered are complicated and need the support of various types of care personnel in order to solve; and (2) cases that have difficulty in obtaining resources or in the utilization of these resources. Through long-term care management, the effective use of resources, management of costs, consolidating care services to the specific needs of individuals/families, and protecting and respecting an individual's right to autonomy are the factors needed to maintain the continuity of care services.

During the daytime, send the disables from home to rehabilitation institutions for day care for them to receive nursing service, socialization and rehabilitation skill trainings and leisure activities in order to prolong their independent ability and to promote their functioning. (Photo courtesy: Yi-An Day Care Center)

Currently there are "long-term care management centers" established in various cities and counties in Taiwan that are responsible for consolidating the health and welfare of long-term care resources and network, such

as the need for assessment, rating of quality, and delegation of services among others. The tasks include: rating of quality: understanding the difficulties in utilizing resources in cases, and service placement. The centers also have to establish service plans on a case by case basis: considering the benefits of the debilitated as a priority and then assessing results in accordance to their needs to provide a referral service within the financial power of the debilitated to offer appropriate care or placement. Organizing service resources: communication and compromise with providers of resources to develop a usable resource network for the debilitated by promoting cooperation between providers to increase the efficiency of service transportation. Tracking and monitoring service transport: (1) the continuous tracking and care control of the debilitated who have been transferred to ensure the appropriateness of service; (2) understand the services, policies, and quality of the facilities that the debilitated may be transferred to, in order to carry out an assessment on the service and results of case management.

II. The Challenges of Taiwan's Long-Term Care

A. The strengths of Taiwan's long-term care

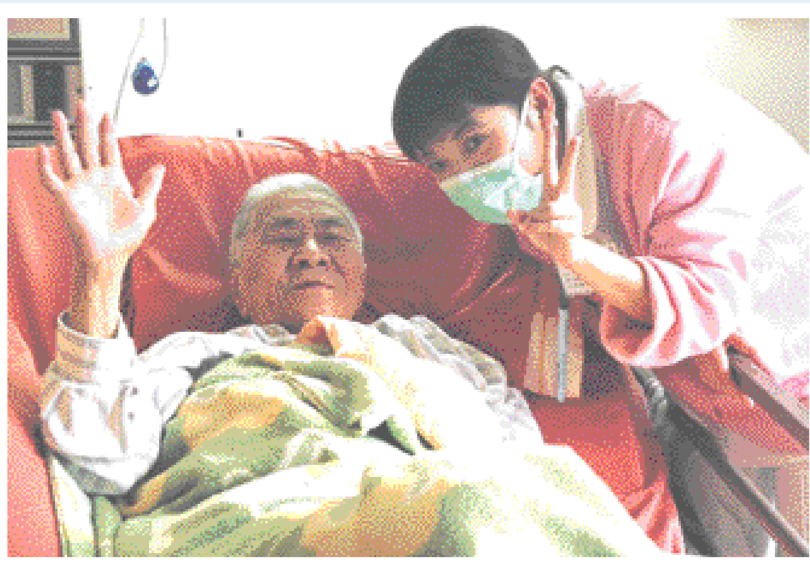
In the development of long-term care, Taiwan has a few key strengths that should be used to its advantage:

1. A healthier family structure in comparison to western cultures, with a stronger sense of responsibility of home care

From the differences between eastern and western cultures[4] it can be seen that the sentiments of Taiwan are closer to that of Japan. Even though the percentage of elders living with their married children is less than 50%[5], but family and home care still plays a very important role. Anderson and Hussey[6] compared the aging population of 8 industrialized countries and found that in the U.S. and Canada, one in six elderly receive at home healthcare, whereas only one in twenty of the elders in Japan receive any type of formal care. This is probably related to the fact that in 1997, 50% of the elderly in Japan lived with their adult children while the 7 other countries were recorded at 10-20%. Furthermore, in 1990 Japan only had 14% of their elderly living alone, whereas the next closest industrialized country was Australia at 26%, with Germany being the highest at 41%. From statistics taken through the period of 1970-1990, it is noticed that the trend of informal care is slowly taking shape.

2. The scope of service provided is wider than that of western cultures, but the cost of these services are cheaper

Taiwan's life expectancy is similar to that of the U.S.[7], although every 12.5 out of 1000 people in Taiwan visit western doctors, which is higher than the U.S.' 6.0, but the expenses of National Health Insurance in Taiwan (1.2 doctors for every 1000 patients, 678 USD)[8] is far more inexpensive than that of the U.S. (2.6 doctors per 1000 patients, 3767 USD). In this medical market environment, the costs of



Acute Medical Care for the Elderly (Photo courtesy: Nursing Department, Taipei Medical University Hospital)

initiating long-term care services in Taiwan will be lower than the estimated budgets of other developed countries.

3. Rich in civilian resources

The Tzu Chi Foundation, Genesis Social Welfare Foundation, The Red Cross, Taiwan Long-Term Care Professional Association and other civilian organizations are already promoting and developing long-term care in Taiwan. If this is somehow systematically consolidated, a strong civilian force will be formed.

4. National Health Insurance compensates a portion of long-term care services

Currently, patients who use chronical disease sick beds, psychiatric sick beds, hospice care, and respiratory machine are considered cases that require long-term care. Since these cases fall under the definitions of National Health Insurance and the inclusion of at home nursing, the debilitated that are institutionalized or require at home nursing can apply for at home nursing services twice every month.

B. Current problems with Taiwan's long-term care

Although many strengths were easily listed above, due to the separation of Taiwan's long-term care across many various government services entities, benefits are interpreted differently according to law and with the further development of these government entities, a referral system has not been established which results in the overlapping and gaps in the use of resources and services.

1. The portion of long-term care cases taking up acute hospitalization beds.

Analysis shows that there may be two reasons for this: The hospitalization of long-term care patients with less severe diseases may be due to the factors below:

(1) The general public does not know it is possible to use national health insurance for at home care: Long-term care services must let those who have the need for these services know how to find these service. Information should be actively provided by family doctors, discharge planning services or community workers. On this aspect, Taiwan is still in its infant stages.

(2) Family expenses are lower in comparison to using care facilities or finding an at home nurse: In comparison to facility or home care, the expenses of hospitalization are lower due to National Health Insurance. This results in long-term care patients with less severe diseases to lean towards hospitalization, splitting time between hospitals and non hospital care in order to reduce the responsibility and expenses of family members.

2. Inadequate training of long-term care personnel and labor

Due to a lack of personnel information of long-term care professionals, the ratio in training of labor is uneven. As an example in training nursing personnel, institutionalized education in the past lacked courses teaching elderly care, especially portions pertaining to facility or community care. Although Taiwan Long-Term Care Professional Association has planned related courses to personnel training, giving nursing personnel and doctors a much more complete training in their profession, there is still room for improvement. As for other professional labors, only a small amount has devoted itself to the industry of long-term care, therefore lacking a complete curriculum for training. Beside nursing personnel and care service personnel, nursing facilities also have not setup training or certificate regulations for long-term care and related personnel.

3. Uneven distribution of long-term care personnel

Due to the distances between cities and prefects, the stationing of long-term care personnel becomes unevenly distributed. For example, the number of doctors, nurses, professional therapists and physiotherapists and other specialized personnel are vastly different when comparing to Taipei and a remote area. These remote areas have difficulty in procuring professional labor.

C. Future threats to long-term care

Beside of the lack of vertical consolidation mentioned above, there is a tendency for multiple hospitalizations and wasting of medical resources. The following lists the needs of long-

term care patients that have not been met.

1. **Laws related to long-term care in various departments causes the scattering of resources and management**

   Currently there are long-term care related laws scattered in different laws, such as the law of elderly welfare, law of individual protection, law of medicine, law of National Health Insurance, law of nursing personnel, law of mental health, military veteran acts and others. With the large number of laws, resources and management are scattered across the Ministry of the Interior, Department of Health, and the Veterans Affairs Commission, causing difficulties for civilians to utilise the resources, affecting the rate of execution, preventing civilian investment from entering the system, and affecting the rights and benefits of long-term care patients in Taiwan.

2. **Inadequate long-term care facilities in communities**

   In remote areas, the demands is unmet if there is a lack of a at home care institutions or if at home nurses are unwilling to go.

3. **Acute and chronical care services are discontinuous and scattered**

   Although providing continuous and holistic care is the goal of discharge planning and long-term care centers, but the current state is still mired in scattered services resulting in certain needs that are not met.

4. **Lack of financial support in long-term care**

   National Health Insurance relieves many financial problems citizens may face while seeking medical care, but in terms of long-term care, only a portion of their problems are solved. Due to the financial obstacle, many low income patients will be restricted from purchasing services to meet their needs.

D. Opportunities in long-term care for Taiwan

1. Through legislation, long-term care can be legitimized and consolidate various budgets currently used for long-term care, and to establish an institute to effectively manage and build Taiwan's long-term care service system. This includes the training of personnel, consolidating resources, and the placement of resources. Furthermore, a quality assurance system must be established[9].
2. The consolidation of internal departments in the health system: Discharge planning, psychiatric care networks, psychiatric health centers within communities, community health construction of the Bureau of Health Promotion, united care networks, long term care resources and others; consolidating these services will offer more continuity for long-term care services.
3. Consolidation of institutionalized services relating to health and welfare (long-term care facilities, nursing facilities, veteran homes, and others). This includes the establishment of standards by related organizations and reducing civilian difficulties with a consistent model of service quality. Secondly, to discuss and develop new services for the future, including: day care and temporary home care for dementia patients, residence care, nutrition, hospice care, care organizations, social worker services, information inquiry, and social worker visits to satisfy the political goal of "localized aging" by offering a multitude of services.
4. Consolidating the information software of the Ministry of the Interior and Department of Health systematically in stages, to benefit the continuity and unity of long-term care services and ensure the effectiveness of these services.
5. Care and service personnel are the most direct labor force in providing long-term care, but most of these workers are transferring to hospitals and are unwilling to stay in long-term care facilities, whether they are in communities or at homes. There is an uneven distribution of the trained home care personnel and the actual amount of personnel in practice. If the working environment and benefits of the occupation can be improved, along with suitable retaining mechanisms and course curriculum pertaining to the elderly in education, it will benefit the labor and quality in care services.

III. Conclusion

The ratio of three generations living in the same household in Taiwan has been lower and lower, with interactions between middle age and the elderly in communities becoming less and less. Due to the decrease in interaction, the youth are holding an increasing bias against the elderly. Encouraging districts, prefects, women, youth, and children service groups to participate in social services to increase interaction with the elderly are needed to reduce this bias. Also, consolidating related resources for long-term care, creating a friendly environment for aging, extending the time debilitated elders stay in communities are all tasks that need to be worked on. Therefore, community services should be the focus of development on long-term care, even facility care services should move towards the community. If the elderly living in care facilities can still enjoy the resources of a community by participating in community events and receive spiritual relief and human interaction, they will have more chances to be stimulated by the outside world.

With the development of long-term care labor, apart from the problem of quantity, quality improvement is another focus that must be met. To increase labor and improve quality, the demand for labor must first be understood. The cooperation with the labor needs of an region or area and offering training and having this labor on standby is important in addressing the problem of labor. Also, since most of the training on personnel is held by professional organizations, and as there is no common ground between these organizations, education on the elderly or long-term care is severely limited. It is suggested to consult related professional to design and plan various long-term care curriculums and training contents. Finally, a labor database should be established to get a grasp of the demand and movement of personnel to reduce their turnover rate.

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Section V

Hospice Palliative Care

Chantal, Co-Shi Chao

Taiwan's development of hospice palliative care can be referred back to the 1980s, where Dr. Kuang-Yao Chen, Head of Taipei Veterans General Hospital's Oncology Treatment Center, had proposed the concept of hospice palliative care in a national symposium for cancer care, while nurse supervisor Ping Wong reported her visits to hospices in US. At that time, the term was translated to "terminal care" in Chinese; and it was an innovative concept and caused great interest to the medical society. In 1983, home care services for terminally ill cancer patients were first set up by Catholic Sanipax Socio-Medical Service & Education Foundation, which became the pilot in hospice home care. In 1987, the CEO at the MacKay's Memorial Hospital also realized the importance of care giving to the terminally ill cancer patients, hence leading to the formation of "hospice palliative care team" in DanSiu MacKay's Memorial Hospital, providing care to terminally ill cancer patients at different wards. After three years of planning, in 1990, the first "hospice ward" with 18 beds was established in Taiwan, where Dr. Yun-Liang Lai was the leader of the service team. Taiwan became the 18th country with hospice palliative wards.

The promotion of hospice palliative care has to be done through collaboration among the government, medical institutions, and academic fields, also through professional education programs, establishment of related health policies, related health education for general public and development of the hospice palliative service models simultaneously.

I. The Origin of the Development of Taiwan's Hospice Palliative Care

A. Starting-up period

Christian MacKay's Memorial Hospital established the first hospice ward back in 1990 and sent oncologist Dr. Yun-Liang Lai to Australia, United States, Canada, England and other countries to learn palliative/hospice medicine. Dr. Lai was in charge of the medical services after he returned to Taiwan. At the same year, register nurse Co-Shi Chao returned to Taiwan during the summer break after obtaining her master degree in United States, providing professional training for nurses that were entering or already in the field of hospice care. Co-Shi Chao then returned to United States to pursue her doctorate degree on hospice palliative nursing and returned to Taiwan in 1993 after completed her study.

The second hospice ward was established in March 1994 by "Catholic Cardinal Tien Hospital" in Shintein and provided hospice home care services at the same time. Even though there were two hospitals that provide hospice care services in Taiwan, with 32 beds, however the beds were barely occupied due to the general Taiwanese ideology about death and aggressive medical treatment habits. People in Taiwan viewed "death" as a taboo; they saw the use of any way to seek for high-tech medical treatment as the correct treatment method, hence people were very unfamiliar with the concept of hospice palliative care. In view of this, "the Buddhist Lotus Hospice Care Foundation" held many seminars and symposia to disseminate the concept of hospice palliative care. Through print

and electronic media featured articles, especially through big feature stories on the topic of hospice palliative care concept on medical column of Min Sheng Daily News created by Ms. Shu-Juan Lee, usually with headlines such as "Concept of life and death", "Art of life and death" and "Film of life and death" and other innovative design, attracted the attention and response of the publics.

Once again, in October 1993, Catholic Sanipax Socio-Medical Service & Education Foundation operated hospice home care by Dr. Co-Shi Chao. After that, hospice palliative care units developed rapidly. Table 1 and 2 illustrates the historical record of the formation of hospice palliative care wards and home care:

Table 1
Taiwan Hospice Palliative Care Wards Establishment History

Establishment time	(Location, type)Hospital	Ward Name
Feb. 1990	(Taipei, Christian) MacKay's General Hospital	Hospice palliative ward
March 1994	(Taipei, Catholic) Cardinal Tien Hospital	St. Joseph's home
June 1995	(Taipei, National) National Taiwan University Hospital	Palliative care ward
1995	(Hualien, DOH) Hualien Hospital	Hospice palliative ward
July 1995	(Taipei, Municipal) Chung Hsiao Hospital	Shiang-Ho ward
Oct. 1995	(Chai Yi, Christian) Chai Yi Christian Hospital	De-Shen Dai Memorial ward
April 1996	(Kaoshiung, Catholic) St. Joseph's Hospital	St. Francis house
August 1996	(Hualien, Buddism) Buddist Tzu Chi Hospital	Shin-Lien ward
August 1996	(Yunlin, Catholic) St. Joseph's Hospital	Ping-An ward
June 1997	(Taichung, Buddism) Puti Hospital	Hospice palliative ward
July 1997	(Taipei, VACRS) Taipei Veterans General Hospital	Hospice and Palliative Care Unit
April 1998	(Tainan, Christian) Sinlau Hospital	Maxwell Memorial ward
June 1998	(Tainan, National) National Cheng Kung University Hospital	Yuan-En ward
Sep. 1998	(Kaoshiung, Municipal) Min Sheng Hospital	Palliative care ward
Nov. 1998	(Kaoshiung, VACRS) Kaoshiung Veterans General Hospital	Chun-deh ward
1999	(Shin Chu, DOH) Shin Chu Hospital	Hospice ward of oncology
July 1999	(Hualien, Christian) Mennonite Christian Hospital	Chia-Nan ward
Jan. 2000	(Taipei, Army) Tri-service General Hospital	Ning-Jing ward

Table 1
Taiwan Hospice Palliative Ccare Wards Establishment History (continued)

Establishment time	(Location, type)Hospital	Ward Name
Feb. 2000	(Shalu, Private) Kuang Tien General Hospital	Fu-Tien ward
Feb. 2000	(Taichung, Private) Jenai General Hospital	Palliative medical treatment ward
Feb. 2000	Taoyuan Veterans General Hospital	Hospice ward
May 2000	(Taichung, Private) Chung Shan University Hospital	Hospice ward
July 2000	(Pingtung, Christian) Pingtung Christian Hospital	Chuan-Ai house
Nov. 2000	(Chia Yi, Buddism) Da Lin Buddist Tzu Chi Hospital	Shin-Lien ward
2001	(Taoyuan, Private) Taoyuan Chang Gung Memorial Hospital	Palliative medical treatment ward
Feb. 2001	(Chang Hua, Christian) Chang Hua Christian Hospital	Dr. Andrew Cole's Memorial ward
June 2001	(Taipei, DOH) Taipei Municipal Guan-Du Hospital	Hospice ward
2002	(Tainan, DOH) Tainan Hospital	Yuan-Men house
March 2002	(Pingtung, Buddhism) Ming Chung Hospital	Yi-Ru ward
June 2002	(Chiayi, Catholic) St. Martin De Porres Hospital	Huan-Chan Memorial ward
Sep. 2002	(Taichung, Private) China Medical University Hospital	Mei-deh wad
Sep. 2003	(Taichung, VACRS) Taichung Veterans General Hospital	Palliative medical treatment ward
March 2004	(Kaoshiung, Private) Chung-Ho Memorial Hospital, Kaoshiung Medical University	Hsin-yuan Hospice ward
April 2004	(Taidon, Catholic) St. Mary's Hospital,	Grace home
Jan. 2005	(Liou Ying, Private) Chi Mei Medical Center	Hospice ward
March 2005	(Kaoshiung, Private) Kaoshiung Chang Gung Memorial Hospital	Hospice ward
Sep. 2005	(Taipei, Private) Taipei Buddist Tzu Chi Hospital	Shin-Lien ward
Sep. 2006	(Yilan, DOH) Yilan Hospital	Yilan hospice ward
Dec. 2006	(Taipei, DOH) Jen Ai Taipei City Hospital	Yong-Ai ward

Table 2
Hospitals in Taiwan with Hospice Palliative Home Care Service

Area	Hospitals with hospice palliative home care services
Taipei City	National Taiwan University Hospital, Koo Foundation Sun Yat-Sun Cancer Center, Taipei Veterans General Hospital, MacKay's Memorial Hospital, Chung Hsiao Hospital, Tri-service General Hospital, Cathay General Hospital, Taipei Medical University Hospital, Wang Fang Hospital, Shin Kong Wu Ho-Su Memorial Hospital
Taipei County	Cardinal Tien Hospital, En Chu Kong Hospital, Far Eastern Memorial Hospital, Taipei Tzu Chi General Hospital
Yilan County	St. Mary Hospital, Lotung, Lotung Poh-Ai Hospital, Yilan General Hospital, DOH, SuAo Veterans Hospital
Taoyuan	Taoyuan Hospital, DOH, Taoyuan Veterans Hospital
Shin Chu City	Shin Chu Hospital, DOH
Taichung City	China Medical University Hospital, Taichung Veterans General Hospital, Jen Ai General Hospital, Chung Shan University Hospital, Taichung Hospital, DOH, Cheng Ching Hospital
Taichung County	Kuang Tien General Hospital
Chang Hua County	Chang Hua Christian Hospital, Show Chwan Memorial Hospital
Nantou	Nantou Christian Hospital
Yunlin County	St. Joseph's Hospital
Chiayi City	St. Martin De Porres Hospital, Chiayi Christian Hospital, Chiayi Veterans Hospital
Chiayi County	Da Lin Buddist Tzu Chi Hospital
Tainan City	National Cheng Kung University Hospital, Shin Lau Hospital, Tainan Hospital, DOH
Tainan County	Chi Mei Medical Center (Yong Kang, Liou Ying)
Kaoshiung City	St. Joseph's Hospital, Kaoshiung Veterans General Hospital, Chung-Ho Memorial Hospital, Kaoshiung Medical University, Min Sheng Hospital, Kaoshiung Medical University Hospital
Kaoshiung County	Kaoshiung Chang Gung Memorial Hospital
Pingtung City	Min Chung Hospital
Pingtung County	Pingtung Christian Hospital
Taidon City	Taidon St. Mary's Hospital
Taidon County	Taidon MacKay's Hospital
Hualien County	Buddist Tzu Chi Hospital, Hua Lien Mennonite Christian Hospital
Penghu County	Penghu Armed Forces Hospital

B. Period of growth and prosperity

In the fall of 1994, Dr. Co-Shi Chao, gave a speech in Kaoshiung City on hospice palliative care. This caught the attention of the representative of national assembly, who was Yi-Weu Chiang. In the end of 1994, in the convention of revising the Constitution, representative Chiang had made the recommendation for promoting hospice palliative care to the national assembly to the President of Taiwan. This had also caught the attention of vice premier Li-Deh Hsu, who asked the Department of Health, Executive Yuan, to fully commence the planning of the development of hospice palliative care. In 1995, the Department of Health had planned a series of actions, including the rectifying the name of "hospice palliative care", formation of "action group on hospice palliative care", set up the "hospice palliative care education center" with budgets to designate all kinds of educational courses, as well as conducting studies, encouraging hospitals to set up hospice palliative care wards, set up pilot study for implementing hospice home care, and finally initiating related health policies, such as set up regulation, accreditation, and reimbursement for hospice palliative care under National Health Insurance.

In terms of promoting the concept of hospice palliative care to general publics, the volunteers (such as movie stars Uncle Sun Yueh, Hsiu-Yen Chang, and producer Nien-Tzu Wang) all help to spread such concept. Coupled with the magazines, education, and the power of religion from the "the Buddhist Lotus Hospice Care Foundation", people began to take a serious approach towards the beginning and the end of lives, therefore resulting in the change of common practice in the nation. Every summer, the Catholic Sanipax Socio-Medical Service & Education Foundation would train 5,000-7,000 volunteers through training courses in Northern, Middle, Southern, and Eastern parts of Taiwan. If just one volunteer can transfer the concept of hospice palliative care to 50 others, there will be at least 200 thousand citizens to recognize this concept.

C. Period of stable development

1. The establishment of hospice care related foundations

In 1983, Catholic Sanipax Socio-Medical Service and Education Foundation established the "Hospice Home Care for the Terminally Ill Cancer Patients". In 1990, McKay Memorial Hospital Foundation established the "Hospice Foundation of Taiwan", and published "The Periodicals of Hospice Care". In 1994, the Buddhist medical professionals established the "the Buddhist Lotus Hospice Care Foundation", and published the "Periodicals of Lotus Hospice Care". From then on, all the above three foundations began dedicating themselves to the development of hospice palliative care in Taiwan.

2. The establishment of hospice palliative care-related academic organizations

In 1995, Taiwan Hospice Organization was established, and it became the first organization that has united the entire medical, nursing, social workers, and religious professionals and those who are simply interested in joining the organization together. A year later, the organization published the Journal of Hospice Care quarterly; it was the first academic journal on hospice palliative care.

In 1999, Dr. Yu-Lian, Lai, has brought all the doctors who practice hospice palliative care together and established the "Taiwan Academy of Hospice Palliative Medicine". By the following year they set up the "Hospice Palliative Medicine Specialist Board", which in turn promoted the professional development of hospice palliative medical care. They run all kinds of academic seminars, annual conventions, workshops and academic studies for the education of hospice palliative care. At the same time, they also actively participated in "The Asia Pacific Hospice Care Network", and became the organizing party for The Asia Pacific Hospice Palliative Care Convention in 2001.

In July 2005, Dr. Co-Shi, Chao, RN united many nurses specialized in hospice palliative care and established the "Taiwan Association of Hospice Palliative Nursing", to hold annual

training activities in the development of "hospice palliative nursing specialists" for better quality of care for patients and their families.

3. The education of hospice palliative care

Since May in 1994, the Hospice Foundation of Taiwan has started training on the education of hospice palliative care which was designed by Dr. Yu-Lian, Lai, and Co-Shi, Chao, from entry level programs, professional level programs, and finally to the specialist level programs. The target groups were divided into doctors, nurses, social workers, and chaplains. Since 1995, the Department of Health has co-held and guided the "Continue Education Plans for Hospice Palliative Care Professionals". The development of a local model of education, which consists of "four groups, three levels, four areas" in the contents of teaching, is also inclusive of numerous accumulation of clinical practices. The contents are developed in 3 levels: entry class, class for practicing professionals, and train the trainers programs. They also hold grief-therapy, empathy- training, spiritual care training and many related classes and workshops from time to time. Each group of classes will take turns and be taught at the northern, middle, southern and eastern parts of Taiwan about 2-3 rounds annually. The curriculum design of hospice palliative care is as follows:

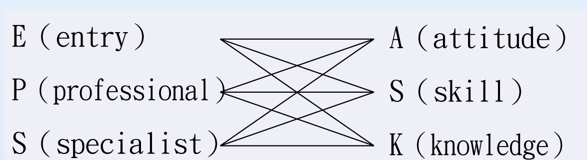

***Figure 1.* The curriculum design of hospice palliative care**

4. Governmental regulations and policies on hospice palliative care

In 1995, the Department of Health, Executive Yuan began to take a serious approach towards the needs of hospice palliative care. It promoted and supported the development of hospice palliative care through the development of health policy and the reimbursement under National Health Insurance. In 1996, it established the "Committee for Set up Hospice Palliative Care", and drafted regulations concerning "hospice palliative care ward" and "hospice home care". In the same year, they started the "hospice home care" pilot plan and many other related plans, and implemented many strategies to reach the quality indicators and estimated that Taiwan should have at least fifty hospice palliative care units to satisfy actual needs. In the end of 2000, the Department of Health, Executive Yuan published "A Practice Guide for Pain Control in Hospice Palliative Care", "A Practice Guide for the Standard of Operations in In-patient Hospice Palliative Care", and "A Practice Guide for the Standard of Operations in Hospice Palliative Home Care". All of these have pushed the nation's standardization of hospice palliative care to go one step further.

Since 1996, after the trial period and "The Pilot Plan on Hospice Palliative Home Care" has passed to become actual practices, the organizations providing such services grew rapidly, and became a part of NHI (National Health Insurance) coverage. In 2000, the Department of Health entrusted the "Taiwan Academy of Hospice Palliative Medicine" in the evaluation and accreditation of hospice palliative wards and home care programs. In July 2000, the NHI began to cover the patients who stayed in the hospice palliative wards or at their homes. Furthermore, the "Natural Death Act" that has been struggling for the past seven years was passed in the Legislative Yuan after three readings in May 23rd, 2000, and the Act was amended in November 11th, 2002. This has opened a whole new chapter for the rights of terminally- ill patients in the nation. From then now, any patients can decide and sign a consent form which indicates that in terminal conditions, he or she does not wish to perform the aggressive medical treatments- "Do Not Resuscitate", thus maintaining dignity at the end of the patient's life. Thus, the practice of hospice palliative care became legally protected and also putting an end to the dispute of the Euthanasia Act. Taiwan became one of the few nations that have the Natural Death Act in Asia.

From table 3 and figure 2 we can see that before 1995, Taiwan's hospice palliative care was developing slowly. However, since the vice Premier Li-Deh Hsu has addressed the issue to the Department of Health, Executive Yuan, new regulations and policies were established. This made the rapid development of hospice palliative care possible. Figure 3 is The Utilization Rate of Hospice Palliative Care in Certain Countries, showing that our nation's utilization rate is higher than those of Japan and Korea, yet when compared to often developed countries, our nation still needs improvement.

Table 3

The Primitive Development of Taiwan's Hospice Palliative Care and Consecutive Months

Institution	Starting date	Consecutive Month of Each Interval	In-patient care	Home care
Catholic Sanipax Socio-Medical Service & Education Foundation	July, 1983	—		✓
MacKay's Memorial Hospital	February, 1990	80	✓	✓
Cardinal Tien Hospital	March, 1994	49	✓	✓
National Taiwan University Hospital	June, 1995	15	✓	✓
Chung Hsiao Hospital	July, 1995	1	✓	✓
Chiayi Christian Hospital	October, 1995	3	✓	✓
St. Joseph Hospital	April, 1996	6	✓	✓
Buddhist Tzu Chi Hospital	August, 1996	4	✓	✓
St. Joseph's Hospital	August, 1996	0	✓	✓
Taichung Puti Hospital	June, 1997	10	✓	
Taipei Veterans General Hospital	July, 1997	1	✓	✓

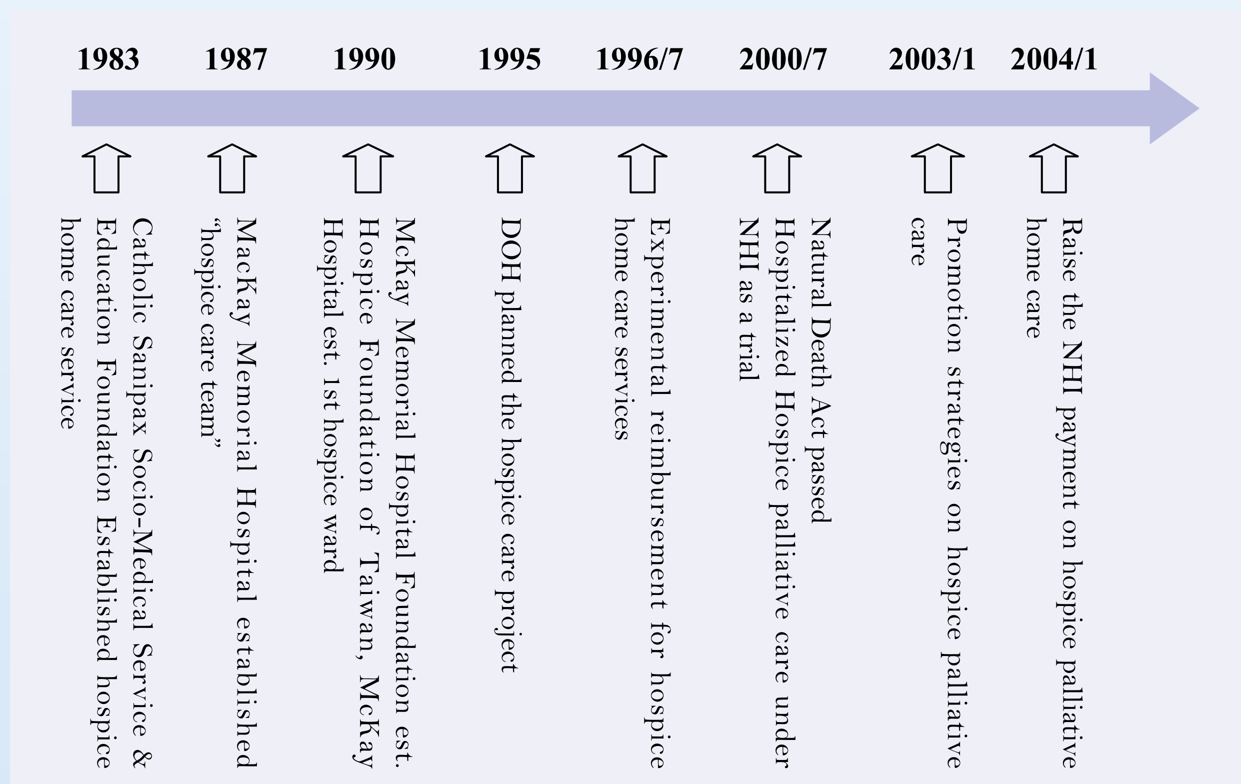

Figure 2. **The historical development in the years of planning hospice palliative care**

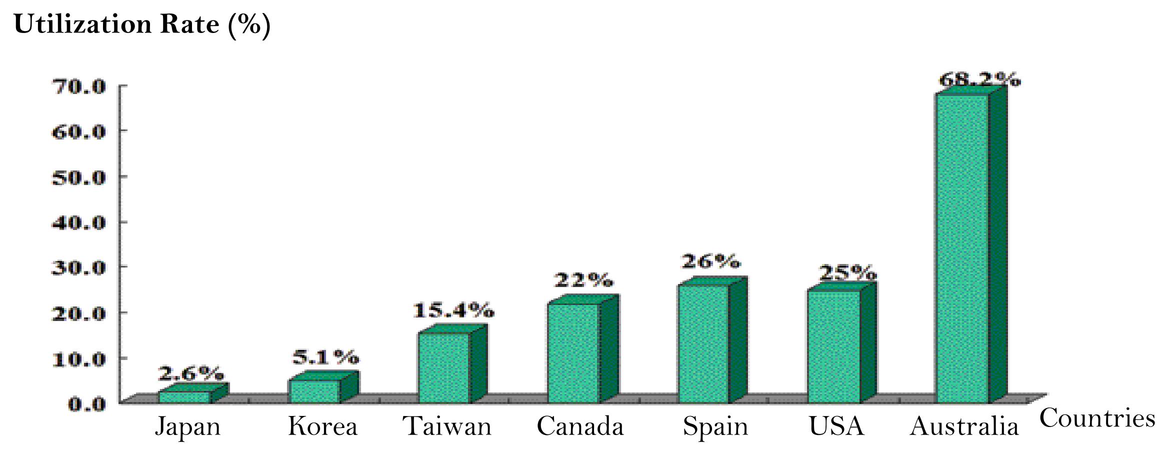

Figure 3. **The utilization rate of hospice palliative care in certain countries (2004)**

II. The Future Development of Hospice Palliative Care in Taiwan

The promotion of hospice palliative care depends on the cooperation among the health care industry, the government-related bodies and the academic fields. Such idealism can be promoted by the education to health care professionals and general publics, policy makings, and development of practice models[1,2].

1. Future needs

Estimating from 80% death rate of all cancer patients[3],and the projection of 50 hospice institutions needed in 1995 by Department of Health, by 2010, there must be at least 60 hospice palliative in-patient and home care institutions in order to satisfy the needs of patients. Another method of calculation is, for every 100,000 population, there are 3.5 beds (lowest estimation) needed, and that Taiwan currently should have 750 hospice palliative beds to satisfy the patients' needs.

2. The development of health policy

In addition to the quantitative development, the improvement of quality of care is just as important[4]. The Department of Health has entrusted the Taiwan Academy of Hospice Palliative Medicine with matters concerning regular accreditations in the hope to promote the quality of hospice palliative care in Taiwan. At the same time, reasonable coverage under the NHI also provide the hospice palliative care a way for long-term development, hoping the current system in paying for care at home and at in-patient setting can be more rationalized, and continue to prosper.

3. The development of academic endeavors and researches

Palliative Medicine has been established as a medical specialty, and is in rapid development. Through the endeavors of the "Taiwan Academy of Hospice Palliative Medicine" and "Taiwan Association of Hospice Palliative Nursing", it is hoped to promote the clinical expertise in hospice palliative care and foster professionals in the field. At the same time, the nation will join international hospice palliative care organizations, and exchange the experiences so as to receive new information, and promote the quality of care. The needs of terminally-ill patients have been ignored for too long, and how we help the holistic body, mind and soul of the patient is a very important theme of study.

4. The development of management and operation

The development and operation strategies of hospice palliative care should proceed on equal grounds with Taiwan's medical environment. From caring for patients during in-patient, home care, day care, consultation and outpatient services, to the reasonable coverage under NHI, the purpose is to improve the quality and quantity of care through policy making.

5. The development of localized modes of hospice palliative care

Due to Taiwan residents' traditions, thoughts and cultural customs are different from those of the western counties, their way of communicating about death and grief are different as well. Coupled with medical treatment variations, such as Chinese medicine, medicinal diets, acupunctures, and Gigong, there should be some our own care models particularly for the needs of hospice palliative care in Taiwan.

6. Future challenges

Currently, the coverage under NHI for hospice palliative care only covers the illness related to cancer and motor neuron diseases. However, hospice palliative care is not limited to only the above two kinds, patients with AIDS, terminally ill renal diseases, COPD, liver diseases and heart diseases also need care. When faced with such challenges, the nation must be ready.

III. The Development of Professional Competence of Taiwanese Nurses in Hospice Palliative Care

The above mentioned promotional plans on hospice palliative care in Taiwan have participation of nurses. In the future, the scope of practice for our nation's nurses in hospice palliative care can be divided into the three following general categories:

A. Referral services

Among health care team, nurses are the closest to the patients/family members. Through their professional knowledge, nurses can refer patients to hospice palliative care service, doctors and medical teams, coordinate care plans and treatment strategies. Nurses can play the referral roles in the following three ways:

1. To provide suggestions to patients/family members and their health care teams.
2. To transfer patients into the hospice palliative care system.
3. Patients can have combine care from their original care team and the hospice palliative nurse together.

B. Performing assessments

Professional nurses must conduct the following assessments:

1. A comprehensive evaluation on the patient and family members.
2. The assessment data includes history of disease, physical assessment and all kinds of lab reports, as well as interviewing with the patient and family members.
3. The assessment records must include: disease progression, functional status, physical and psychological symptoms, social, cultural and spiritual needs of the patient, as well as the preferences of the patient.
4. The assessment must be continuous and adjusted according to the conditions of the patient.
5. Results of the assessment will be used for care planning.

C. The care plan and implementation

Patient care plan must be designed according to the unique needs of each patient, and be based on the assessment data, so they can provide the health care team with relevant information for interventions.

1. According to the disease progression process, set up realistic treatment plan goals, and should consider the balance of risk and benefit on ethics when making decisions.
2. The care plans should be formulated to include the suggestions from the patient, family members, health care team, and relevant people such as their friends and religious figures.
3. The care plans must be adjusted when needed.

IV. Core Competencies of Hospice Palliative Nursing Care

The development of Hospice Palliative Care Curriculum for nurses began to surface internationally from 1980. This also includes the graduate programs for master and doctorate levels preparation in this specialty, so that the competencies of hospice palliative nursing can be elevated[5]. The following is a table describing the core competencies in hospice palliative nursing care from Center to Advance Palliative Care[6], and it shows that Taiwan still has a long way to go in promoting this specialty.

Table 4

Description of Core Competencies of Hospice Palliative Nursing Care[6]

competency focus	Description of competency
Deal with pain and other symptoms	1. Perform symptoms assessment, and handle it to the level of acceptance by patients and family members 2. Support the patient in his or her own decision in using the complementary medicine
Physical care and comfort nursing	1. Provide all nursing care related to body and physical needs 2. Capable of providing patients comfort
Emotional Needs	1. Listen actively 2. Feel empathetic towards the patient and family members 3. Support the patient and family members in expressing their emotional needs
Psychological Needs	1. High sensitivity in disguising the psychological needs of patients and family members 2. High quality accompaniment and be able to satisfy the needs of patients and family members
Spiritual Needs	1. Help the patient/family member to find meaning 2. Promote spiritual growth of patient/family members 3. Help the patients to live with meaning until death 4. Refer the appropriate spiritual guidance counselors
Cultural Needs	1. Respect the patient/family members' different cultural expressions 2. Comply with patient/family members' cultural preferences and needs
Relationships: Family and Community	1. Understand the needs of patient and family members and be the bridge of communication for them 2. Help the patient/family members in expectant grief 3. Help the patient/family members resolve conflicts so that they will regret nothing before death takes them apart
Dying and Death	1. Capable of recognizing dying signs 2. Help the patient/family members using the time left wisely 3. Help the patient to pass away in his or her place of choice 4. Help the family members in accepting patient's death, and arrange the patient/family members to farewell, appreciate and apologize for anything before death 5. Perform well in deceased body care, and provide services to the family members for a "good farewell"
After Death	Help to prepare the family members ready for circumstances that will arise after the patient's death, such as death certificate, arrangement of funerals, insurance reimbursement, processing wills, arrange jobs and family-related matters etc.
Grief counseling	1. Provide counseling on the expectant grief for the patient/family members 2. Provide support for those who are in grieving 3. If necessary, provide adequate referral

Table 4
Description of Core Competencies of Hospice Palliative Nursing Care[6](continued)

competency focus	Description of competency
Relationship between nurse and patient/family members	1. Establish a trusting & rapport relationship with patient/family members 2. Actively display caring and concern
Communication	1. Keep an appropriate physical and mental concentration when communicating with the patient and family members 2. Use attitudes that are sensitive, empathetic, and least harmful when disclosing harsh facts (such as worsening of patients' conditions and death announcement) 3. Use honest and sincere attitude, but keep the patient/family members' hopes at a reasonable level
Nursing Teaching	1. Assess the patient/family members' knowledge on the illness, medical treatment, and questions 2. Provide information on the illness, treatment, and health care 3. Introduce appropriate other professionals or resources
Team Work	1. Capable of team work 2. Team includes the patient/family members, they have the rights to participate
Ethics and Law	Have high standards of ethics and obey the law

According to the core competencies listed above, it is evident that the professional demand for nurses are high, and below is a list of policy recommendations to enhance our national hospice palliative nursing care:

1. Set up clinical guidelines to maintain the quality of hospice palliative care

Western system which has developed advanced hospice palliative care has set up the "Clinical Practice Guidelines for Quality Palliative Care"[7,8], they include the following basic contents:

(1) purpose of guidelines
(2) quality standards
(3) codes of ethics
(4) ongoing revision
(5) peer-defined guidelines
(6) specialty care
(7) continuing professional education
(8) applicability of guidelines

2. Establish hospice palliative nursing curriculum standards

In order to reach the high quality standard of nursing, the most important strategy is education. The levels of educations are listed below:

(1)Implement professional hospice palliative care course in under-graduate nursing education, it should be at least two credits in each nursing school.
(2)Establish specialized hospice palliative nursing courses in graduate level to nurture high qualified teachers.
(3)Add progressive hospice palliative care training courses for post-graduate nurses.

3. Set up accreditation system

Construct an accreditation system to be implemented in every medical institution which provided hospice palliative service, and provide appropriate incentive such as increasing reimbursement by national health insurance.

4. Cultivate nursing specialists and establish certification system

Hospice palliative nursing needs to have professional knowledge, skill, values and consistent beliefs towards life and death. The nurses must gain clinical experience so as to become certified specialists, as well as continue

practicing this profession in the long run. The Taiwan Association of Hospice Palliative Nursing is currently working actively on such issue.

5. Promotion of hospice palliative nurse ladder system

Professional nurses are like doctors. Their biggest satisfactions, enjoyment, and, accomplishment, comes from taking care of people who are ill. The promotion to a higher position for doctors is structured, but the system for nurses in Taiwan is not well defined. The compliments from N1 being promoted to N4 and the competence of taking care of patients have little direct connections. Therefore, the best way to keep talents is to design logical promoting structure for hospice palliative nurses.

V. The Scope of Practices for Hospice Palliative Nurses

A. The scope of practice of hospice palliative nursing in the past

The scope of practice of nurses in the past in Taiwan is from health promotion, disease prevention, health restoration (the main part of acute medical care) to rehabilitation service (the main part of chronic medical care). However, the palliative care and end-of-life care in the past in our nation was not addressed much. Nevertheless, from the leading ten causes of death in Taiwan, aside from accident and suicide, the other eight causes of death are all chronic diseases. There are about one hundred forty thousand deaths in a year[9]. These patients and their families are greatly impacted physically and mentally by the terminal illness, they need highly qualified professional nurses to improve their quality of life to help them to pass through the difficulties with no regrets.

B. The international scope of practice for hospice palliative nursing

According to Center to Advance Palliative Care[6], the contents of clinical practice in hospice palliative care include:

1. The hospice palliative care team members at least include: doctors, nurses, social workers, spiritual consultants and volunteers.
2. Design immediate and long term care plan.
3. Provide the best control of symptoms.
4. Let the patient and his/her family understands the progress of the disease.
5. Enhance better quality of life.
6. Enhance and provide a more comfortable healing environment.
7. Provide discharge planning and appropriate community care.
8. Help the patients and families for preparation when facing death.

C. The professional scope of practice for hospice palliative nurses

1. Cooperate with other health care team members to develop a care plan.
2. Provide patient and their families' physical, mental, social, and spiritual support.
3. To care for the needs when patient and families facing the terminal illness.
4. Help patient to make decisions according to his/her own wishes, let him/her choose preferred treatments.
5. Inform patient and families nursing instructions, provide and enhance patient's well-being.

D. The general and difficult condition that are faced in hospice palliative nursing in Taiwan

Even though we have promoted hospice palliative care in our country for over twenty years, not too many people were willing to receive the service. Therefore, aggressively promote hospice palliative care to those in need are an urgent action. In order to provide such care to those patients in the wards other than hospice ward in the hospitals, in 2004, the Health Promotion Bureau, Department of Health has started to implement the "combine care between hospice palliative care team and the patient's own health care team". The purpose of this model of care is to help all kinds of terminally ill patients have a chance of hospice palliative care. At the same time it can upgrade the knowledge of health care workers, and patient/family members towards hospice palliative care. It will build up the care technique and quality of the health care professionals. The past consultation system only informs the doctor, but under the philosophy of collaborative hospice palliative care, the nurse will be the main consultant in promotion of the

philosophy and practice of hospice palliative nursing. The importance of nurses in this field cannot be matched.

VI. Conclusion- the Touching of Life

Hospice palliative care respects the quality of life, which helps to add up depth for lives and lives for depth. It requires mercy and wisdom for success, a group of people to do the right things and do things right to be everlasting. It will fail if there is only a small group of people with only passion for this job. The Chinese culture in Taiwan is concerned about "careful dying" and "peaceful dying". On the integration of policy implementation, service, education, research, and the cooperation among academic, government and practical fields, it will structuralize Taiwan's hospice palliative care, and realize the ideologies of "death as an autumn leaf".

It is a hard job in practicing hospice palliative care, one faces lots of difficulties, stressing, and sadness. But, when facing difficulty, it is the best time to use our potential and wisdom; it is also the best way to find out the meaning of life. Many people have joined to cultivate this field in the past twenty years, and there are also people who left as well. Hospice palliative care professionals have find out that they get much pay back for what they have done. It means not pay back in money, not territory, or degree, or happiness, or social status. The pay back is, more fatigue, more pain, more insight, more wisdom, and more growth. In companion with pain and death, in return are tears in sweat, sweet with bitterness, energy and tiredness, happiness and sadness.

Finally I would like to pray for and praise every nurse who has taken care of patients, to family members who are suffering, and to each and every nurse who dedicates him/herself to hospice palliative care with no regrets!

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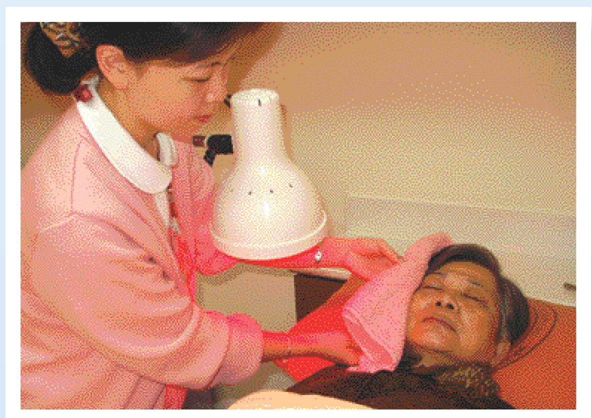


Section VI
Occupational & Environmental Health Nursing

Judith, Shu-Chu Shiao

I. Historical Perspective of Occupational and Environmental Health Nursing in Taiwan

With the rapid globalization of world economics, many changes are occurring in the work place. Of the changes, the restructuring of industries are resulting in the flexibility of the labor market, employment outsourcing, and the formation of new models of work has simultaneously changed the needs and content of occupational health care[1,2]. One of the main tasks of occupational and environmental health nursing is the cooperation with other specialists (such as occupational physicians, industrial hygienist) to prevent work related injury and disease and protect the safety of workers, promote their health and create a safe and healthy work environment for them[3,4]. However, due to the influences of occupational health policy, educational training, economics, and principles of the proprietor, the development of Taiwan's occupational and environmental nursing has not been as smooth as other aspects of nursing and has much room for improvement. The lacks of regulation and qualification standards in nursing education are all important factors limiting the growth of occupational and environmental health nursing[4].

Taiwan currently has two professional groups of occupational and environmental health nursing. The first group, Taiwan Occupational Health Nurse Association (TOHNA) was established in April of 1991 and acts as an important channel of communication between the government, industry, and academics[4]. For example, in 2000, the Institute of Occupational Safety & Health and Bureau of Health Promotion promoted occupational health for which occupational and environmental health nurses play a very important role; the owners and labor were able to understand and respect the role of occupational and environmental health nurses (OEHN)[5] through this political occupational health event. The second occupational and environmental health nursing group was formed in April of 2007. In recent years, environmental and occupational health nursing academics have aggressively cooperated with Europe, America, and Japan in order to understand their professional training of occupational and environmental health nursing. With the join efforts from industry, government, education, and practitioners, and the aggressive preparation for Taiwan environmental and occupational health nursing training courses and related courses means that in the near future, the environmental and occupational nursing education will be standardized and be a

Women's Cancer Prevention Inquiry (Photo courtesy: Texas Instruments Incorporated)

professional certificate program[4].

Taiwan's Occupational Safety and Health central governing units include the Council of Labor Affairs and Bureau of Health Promotion; the main laws include the following: "The Occupational Safety and Health Act" (1974)[6] and "The Labor Standards Act" (1984)[7]. Also, there is the "The Occupational Hazard and Labor Protection Act" (2002)[8]; and under each act, there are many clauses, rules, and methods. Of these, a 2005 announcement of an amendment to the "The Occupational Safety and Health Act"[9] third act clearly defines that a nursing personnel must be stationed at the work place: "in any sites of industry that employ more than 300 workers or more than 100 workers whose job are considered "hazardous", a medical service unit must be established in accordance to the scale of the site, and must be equipped with nurses and doctors" (table 1).

Table 1
Standard of Establishing Medical Personnel in the Work Place

Unit type and number of workers	Standards		
	Organization	Nurse	Doctor
300～999 or more than 100 workers whose job are considered "hazardous"	Medical service unit	More than 1	1 full time
1,000～2,999	Same as above	More than 2	1 full time
3,000～5,999	Same as above	More than 3	A: 2 full time B: 1 full time 2 part time
More than 6,000	Same as above	More than 4 (and an additional nurse for every 6000 more)	A: 2 full time 2 part time B: 1 full time 4 part time

Source: http://law.moj.gov.tw/Scripts/Query4A.asp?FullDoc=all&Fcode=N0060022 [9]

It is not difficult to see from the laws above that occupational and health nursing personnel are a valuable resource in the process of occupational health services. In practice, Shiao and colleagues' study of 2005 found that there were 765 plants with over 300 registered workers (75.2%, N=1,017) and through interviews, it was found that only 40.5% of these work places adhere to legal regulations on the hiring of occupational and environmental nursing personnel. In addition, 41.9% of occupational and health nursing personnel express that their working roles are not clearly defined and have no standard practice guidelines to follow. Of the work places that do hire OEHNs usually hire them part time, on a contractual basis, or are shared (one nursing personnel is simultaneously responsible for many factor areas) and these amount to a very small percentage of work places (29 businesses, 9.1%)[2]. This study points out that the main tasks of OEHNs include periodical health checkups, health promotion in the work place, emergency aid, selection of examination hospitals, the management of occupational diseases, epidemic prevention in the work place, physical examinations for potential workers, control of the "three highs" (namely hypertension, hyperglycemia, and high cholesterol), industrial poison aid, anti-smoking campaigning in the work place, and support in occupational disaster claims and others[2]. From this, we can see that OEHNs are not only the important source healthcare manpower, but that their vocational education and basic training are also relatively significant.

II. Education and Training for Occupational and Environmental Health Nursing

Currently the occupational and environmental health nursing education has not established as a subject in education of Taiwan, and various parties are aggressively attempting to establish a standard education and training program. The average nursing student usually takes 2 hours of occupational and environmental health nursing class in school[4]. However, from 1989, the Department of Health and Council of Labor Affairs co-hosted an occupational and environmental health course, which was later on held by the Bureau of Labor Insurance, and continued to train more entry level OEHNs. In terms of occupational training, many related organizations hold these at irregular intervals but they are mainly hosted by professional organizations related to occupational and environmental health nursing, with organizations such as the Taiwan Environmental and Occupational Medicine Association (EOMA) and Taiwan Nurses Association, among others. Currently, establishing a graduate level study program and official occupational and environmental nursing curriculum, according to the occupational and environmental health needs of Taiwan, is a necessary step, as is planning their occupational details, offering a guideline, providing certification or establishing its' own major. These are all the tasks that will help OEHNs perform at their full potential.

III. Roles and Functions of Occupational and Environmental Health Nurse

The role of the OEHN is multifaceted, and can be categorized into 6 major types[4]:

A. Professional role and functions

1. Common health management, such as minor injuries management.
2. Emergency aid, management of occupational injuries.
3. Health examination and monitoring; administering examinations for areas such as blood sugar, eyesight, hearing, and blood pressure. Health monitoring is regular health examinations, and in the discovery of an abnormal case, transferring for further treatment.

Regular Health Examination for Employees (Photo courtesy: Texas Instruments Incorporated)

CPR Training in the Work Place (Photo courtesy: Texas Instruments Incorporated)

4. Vaccination and other health responsibilities.

B. The role and function as an administrator

1. To communicate and coordinate with others in the occupational health industry.
2. Handle and record data related to occupational injury or diseases.
3. Establish and keep records of employment health.
4. When necessary, support the Council of Labor Affairs to pay reparations for occupational diseases or professional injury.
5. According to the results of each health examination, support the proprietor in the arrangement of worker (assigning suitable tasks for workers, or avoid unhealthy workers from entering specific work environments).
6. The arrangement of emergency aid training courses.
7. Responsible for the evaluation of training courses, health education, and other results.
8. Maintain the professionalism and morals of occupational health nursing, such as to keep employment health information confidential.

C. The role and function as an educator

The role of the educator focuses on health education and guidance. Topics such as drug safety, health guidance for pregnant women, family planning, weight control, and the prevention and treatment of occupational injury or disease and others.

D. The role and function as a researcher

Occupational and environmental health nursing personnel should collect research reports and statistics related to occupational health, injury, or disease to support in the confirmation of high risk workers and commonly seen injuries and diseases. Lastly, they should be able to use their professional knowledge to discovery methods to decrease or prevent the risk of danger in the work place to achieve the goal of protecting workers.

E. The role and function as a health consultant

The OEHN also provides health consultation on occupationally related and non-occupationally related health problems. If the problems cannot be solved by OEHN, then the problem should be referred to the appropriate

professional in order to provide a solution to the patient.

F. The role and function as the environmental protector and coordinator

The role of environmental protector and coordinator includes providing solutions to the possible contamination or pollution of interior and exterior work environments of factories. For example, according to the actual needs of workers, then supporting them in proposing changes to the work environment and ensuring workers of a safe and comfortable work environment; also, aiding proprietors or safety and health personnel to perform the management tasks of occupational health. On the exterior end, they support industrial hygienist to assess and prevent elements that may lead to contamination and pollution, and when needed, negotiate and communicate with the residents around the factory.

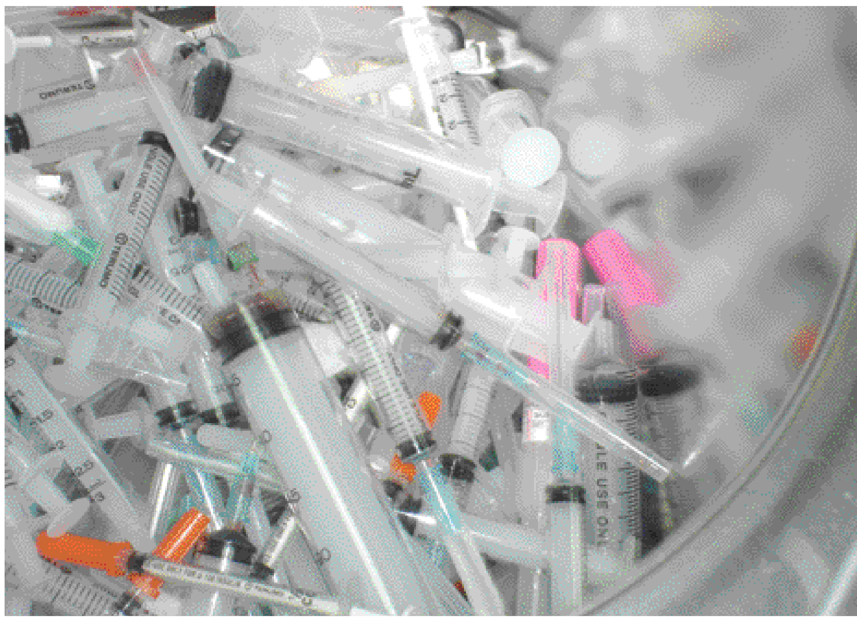
IV. Prevalent Occupational Injuries and Diseases in Nurses

Common occupational injuries include musculoskeletal discomforts, needlestick injury and blood and body fluid exposure, skin disease, reproductive hazards, sleep disorders, job stress, and so on[5]. Of these, biohazards (such as needlestick injury and blood and body fluid exposure, caring for patients with severe respiratory disorders and others) are the most important type of disease that nursing personnel care about[10]. In the past few years, Taiwan's government has been paying close attention to the problem of needlestick injury prevention and under the suggestion of The Institute of Occupational Safety & Health, established the world's first web based EPINet (Exposure Prevention Information Network) reporting system in traditional Chinese, for the voluntary reporting incidents of exposure to biohazards[11].

Creating a Safer Working Environment

Below is an excerpt of research studies conducted on the occupational health related problems of nursing personnel.

A. Biohazards and disease



The Hidden Risks of the Medical Work Environment – needles

Such as needlestick injury and blood and body fluid exposure, occupational exposure to bacteria, viruses, or other organic solvents leading to epidemic diseases5. Needlestick injury and blood and body fluid exposure are commonly seen in health care settings, and are one of the most common channels that lead to infection of the blood and contagious disease. Since 1996, Taiwan has conducted a series of retrospective investigations and identified the job-specific occupational problems in health care settings[12]; also, seroconversion after a needlestick injury was extrapolated to understand the impact of such injury[13]. In 2003, Taiwan has adapted the US EPINet (Exposure Prevention Information Network) reporting system and established the Chinese EPINet further monitoring the problems of needstick injury and blood and body fluid exposure in health care settings[11].

Furthermore, during the epidemic outbreak of SARS (Severe Acute Respiratory Syndrome) in 2003, Taiwan participated in a cooperative research with other Asian countries[10], and in the study, it was observed that 7.6% (N=753) of the nursing personnel in Taiwan were seriously considering leaving their jobs or changing industries as they felt that in an environment without the adequate tools of protection, they should not be obligated to care for these patients. This indicates the biohazards are not only physical, but the effect on psychological and societal levels are not to be ignored. In facing the threat of biohazards or diseases in the future, establishing a standard health care practice procedure and preventative guidelines is a task that cannot be delayed.

B. Musculoskeletal disorders

Musculoskeletal disorders Includes lower back pain, neck and shoulder syndrome, write syndromes and more[5]. In a study focused on the Musculoskeletal (MS) discomforts of Taiwan nurses (N=5,269), and found that MS discomfort is highly prevalent in nurses (91.6%), and the areas of pain are significantly related to their work. The most common areas of MS pain are the lower back, legs, shoulders, and neck. If using “impaired movement” as an indicator of muscle or bone discomfort, then the most common areas in order are the lower back and shoulders. Therefore, in order to effectively install preventative measures, an in-depth analysis should be conducted on the elements that lead to MS discomfort in the health care environment[14].

C. Job stress

The effects of work related and mental stress on an individual’s health, and other chronic stress related diseases is an increasingly important occupational health issue. In a recent study on nursing personnel of work related stress and its effects on the menstrual cycle of women, it is shown that for those who perceive high level of job stress, there appears to be no regular pattern in their menses, and the length

of bleeding during their menses is increased (more than 7 days)[15].

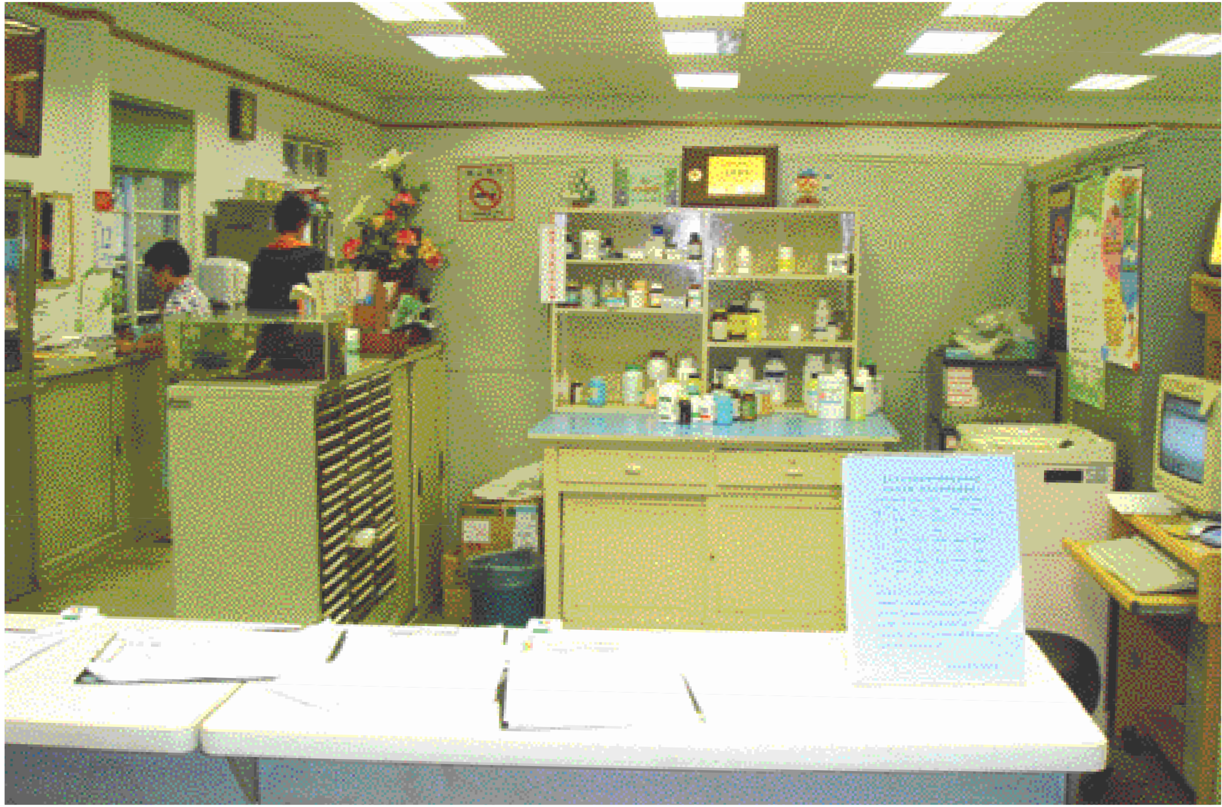
With this in mind, the Institute of Occupational Safety & Health is aggressively preparing laws concerning the occupational safety and health privileges in medical workplaces: the "Health Care Facility Safety and Health Act" is being drafted, and its goal is to further ensure the safety and privileges of medical personnel in the workplace. We believe that in the near future, the effort that government and academics have given for the safety and health privileges of nursing personnel will blossom in due time.

V. Future Direction of Occupational and Environmental Health Nursing Practice, Education and Research in Taiwan

Occupational medicine has become Taiwan's 25th medical specialization in 2001 with the help of various parties, and although occupational and environmental health nursing is gaining ground in Taiwan, but elements that affect its role, function, and professional development are complicated and confusing. Factors such as the change in industry type or proprietor's principles, the country's economic growth and health policies, government laws and the development of preventative medical services, and the professional level of preparation nursing personnel have in environmental health and others are all factors that affect the above. Of these, the execution of government laws on corporate policy is the most influential, and the most direct way to affect the characteristics of occupational and environmental health nursing.

As noted earlier, currently Taiwan does not have an educational curriculum for occupational and environmental health nursing, and very few universities have elective courses on this subject, making the advanced (masters degree or above) professional talent in this field very limited, and the availability of educators even scarcer. Due to this fact, the current research on occupational and environmental nursing is very limited, and mostly conducted by academics; most of those who practice this form of nursing mainly release reports of actual events. Currently, graduates from programs higher than nurse practitioner schools and have obtained their nurse or nurse practitioner's certificate can enter the job of occupational and environmental health nursing. As most students only undergo 2 hours of occupational and environmental health nursing theory class; the freshmen who "learn by doing" will often take many years to reach a level of thorough experience. Therefore, as of 1989, the Department of Health and Council of Labor Affairs co-hosted occupational sanitary nursing courses which were later on conducted by the Bureau of Labor Insurance to train entry level occupational and environmental health nursing personnel. The training curriculum currently provides a mixed basic course which includes introducing the role of occupational health and nursing personnel in occupational safety and health, occupational health management,

Occupational Health Related Personnel Co-performing Examination of the Work Site (Photo courtesy: Yue-Liang Guo)



Health Service Center

environmental management, toxicology, health promotion, the tasks of occupational and environmental health nursing and factory internships, which eventually leads to the accumulation of credits and examination for certificate. In the future, more master level advanced courses need to be developed to train advanced personnel; the content of curriculum should be even more multifaceted to nurture the management, inquiry, education, planning, and research skills of students.

The future of Taiwan's occupational and environmental health nursing should focus on the subjects listed below:

1. Strengthen the training program for OEHNs: this includes establishing an official occupational and environmental health nursing curriculum and occupational training.
2. Establish profession licensure for OEHNs: this will not only improve the professional image of OEHNs, but through an institute of certification can ensure the professional abilities and service quality of this profession. Therefore, the establishment of this certification standard cannot be delayed.
3. Increase the employment rate and ranking of OEHNs: strengthen the guiding laws and regularly examine the hiring of personnel to ensure that they are adhering to the law.
4. Increase the participation of proprietors and employees: through the content of their work and using actual results to educate the worker, proprietor, and even the general public to help them understand that OEHNs play an irreplaceable role in maintaining the health of work environments.
5. Plan the future development of Taiwan's research and development in this field.
6. Learn from the mistakes of other countries – aggressively exchange and cooperate with other countries to speed up the pace in internationalization.

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Section VII
Public Health Nursing

Shwu-Feng Tsay

In the past 100 years, the public health nursing personnel of Taiwan have worked in poverty-stricken areas, in urban cities, taken house calls to help giving-birth, and supported the improvement in environment and the health education of villages one step at a time. Through homes and communities, they executed various forms of epidemic prevention, family planning, women and children's health, disease prevention for middle-aged people and elders, and basic level health insurance plans. District health centers are currently Taiwan's most complete epidemic prevention insurance network and channel, making public health nurses key players in epidemic prevention and the upkeep, change, and improvement of networks and channels. This chapter will review the first operating facilities of public health nursing in Taiwan after the war and discuss the main operating facilities, their range of services, the force of labor and their current training, along with public health nurses' history and future in the base level of Taiwan's medical insurance system.

I. The First Post-War Public Health Facility: Health Preservation Center

In January of 1941, the Taiwan Health Foundation was established. In October of the same year after the establishment of the Health Preservation Center, female nursing staff began the job of Taiwan's first demonstrations of health. From the establishment of the Health Preservation Center, checkups were given to the 60,000 civilians who lived around the area. Services provided included regular health checkups, health guidance, and health clinics, while also training more female nursing staff. The Health Preservation Center included a department of education, department of mother and child health, department of preventive health care, department of insurance management and others, mainly focused on mother-child healthcare and preventative measures against epidemics. Services included infant health preservation, examination of pregnant women, examination of patients with adult diseases, home visits, investigation on the occurrence of tuberculosis and the number of newborn children, and health examinations for young children. Furthermore, they held healthcare exhibits, speeches, printed manuals, flyers, and other forms of health education work and the training of female nursing staff[1].

In 1943, in order to train medics for war, the acting government established the "southern key personnel training center", which began to lay the groundwork for health education training, with demonstrational education tasks held by the Health Preservation Center, experienced female nursing staff as teachers, and Mrs. Chen Tsui Yu served as the teacher and lead trainer of the "public health nursing personnel training center" [1].

The female nursing staff trained by the "southern key personnel training center" are all publicly funded. Once students pass the graduation exam, the government will issue female nursing staff certificates and once they return to their respective government clinic centers, they begin their work in nursing. At the time, there were 9 clinics setup throughout Taiwan and all of them were equipped with a doctor, female nursing staff, nutritionist, and other personnel. Services provided include

the examination and healthcare of infants, examination of maternal health, and adult health examinations[1].

After the war, the Kuomin government arrived in Taiwan and took control of the Health Preservation Center, changing it to the Taiwan Province Health Preservation Center on November 17th of 1945. The facilities were established at han-chung street (now 92 Chunghwa road), becoming the first responsible post-war public health institution 1.

II. The Main Institution for the Execution of Public Health Nursing: Department of Health

The function of the health care system is to attempt to achieve good health and maintain the respectability of life. The goal of executive health organizations is to prevent diseases, diagnose and treat early, sustain and avoid diseases from more severity, have long term care and peaceful passing through the improvement of health to achieve the ultimate function of health care systems. Taiwan's executive health organizations include the Department of Health, Public Health Bureaus, and District Health Centers, forming a three-level organization design. The operation of this executive sanitary organization differs due to the varying sizes of areas, including the different health problems in communities and their varying needs for resources; therefore, the role and function of the various health organizations are somewhat different. The service audience of the central Department of Health include all 25 cities and counties, with the organization's mission of planning and strategies of health policies, a fair allocation of medical resources, medical quality control, and legalizing related health laws while district health centers offer basic level of medical care services at the local levels of prefecture, city, or county[2].

In response to the social sanitation needs of the society, the basic level of health care system of Taiwan provides services such as citizens' health promotion, epidemic prevention and control, health care for all and others. The operation of basic level healthcare systems uses district health centers as a hub and can be split into three stages. The first stage was between 1945 and 1960, in which the service provided was mainly the prevention of epidemics; in 1961 to 1982, service was focused on tuberculosis and family planning; after 1983, the focus was shifted to strengthening the medical care and combined services of remote district health centers, a transformation stage in which the consolidation of services helped provide the public with continuous, complete, and a varied basic level of health care service. The health of a community was upheld and changed. In order to improve a community oriented multitude of health care services, an assessment of community health was imperative which was why from 1997, community health assessment training began in order to help district health centers solve their problems in assessing community health[2].

In order to offer medical services to impoverished areas, 12 experimental group medical centers were setup in 1983, which eventually became a total of 174 in 1997. Group medical centers were setup within the district health center, and aside from being responsible for the clinic services, they also supported in processing health insurance claims to strengthen the overall functions of the district health center. The district health center is the most basic and fundamental sanitation service unit, and as of right now there are 25 local government public health bureaus, 373 districts of health, and 497 hygiene offices. The key operating personnel in a district of health are managers, head nurses, public health nurses, and among others[2].

Flu Shot Given to the Community Elderlys (Photo courtesy: Community Medicine Center, Taipei Medical University Hospital)

Table 1
District of Public Health Nursing Details of Operation

Service	Details
Vaccinations	• epidemic prevention: dengue fever, enterovirus infections, tuberculosis, hepatitis b, AIDS prevention, and other epidemics • vaccinations: vaccinations for infants, vaccinations needed in schools, women's rubella vaccination, influenza vaccination and others
Cancer prevention	• examination and tracking of positive cases of cervical cancer, breast cancer, oral cancer, and rectal cancer
Disease prevention in adults and the elderly	• blood pressure and blood sugar examinations in coordination with community activities • case records and management of patients with high blood pressure, diabetes, or debilitated elders
Family planning and superior birth health	• teenage sex education promotion • 100% tracking of the mental disabled and psychiatric patients, counseling single cases to execute birth control
Pregnancy management	• visitation of foreign brides
Infant health management	• case tracking of highly dangerous groups or anomalies
Day-care, kindergarten health management	• health examinations
Psychiatric case management	• recording cases after discharge and support in forcefully treating cases in communities
Long-term care	• visitation of nursing homes in jurisdiction • visitation and transfer of cases
Elderly health examination	• tracking of abnormal cases • promoting health examinations in the elderly
District of health clinic	• blood pressure, blood sugar exam • general examination • cervical examination • obtainable condoms, orally ingested drugs
Community health construction	• participation in the operations of community health construction centers

III. Range of Operation

Generally, the operations of public health nursing personnel are managed by areas or single cases with the most common operations dealing with medical insurance and the prevention of epidemics. Some districts of health have setup group treatments and offer clinics for treatment. Vaccination is one of the most important tasks in sanitation, and studies show that in order to rank the public health nursing personnel in districts of health, there are five main tasks: vaccinations, family visitation, disease prevention in adults and the elderly, cancer prevention, and epidemic prevention. The details of operation are shown in table 1[3].

"Public health nursing personnel" are a part of the district of health, and with their changes in role and functions, the contents of a public health nursing personnel's job and their priorities will be adjusted in tune with the health needs of the public, and also local development, the allocation of medical resources, community resources, available labor, and a change in philosophy in the operation of public health bureaus. The goal of adjustment is to respond to the needs of the public community in terms of

service and care.

Recently, in order to meet the needs of public health nursing personnel in the execution of their operations, certain laws have been amended, and the laws pertaining to public health nursing personnel are as below:

1. The president announced the 09500085221 act on June 14, 2006, which amended the fourth item in epidemic prevention law stating "the first item of administering vaccinations can be operated by nursing personnel, unhindered by the 28th item in doctor's law."
2. Public health promotion law's (draft) 11th item states that the public health nursing personnel in public health bureaus can administer cervical examinations, unhindered by the 28th item in doctor's law, to ensure the smooth operation of nursing personnel.
3. Health promotion act item 11: Samples taken for health examinations (blood or items obtained through invasive methods) should be administered by nursing personnel or any other lawfully authorized medical personnel.

IV. Acting Labor

According to the Department of Health's (2005) medical personnel database, nursing personnel working in city and county districts of health (positions include: care directors, head nurses, care specialists, nurses, public health specialists, nurse midwives) amount to 2573[3].

According to the Department of Health's "public health nursing personnel suggested standards"[4] (table 2), the regulations of the organization categorize districts of health into three types: districts of health in mountainous regions, and remote islands districts of health in towns or prefectures, and districts of health in urban areas. The average number of care recipients of remote areas is 1,476; districts of health in non-mountainous regions care is an average of 7,407 people, while urban districts of health on average care is 14,273 people.

Studies show that[3] the acceptance of public health personnel in districts of health signifies that they have passed the basic national nursing license examination. Most who take this test apply for it, or are sent by their superiors. The requirement for public health personnel to have hospital clinical experiences or be a graduate is not documented.

Department of Health which commissions researches points out that[3] public health nursing personnel are appointed by recruiting applicants for examination (60%), but those who transfer from hospital nursing personnel or are sent by their superiors each take 46%. In terms of the working experience of public health nursing personnel, those with hospital clinical experiences are at 89.8%, and those who have no experience whatsoever are at 10.8%, with other types of nursing working experiences at 8.7%, such as: professional sanitation nursing and school sanitation nursing. From the current status of public health nursing labors, 34.2% have less than 5 years of experience, 22.4% have between 10~20 years of experience, and 18.1% have more than 20 years of experience.

Table 2

Suggestions for the Standard Allocation of Public Health Nursing Personnel in a District of Health

Area Type	Suggested standard of nursing personnel allocation
Remote areas	5 personnel per district， For populations over 3000, every additional 1000 needs 1 more personnel.
Towns and counties	Population under 30,000, then the basic 5 personnel; More than 30 to 100 thousand people, an additional personnel for every 10 thousand; More than 100 to 200 thousand people, an additional one personnel for every 20,000 people; More than 200 thousand, an additional one personnel for every 30,000 people.
Urban areas	Same as towns and counties

The salary structure of public health nursing personnel is determined by ranks, with the highest population of 62% being entry level ranks, and 27% being in the master rank. 7% of the labor is categorized as others because they are on contracts. Most (53%) earn between 41,000 to 50,000NT, while 27% earn between 51,000 and 60,000NT[1].

V. Occupational Training

More than 80% of public health nursing personnel have junior college degrees or above (junior college being 50.7%, university being 30.9%, graduate studies being 1.8%). Those with professional licenses are mainly with a nurse's license, with about 81.5% with this license, but those with nursing licenses are also at 73%, while those with nurse midwife licenses are at 52.7%. Most public health nursing personnel have two or more professional licenses. Approximately 12% of public health personnel take occupational training, with the most common type of the pursuit of a master's degree (74%), and their educational curricula are related to nursing or the medical field (84%). Studies indicate that the motives which propel nursing personnel to further educate themselves are: to improve their professional abilities, and work demands or personal interest. The biggest obstacles nursing personnel face during occupational training are: lack of time, unaccessible to the class, or worry that it will affect their jobs[3].

Post-war educational facilities of public health nursing personnel for occupational training in the early days included the "central sanitation research facility" and "public health research center of the Taiwan province." Abided by the standards set by national public health operations, they were in charge of the occupational training of all public health nursing personnel in Taiwan. Furthermore, in order to cooperate with the "combined health insurance services" plan, public health bureaus gave the training responsibility of nursing personnel to the public health research center of the Taiwan province. The details of occupational training included operational guided occupational education and community health services, result analysis and publishing, public health topics, and operations of decision making abilities[1].

Due to the characteristics of their needs and the differences in resource allocation, 90% of the occupational training of nursing personnel in districts of health is handled by the local public health bureaus with the various types of training they need in operations. Furthermore, 76% of nursing personnel in districts of health have training in emergency aid, with CPR training done by 77% of the personnel, ACLS with 39%, and emergency medical team (EMT) with 11%[3].

VI. Public Health Nursing and the Healthcare System

The main reasons for the global development of public health nursing include the eradication of poverty, inequality, the lack of basic medical care, environmental pollution, and epidemics. As we step into the 21st century, the problems listed above will show themselves in different forms. With 100 years of experience, the public health nurses of Taiwan must handle the daily tasks of intimate interaction with individuals, families, communities, countries, and the global system and carefully re-examine the past to create a better future role for public health.

Theoretically, in a reasonable medical system, an insurance agent should strive for financial health and sustainable operations to prevent financial and health risks for the general public, work harder to maintain the health and improve the quality of medical services to finally achieve the ultimate goal of a higher quality of life[2].

The archetype of health service organizations has been transformed from disease management to health management, from the individual to the group, which is why health service organizations such as hospitals or districts of health must in the future carry a stronger emphasis on how they can cooperate together and develop a system to manage group health and provide a continuous and complete health service. Therefore, one of the important trends of future development is the pooling of community resources to attend to the various health needs of the public[2].

Shih, Yao-Tang points out that there are five main elements in community health

management, including: (1) community health assessment, (2) applying influenza knowledge, (3) establishing community health service organizations, (4) promoting a standard for community health services, and (5) establishing a system for evaluation and monitoring. In this ideal system for community health management, the public health nurses in the districts of health are key players in providing health care for the general public. The combination and cooperation of various departments and the general public to improve the delivery system of community service resources will be the core strategy in the future[5].

In a society with fast and changing needs, the challenges that public health personnel must face in the future include: a clear understanding and execution of their role, being recognized by government and the public on the important role of public health nurses in the prevention of diseases, having the professional characteristics of public health nursing that would be acknowledged, and developing new talents through the demonstration of public health leaders. Public health nurses must put more weight and aggressively participate in topics including: the improvement and prevention of public health, a factual based method of care, a community policy model that is anti-centric, and developing the partnership model with community teams.

VII. Conclusion

Currently, health centers are Taiwan's most complete disease prevention network and channel, a basic level of health care organization established nationally in every town and county and understands the cultural pulse, as these establishments are seen in cities, villages, mountain and coastal regions, and it is the best unit for the function of basic level of health care treatment.

The people executing the health policy of this country are the public health nursing personnel, as they are the foundation of Taiwan's executive health organizations, and a very valuable labor resource in the medical field.

Taiwan's public health nursing personnel are also the largest population of basic level specialists in the health care system, representing approximately 60% of all medical personnel. They are the first lines in contact with the health problems of the general public, and their actions deeply influence basic level of health care services. They are the key players for the communication network with communities, and provide a community care model with the home as the center.

Community Health Screaning "Three Highs", Blood Surger and Cholesterol (Photo courtesy: Community medicine center, Taipei Medical University Hospital)

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Section VIII
School Health Nursing

Li-Mei Chen

I. Development of School Health Nursing in Taiwan

In the beginning of the post-war period in Taiwan, schools at every level had no nursing system in place, since there was a shortage of health care personnel. The task of school health nursing was needed to be performed by a professional, therefore in 1952, the Ministry of Education commissioned the Central Sanitation Experimental Center and the Department of Nursing, National Defense Medical Center to hold an 8 week "school nurse training course" for the nursing or care personnel working in schools, in order to establish a good foundation for school health nursing[1,2]. Taiwan's sanitation health care performance and related education training were matters of public importance, and with the first appearance of a thesis relating to school nursing personnel[1] and the subsequent publications released on this subject[3], the will to aggressively seek occupational training was awaken in many school nursing personnel, and induced education and sanitation departments to give weight to these matters. Therefore, ever since 1990, the Ministry of Education has had formalized a budget and gave support to seminars or emporiums dealing with school health nursing. The Department of Health also collaborated with the Taiwan Nurses Association to initiate the "Elementary and Middle School Healthcare Model Experiment Plan" and developed standards and regulations for the execution of school health nursing for the perusal of all middle and elementary schools. Moreover, since the establishment of "National Nurses Training Center" by DOH and National Taiwan University nursing institute in 1992, allowed further education for working nurses. This center is divided into eight to 10 study groups, one of which is the school health nurse group, which they provide one year of training course. Nurses that attend this group are hoped to become the seed of school nurses which can enhance the work quality of school nurse[2].

Most importantly, under the support of MOE, DOH and the R.O.C School Health Association, the specialized professional school health nurse academic body -- The Association of Chinese School & College Health Nursing was established in 1993. Later in 1996, Association for the Advancement of school nurses, ROC was established, and under close collaboration, enhanced the knowledge of school health nurses through training and also built the role and status of those nurses. The two organizations worked together with the Ministry of Education, Department of Health, and the Taiwan School Sanitation Committee, and in 2002, finally passed the "school health act" after 30 years of work. This act was passed through the Legislative Yuan and finally announced by the president. The act itself was a very important legal documentation of a standard of school health from which school health nursing personnel were able to follow, and establish it as the foundation of performing the tasks of school Health and school health care. Moreover, Ministry of Education (MOE) and Department of Health (DOH) collaborated and completed the "student health examination method", "guidelines for emergency medical for care schools", "health management for school food sanitation" and co-promoted plans to enhance school health, and to

promote and safeguard the implementation of the health of all grades and staff of schools.

II. The Role and Function of School Health Nursing Professional

A. Common health problems in school

1. Problems with student vision[4]

According to DOH statistics, the number of children suffering from myopia in 2005 is as following: Seven year old children (grade one) is 21%, 12 year old children (grade six) is 63%, which is higher than data from 2000 where it was 20.4% and 60.5% accordingly. There is also an increasing trend on the depth of myopia. Moreover, strabismus and Amblyopia in pre-school children needs to be corrected before the age of 5-6. It is too late if those problems are discovered at the age of 7-8, and treatment and correction after the age of 10 is too late. According to the survey conducted by the Department of Education in 2005 on elementary and middle school vision problems indicated that the number of affected individuals are increasing and that myopia and child strabismus are problems that need special attention.

2. Problems on student cavities[5,6]

According to DOH survey results performed in 2006, the DMFT of 12 year old students in Taiwan was 2.58, the prevalence of dental cavities is 37.30%, showing a significant improvement compared with 2003 where the DMFT was 2.74 and the prevalence was 69.32%. However, in comparison with advanced neighboring countries like Japan (2005 where DMFT is 1.7, Singapore DMFT 1 and WHO global oral health indicators (2010) where target DMFT is under 2, there is still room for improvement in Taiwan.

3. Student over weight (obesity) problem[7]

The results from the 2005 survey conducted by DOH, using DOH children and adolescence definition as the reference standard, indicated that the number of obese elementary students from 2003 to 2005 decreased from 27.2% to 24.9%. However, the percentage of over weight students have decreased from 59.9% to 55.2%. The main reason is due to the significant increase in percentage of underweight students from 12.9% to 20%. Other than obese and over weight students, focus needs to be placed on underweight students as well. The percentage of obese middle school male is higher than female. 15.8% of the male are overweight and 12.5% obese where 12.5% are overweight and 9.4% are obese for female that are in middle school. The proportion of overweight to obese students has increased from 22.9% in 2003 to 27% in 2005 and is continuously increasing. Hence, special attention needs to be paid at physical health and nutrition, balanced diet and other relevant factors to enhance the

Health Screening at School (Photo courtesy: Community Medicine Center, Taipei Medical University Hospital)

promotion and implementation of the plan.

4. Student accident injury problems[8]

According to DOH, 33% of the population aged from 5 to 14 die because of injury and 53% of the population aged from 15 to 24 die from such accidents. Amongst these accidents, car accident is the major cause of injury. This can be prevented through different methods, such as wearing a helmet while riding a motorbike, wearing seatbelt when driving and etc. Even though the number of deaths caused by accidents has decreased compared to 1995, but accident is still the number one reason in the leading ten causes of death in those two age groups, which needs special attention.

5. Student smoking problems[9]

According to the survey conducted by Bureau of Health Promotion (BHP), DOH in 2002, the teenage smoking rate in Taiwan is as following: 17% in male and 4% female. If students smoke as they grow older, the problem of smoking will be more severe, this issue awaits recognition.

6. Student drug abuse[10,11]

Over the years DOH drug administration has commissioned scholars to perform studies related to "teenage drug abuse investigation", study results performed by professor Wei-Chien Chen on the prevalence of drug abuse is as follows: Grade seven is 0.6%, grade nine is 1.1%, grade 10 is 1.1%, grade 12 is 1.6%, grade one of vocational school is 3.3%, grade three of vocational school is 2.6%. Studies performed by Hwei-Chien Ko in 2004 shows the prevalence of university students is 2.1%. The ranking of the most commonly used drug amongst the teenagers in Taiwan are of following: ecstasy, ketamine, and marijuana. The drug abuse problem in Taiwan needs special attention

7. Students having an open sexual attitude and the problem of pre-marital pregnancy[12]

Statistics from the Ministry of the Interior indicates that the fertility rate of teenagers aged from 15-19 in 2005 is 8%, in addition, the data announced by Li Hsin foundation in 2004 indicates that at least 50,000 abortions and 100,000 births occur every year (female aged 15-19), indicates that this problem deserves special attention.

8. Student depression and suicide problem

According to the research performed by Wei-Chien Chen[13] in 2004 on "Estimation and Prevention of depression in school children strategies", since December of 2003 to November of 2004, the prevalence for major depression of middle and high school students was 8.66% and mild depression was 0.67%, where the prevalence is close to western countries. Studies performed by Hwei-Chien Ko[14] in 2004 and 2005 indicates that 5% of the students in university are suspected of suffering from depression and around 10% of them have tried to commit suicide in the past year. Moreover, suicide is ranked the second in the 10 leading reasons of death for people aged 15-24 (data published by DOH), which indicates that depression and suicide deserves special attention

B. Health promoting schools[15]

The first international seminar on health promotion was held by WHO in Ottawa in1986, which opened a new constitutional chapter in Ottawa, where 5 main programs were established to promote health, and after that health promotion had became a world wide health trend. Since 1995, WHO also suggested that school should be a place with healthy environment, which brought the concept of health into campus, and the concept of health promoting schools spread worldwide. The concept is to combine all resources and manpower from different parties to mutually promote this system, especially health and education department, all teachers from the school and parents to leverage community participation and provide students with a healthy learning environment. This also provides teacher with a healthy work environment, decreasing concerns in health, increasing the efficiency of education system, and indirectly promote public health and social development.

There are many health problems that are related to students, for example, myopia, dental caries, poor physical fitness, underweight, overweight or obese, teenage pregnancy, smoking, drug abuse, and accident and etc.

Therefore, the government needs to pay extra care and effort to establish a healthy school, nurturing a healthy life style, healthy and good behavior of life, to grow healthily, happily, and safely. In the era where there should be more emphasis on health promotion over preventative treatment, traditional top-down method should be broken, and all the staff of the school should proactively get involved with the health management in campus, understanding that this is their right and their obligations. The school should find out their own health needs, then develop and promote the policies and direction of the staff health, combine community resources so that the school, parents, and the community can take part, improve the physical environment at school, implement health education and activities and health services, and integrate health into daily lives to achieve the target of promoting student and staff health. These are the aspirations of the DOH and MOE, to actively promote the health in school. This is supported by education related institutes for administrative support, counsel, and assistance, while the health related institutes provide professional advice, counseling, and support and work in synergy to enhance the health of the students and staffs and hence the promotion and development of a healthy school.

Since 2001, MOE has been promoting the "school health promotion plan". In 2002, DOH also started promoting the "school health promotion plan" and "making the school healthy plan". In February 6, 2002, "school health regulation" was announced to promote the health in school. In April 24, 2002, minister of MOE and DOH co-signed this document, announcing this collaborative plan to promote school health. Moreover, since 2003, pilot plan was implemented on 3 schools and in 2004, 48 primary school and middle school joined, and in 2005, 318 schools joined the plan. In 2006, the numbers increased to 526, and in 2007 the plan is to be 100%, with 700 schools continuing to promote health in schools.

C. Professional knowledge in school nursing

Besides post-graduate institutions of nursing, all different nursing schools in Taiwan (higher vocational nursing, specialist nursing and care faculty) provide professional training according to different sub-areas of the workplace and different professional fields of the workplace. Therefore, the level of education and the training provides are similar level of all nurses, regardless if she/he is a clinical nurse, community nurse, professional nurse, or school nurse, the training provided are the same[3]. Hence, training is very important for those nurses who are entering a different professional field; primary and advanced occupational training is also important and necessary while the nurses are working. Currently the professionalism of school nurses has not garnered unanimous approval, but as the professional appearance of school nurses has been completed, school nurses should establish their own professionalism. In 2004, the National School Health Association conducted studies on the professional knowledge and abilities of school nurses in Taiwan[15] and made a criteria of professional knowledge and skills that they expect nurses to have namely, professional theory of care nursing, health management, health knowledge, educational sanitation theory, and the skills include professional skills of nursing, execution of plans, health education techniques and skills, ability to communicate and coordinate, health assessment ability, and health promotion techniques. A simple overview of professional knowledge that nurses should possess is as follows.

1. Professional Nursing theory and skills

Nursing theory means any one of the nurses should have the basic knowledge and expertise, including all subjects that are included in the nursing license exam set by the Ministry of Examination and professional nursing skills that are included in the education curriculum planned by the MOE. Nursing professional skills means nursing staff in any unit should have the most basic nursing skills, including the professional skills, nursing process, nursing record, case report, tracking and counseling skills.

2. Health management plans and implementation

A good plan can be seen when it is carried out with effectiveness. In order to carry out a health management and service, and to create a healthy campus, besides professional

health knowledge, it is also important to have skills such as the ability to communicate and coordinate as well as the ability to utilize information.

3. Health planning and implementation

Many health problems are often results of individual negligence. Therefore, health education is fundamental were the responses from respondents. Everyone agreed that health education is the main work task for school nurses. School nurses should have basic theoretical knowledge so then they can appropriately use those skills to educate others. With those fundamental skills, school nurses are competent and can enhance the professional image of school nurses.

4. Research methods

The evaluation and presentation of health education are achieved through surveys. Therefore, school nurses need to develop research skills, implement researches that are related to health care.

5. Health and medical administrative regulations

When implementing health services, health education, and building a healthy environment, school nurses need to go through an administrative system to propose a plan, register for funding, implementing the activity, consult relative units for assistance or support, integrate and use community resource and etc. Therefore, school nurses must possess administrative skills.

School nurse is the only professional trained medical personnel in campus and is usually the consulted person in regards to medical related laws and regulations. Often questions related to infectious disease prevention law, doctor's law, pharmacist's law, health law and other laws related to the nurses are also asked. It is important for the school nurse possess the knowledge of medical related laws and regulations.

6. First aid education skills

School nurses are the first line personnel for treating students and must possess first aid knowledge and skills. In addition, educating teachers and students with emergency aid skills can not only prevent accidents, but can also minimize the damage. Therefore it is necessary for school nurses to possess the skills to be able to educate emergency aid skills and knowledge.

Furthermore, it is important to enhance the professional competency of the nursing provided in schools, therefore, training of different levels need to be targeted at different levels of school nurses, that is, new personnel, junior officers to senior officers, professional theory and practice are taught in, step by step, easy-to-digest method, and widen the scope for extensive education and training, followed by certification

Health Screening at School (Photo courtesy: Community Medicine Center, Taipei Medical University Hospital)

to build school health professional nursing system.

D. Role, function, and responsibilities of school nurses

1. Role function

School health nurses plays a very important role on campus, its role was first defined in the "health and education integration", "all health promotion teachers and students" and "Bridges and Coordinators of schools, families, community organizations and other resources". However, with the advancement of science and technology, changes in the social environment, school nurses started from a health advisor to an educator, and due to the change in work environment in school, school health nurses plays the role of: health manager, health service consultant, health advocate, health counseling, health education and health evaluator[16,17]. However, there are also other experts and scholars that believe that school nurses should play the role of planning, providing care, coordinating, educating, investigating, communicating, program managing, researching, and collaborating etc. Although there is use of different wording or classification, but there is not much of a difference, which all could be used.

Using the contents drafted by the school nursing related associations or committees in USA, Japan and other as a reference, the skills that are required to be a school nurse In school health nurses can be summarized as follows:

(1)Japan

The nurse education organization of Japanese national colleges believes that school nurses must possess three major abilities[1]:

a. Skills that are necessary for school health activities include nursing, clinical medicine, health management and education.

b. Skills to cope with school health management and be able to mobilize and work closely with the surrounding groups, teachers, administrative personnel, parents, students to promote the school's health.

c. Professionals should possess research abilities and acknowledge personal and group interaction relations and continue to learn and fulfill oneself.

(2)United States

a. Institute of Nursing, USA

There are eight levels, according to the Institute of Nursing, USA[1]:

a)Theoretical Level: Any decisions made during the process of performing nursing aid must be based on theory.

b)Management plan: School nurses must be able to develop and maintain the integrity of the school health program.

c)Level of care: School nurses in the care of individual health plans should include design.

d)Science and technology collaboration: Should always collaborate with professionals in other areas when designing, implementing and evaluating the health project.

e)Level of Health education: Through health education, school nurses should be able to help and teach the correct concept to students, family members and organizations.

f)Level of Professional development: school nurse should be actively involved in the discussions between their peers and use of the evaluation method to ensure the quality of student health care.

g)Level of Community health system: school nurses should evaluate, design, implement and evaluate the region health plan with the key members of the community.

h)Level of Research: school nurses should be committed in the theory of reform and participation plan, hoping to contribute to the school's health.

b. Institute of school health care, USA

The function of school nurses defined by the institute of school health care, USA includes[1]:

a)Promote and protect students best conditions.

b)Provide health assessments.

c)Develop and implement health plans.

d)Maintain, assess, and interpret the existing health information to help meet the health needs of individuals.
e)To develop individual education programs as a health specialist in student evaluation.
f)Plan and implement health management for those students with special needs.
g)Participate in family visiting to assess the health of students and their family.
h)Develop procedures when facing cases of emergency, injury and emotional control and provide crisis intervention.
i)Through the immunization programs, early detection, regular monitoring, and reporting and tracking of the case to promote and facilitate the control of infectious diseases.
j)Make appropriate health advice on the school environment.
k)Provide health education.
l) Coordinate health activities between the school and the environment.
m)Become a resource figure for the promotion of health.
n)Provide health assistance to colleagues at school.
o)Lead and support colleagues at school to form health promotion groups.
p)Participate in school health services research and evaluation to improve health care plan and service of the school.
q)Assist the school in the establishment of district health policies.

2. Duties (Job responsibilities)

According to the above-mentioned functions of the role from literature and practical experience, the codification of "School Health Guidelines"[17] by the Republic of China Ministry of Education and School Health Institute indicates the duties of school nurses as the following:

(1) Promote school health work by the principal's order.
(2) Take charge of all matters in regards to the school health center.
(3) In charge of the consultation and preparation and also assist in the preparation for health screening and other shortcomings.
(4) Cooperate with health administration units in the vaccination of all workers of the school.
(5) Responsible for the prevention and management of infectious diseases of students.
(6) Assist the physician and responsible for first aid.
(7) Arrange visits or contact guardians of those students who are absent because of sickness or no reason.
(8) Promote school health education and health activities.
(9) Assist in the works related to the School Health Committee.
(10)Responsible for contacting health and medical institutions, parents and local people, and promote the development of school health.
(11)Assist the head of health to collect and edit health education information.
(12)Responsible for the management of records and make statements on health statistics.
(13)Help maintain the district's environmental health security.
(14)Other school health related tasks.

III. Prospects of School Health Care

The health care system of schools is facing challenges of a new era, problems that student health issues such as accident injuries, chronic disease, dental cavities, eyesight defects, overweight, smoking, inappropriate sexual behavior, and drug abuse all require a good school health care system, well trained health care personnel, properly planned training before and after in service and the establishment of system of primary and advanced certified levels of education[18]. Therefore increasing the professional capacity of school nurses has always been the ultimate goal and direction of school nurses and the Republic of China Institute of school health care[16].

Two major authorities are involved in the work and education of school nurses. The authority plays a very important role in the

formulation of policies, implementation and evaluation, therefore it is important to establish an appraisal system, system to regulate the advancement and continuous education of school nurses. The establishment of counseling organizations for nurses in all counties to observe, demonstrates, and offer school nurses further professional training in related topics is important. Besides that, a professional certificating institute such as the National School Health Association is needed to train new personnel, offer advanced training, testing, and graduating certificates to help new nurses combine the theory and practice of school nursing[18]. This will support nurses to fully develop the abilities of their role and successfully execute the sanitation upkeep of the school while promoting and maintaining the health of school employees and students.

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NURSING

Chapter 5

Nursing Organizations in Taiwan

Chiou-Fen Lin & Yu-Mei Chao (Yu)

Chapter 5
Nursing Organizations in Taiwan

In the past sixty years, the nursing organizations of Taiwan have been established under the political, economic and social evolution as well as numerous revisions of "Civic Organization Law". Since the evacuation of Republic of China government from mainland China to Taiwan in 1949, the "Civic Organization Law in times of National Emergency" in 1942(at that time, Taiwan was still a colony of Japan), which consisted of only 21 articles, was put into practice in order to prevent civilians from forming associations and organizations. In 1989, the national government revised the aforementioned law into "Civic Organization Law under the Period of Mobilization for the Suppression of Communist Rebellion". However, in 1992, the development of democracy, coupled with Taiwan's change in the political environment, announced the abolition of "Civic Organization Law under the Period of Mobilization for the Suppression of Communist Rebellion", and the new "Civic Organization Law" was born. In 2002, with further revision, the "Civic Organization Law" included 10 articles with 67 clauses.

According to the present "Civic Organization Law", civic organizations can be divided into "professional organizations", "social organizations", and "political organizations". The purpose of "professional organizations", is to coordinate relationships between professionals, increasing mutual benefits, as well as promoting societal and economic establishments. The professional organizations are formed by the units, groups or practicing professionals in the same industry. The purpose of social organizations is to promote cultural, academic, medical, sanitary, religious, charity, athletic, fellowship, community services and charity. This type of organizations is formed by legal persons or groups. The purpose of political organizations is to foster a democratic political ideal, to help form the citizens' political will, and to facilitate citizens' participation in the nation's political proceedings. This type of organizations is formed by citizens of the Republic of China, Taiwan, Taiwan's nursing organizations include: The National Union of Nurses' Associations, and all other nurses associations. These are "professional organizations" formed to facilitate the development of national health and social welfares, as well as securing and increasing the mutual rights of nurses. Those academic, cultural, medical, sanitary, social services and charity organizations that are targeted at nurses are "social organizations", which are formed to satisfy personal interests or goals in the field of nursing. In Taiwan, there are no "political organizations" targeted at nurses currently.

I. Types and Development of Nursing Organizations

According to the limited historical records of Taiwan on its nursing history, the first nursing-related organization formed by nurses is said to be the "Taipei's Union of Midwives Association" established in 1946. In 1948, the "Taipei's Union of Nurses" was formed, followed by similar establishment of unions in each city. The "Nurse Association of Taiwan Province" was established in order to integrate all the other nurse associations in each city and county of Taiwan in 1949, July 30th [1]. The association was led by Ms. Tsui-Yu Chen, who was the director of the Nursing Department in National Taiwan University's College of Medicine. Due to the accusation of corruption and malpractice of Principal Chen, (she was also hired to direct National Taiwan University Hospital School of Nursing in 1950) which led to her confinement in 1956, the early history of nursing in Taiwan was deemed a taboo, and hidden[2]. However, Principal Chen persistently appealed to the court, and she was finally free of any charges in 1959. She decided to leave Taiwan and pursue her career as a consultant in the World Health Organization (WHO) for 18 years. This primary stage of development in Taiwan's nursing history is rarely spoken, expect by those few

elder people who were nurses at the time. It was never published on any official documents regarding nursing.

Up to April, 2008, 23 "professional organizations" (refer to table 1), and 27 "social organizations" (refer to table 2) in total formed by nurses. The "professional organizations" were basically formed by the union of nurses associations in each city and county. Since 1949, each county and city began to form their local union of nurses, and in the same year the "Nurse Association of Taiwan Province" was formed by the nurses associations in Taipei, Tainan, Taichung, Kaohsiung, Pingtung, Chiayi,

Table 1
Taiwan's Professional Organizations in Nursing

Name:	Established in:	Tel. /Fax:	Website:
The National Union of Nurses' Association R.O.C.	1989.3.3	Tel.: 02-25502283 Fax: 02-25502249	http://www.nurse.org.tw
Taipei Nurses Association	1949.3.20	Tel.: 02-27011107 Fax: 02-27024682	http://www.tpena.org.tw/
Kaohsiung Nurses Association	1965.8.18	Tel.: 07-3336634 Fax: 07-3355214	http://www.kna.org.tw/
Keelung Nurses Association	1949.3.	Tel.: 02-24331116 Fax: 02-24337242	http://www.tkna.org.tw/index.asp
Taipei County Nurses Association	1971.1.9	Tel.: 02-22580517 Fax: 02-22500784	http://www.ttcna.org.tw/
Taoyuan County Nurses Association	1972.2.10	Tel.: 03-3340957 Fax: 03-3391601	http://www.ttna.org.tw
Hsinchu County Nurses Association	1949.4.25	Tel.: 035-587530 Fax:: 035-538171	http://www.hccnurse.org.tw/index.aspx
Hsinchu Nurses Association	1949.7.30	Tel.: 03-5420746 Fax: 03-5420746	http://www.hcna.org.tw/From_11.htm
Miaoli County Nurses Association	1977.4.16	Tel.: 037-354512 Fax: 037-325503	http://www.mlna.org.tw/index.html
Taichung County Nurses Association	1968.8.24	Tel.: 04-25265927 Fax: 04-25155501	http://www.tcona.org.tw/sub.php
Taichung Nurses Association	1949.4.13	Tel.: 04-23125680	http://www.tcnurse.org.tw/index.asp
Nantou County Nurses Association	1975.12.2	Tel.: 049-2359850	http://www.nantou-nurses.org.tw/
Changhua County Nurses Association	1969.07.24	Tel.: 04-7251488 Fax: 04-7295945	http://www.chnurse.tw/
Yunlin County Nurses Association	1979.10.16	Tel.: 05-5345523 Fax: 05-5342126	http://www.ylna.org.tw/index.php
Tainan County Nurses Association	1957.2.21	Tel.: 06-6353525 06-6355786 Fax: 06-6377086	http://www.natna.org.tw/
Kaohsiung County Nurses Association	1974.5.12	Tel.: 07-7468074 07-7419496 Fax: 07-7425946	http://www.ksna.org.tw/index1.htm

Table 1
Taiwan's Professional Organizations in Nursing (continued)

Name:	Established in:	Tel. /Fax:	Website:
Pingtung County Nurses Association	1951.6.23	Tel.: 08-7365105 Fax: 08-7376480	http://www.ptnurse.org.tw/index.aspx
Taitung County Nurses Association	1972.5.12	Tel.: 089-348405 Fax: 089-361086	http://www.tttna.org.tw/index.htm
Chiayi County Nurses Association	1949.4.25	Tel.: 05-3621283	Not available
Chiayi Nurses Association	1949.4.25	Tel.: 05-2324698	Not available
Tainan Nurses Association	1949.1	Tel.: 06-2355006 Fax: 06-2008408	http://www.ntnana.org.tw/
Yilan County Nurses Association	1972.1.15	Tel.: 039-352291	Not available
Hualien County Nurses Association	1977.7.17	Tel.: 03-8565301-7501 Fax: 03-8574767	http://www.hlcna.org/
Penghu County Nurses Association	1971.2.28	Tel.: 06-9274455	Not available

Hsinchu, and Keelung[1]. Thereafter, other cities and counties established their own nurses associations. Finally, in 1989, the unions of the 23 cities and counties allied to form the "National Union of Nurses' Association R.O.C.". As for the 27 "social organizations" that was aimed at professional nurses, the earliest organization was formed by Principal Ai-Chu Hsu, who came to Taiwan with the Republic of China government, and registered his organization as the "Council of Nurses R.O.C.", , under Taiwan's Ministry of The Interior in 1950. However, when the communists began to take over mainland China, they also established the "Council of Nurses R.O.C.", which resulted in problematic issues relating to representation between "Taiwan" and mainland "China" when such councils were to participate in international gatherings[3]. As the profession of nursing became increasingly precise in its field, Taiwan's nursing profession began to establish professional nursing associations and nursing societies since 1991. Among them, in 1988, the first branch of international nursing association was established in Taiwan, the "Honor Society of Nursing Lambda Beta Chapter-At-Large R.O.C."

The major missions of nurses associations in various cities and counties are:

1. to promote the mutual benefits between nurses;
2. to help facilitate national health and social welfare matters;
3. to facilitate the cooperation and contact between related organizations;
4. the gathering of members and the dissemination of news concerning the organization;
5. to help the government in putting regulations into practice in order to maintain national health and social welfares;
6. to deal with matters entrusted by the government and society to the organization;
7. to help the members in locating a job;
8. to promote the ethics of nursing and better the quality of nursing services;
9. to facilitate the member's goodwill towards each other, mutual cooperation and benefits.. etc.

The major missions of the "social organizations" for nurses are:

1. to elevate the professional nurses' professionalism and senses;
2. to protect the nurses in practice;

3. to improve the development of nursing professionals to promote national health and welfare;
4. to hold training courses for nurses in practice;
5. to promote academic development;
6. to establish a standard for caring and nursing procedures;
7. to publish nursing magazines, books and audio materials;
8. to promote research and development of nursing;
9. to promote the contact between members' , exchange of ideas and cooperation.. etc.

The above "professional organizations"

Table 2

Taiwan's Social Organizations related to Professional Nursing

Name of Unit:	Established in:	Tel./ Fax	Email/Website
Taiwan Nurses Association (TNA), formerly Nurses Association R.O.C.	1950.12.20 Registered in Taiwan	Tel.: 02-27552291 Fax: 02-27019817	twna@twna.org.tw http://www.twna.org.tw
Honor Society of Nursing Lambda Beta Chapter-At-Large R.O.C.	1988.8.26	Tel.: 02-23946845 Fax: 02-23946845	sigma@stti.org.tw http://www.stti.org.tw/
Taiwan Occupational Health Nursing Association	1991.4.30	Tel.: 02-27546100 Fax: 02-27546101	taohn@ms59.hinet.net http://www.tohna.org.tw
Taiwan Mental Health Nursing Association	1992.3.24	Tel.: 02-25994259 Fax: 02-25994285	psy.nurse@msa.hinet.net http://www.psynurse.org.tw
Oncology Nursing Society of Taiwan	1992.11.5	Tel.: 02-23781198	onst1992@onst.org.tw http://www.onst.org.tw
Taiwan long-term care professional association	1993.8.28	Tel.: 02-23690347 Fax: 02-23691973	ltc8888@ms2.hinet.net http://www.ltcpa.org.tw
National School Health Association	1993.12.4	Tel.: 02-29039821 Fax: 02-29039821	ph1001@mails.fju.edu.tw
School Nurses Association of R.O.C.	1996.8.19	Tel.: 07-5585206 Fax: 07-5564273	snac819@ms76.hinet.net http://www.schoolnurses.org.tw
Taiwan Nephrology Nurses Association	1998.1.18	Tel.: 02-25651932 Fax: 02-25651932	tnnanew@ms51.hinet.net http://www.tnna.org.tw
Taiwan Association of Nurses Anesthetists	1999.3.7	Tel.: 02-23123456-5532 Fax: 02-23415736	tanaroc@ms35.hinet.net http://www.tana.org.tw
Taiwan Teacher Nurses Association, formerly Council for Benefits of National Taiwan Military Teacher Nurses, renamed in 2002	1999.6.26	Tel.: 02-27978828	Yu3388.tw@yahoo.com.tw http://w3.yfms.tyc.edu.tw/frag/teacher-nta.htm
Taiwan Cardiac and Thoracic Nursing Association	1999.9.9	Tel.: 02-22439849 Fax: 02-22439849	tcna8899@ms67.hinet.net http://tctna8899.myweb.hinet.net/
Taiwan Association on Nursing Practice in Nongovernment HSOs	2000.5.12	Tel.: 02-86621143 Fax: 02-86621145	tanpweb@yahoo.com.tw http://www.tanp.org.tw

Table 2
Taiwan's Social Organizations related to Professional Nursing (continued)

Name of Unit:	Established in:	Tel./ Fax	Email/Website
Taiwan Association of Critical Care Nurses	2002.1.26	Tel.: 02-25215260 Fax: 02-25216258	mediz@taccn.org.tw http://www.taccn.org.tw
Council on the Academic Exchange of Taiwan Nursing Students	2002.3.9	Tel.: 02-27552291 Fax: 02-27019817	katiehou@gmail.com http://web2.tmu.edu.tw/b405091005/
Taiwan Chinese Medicine Nurses Association	2003.2.22	Tel.: 03-3196155 Fax: 03-3197309	ttcmna@yahoo.com.tw http://www.ttcmna.org.tw
Taiwan Community Health Nurses Association	2003.10.15	Tel.: 04-22079182 Fax: 04-22071112	cjlin@mail.cmu.edu.tw http://www.tchna.org.tw
Taiwan Nursing Home Association	2003.11.19	Tel.: 03-9231940	Tnha.taiwan@msa.hinet.net http://www.tnha.com.tw/
Association for the Promotion of Nursing Rights in Taiwan	2004.5.2	Tel.: 02-28267226	zylu@ym.edu.tw http://www.enpo.org.tw/www/nursingright/
Taiwan Wound, Ostomy and Continence Nurses Association	2005.3.12	Tel.: 02-66108859 Fax: 02-66108879	ostomy94@yahoo.com.tw http://www.twocna.org.tw/
Taiwan Hospice Ensure Nurses Association	2005.7.10	Tel.: 02-23569461	hospicens@hospicenurse.org.tw http://www.hospicenurse.org.tw/
Nurses Christian Fellowship of Taiwan	2005.11.5	Tel.: 02-29841769	nea@neftw.org http://www.neftw.org/
Taiwan Nursing Information Association	2006.6.18	Tel.: 02-27390444	tnia@mail2000.com.tw http://www.ni.org.tw/
Long-term Care Professional Association	2007.1.10	Tel. / Fax: 04-24618167	longterm95@gmail.com http://www.nultc.org.tw/
Taiwan Association of University Schools of Nursing	2007.3.17	Tel.: 02-2312345656-8423	yuchie@mail.nctu.edu.tw
Taiwan Nursing Professional Association	2007.4.21	Tel.: 02-28214893 Fax: 02-28214893	tnpa@tnpa.org.tw http://www.tnpa.org.tw/
Nursing Occupational Activity Association in Taiwan	2007.5.6	Tel.: 02-29552924	Sh98765tw@yahoo.com.tw

and "social organizations" for nurses are very important in the contribution of Taiwan's nursing profession. Especially for the "professional organizations", which manage the movement of nursing personnel, mutual benefits, support between professionals and job security for nursing professionals. Thanks to the hard work and dedication of the different organizations, Taiwan finally passed the "Nursing Law" in 1991, which defined and protected the rights and obligations of nursing professionals.

II. Professional Organizations Relative to Nursing

Currently, there are 23 unions of nurses in Taiwan, including 22 local unions of nurses and one national union of nurses association. Its development and division of missions are as follow:

A. The Union of Nurses' Association R.O.C.

The Union of Nurses' Association R.O.C. (abbreviated as TUNA) was established by the unions of nurses in the city of Taipei, Kaohsiung, and the Province of Taiwan, and was approved by the Ministry of The Interior in 1988. On March 3rd, 1989 the inaugural convention was held, and the first director of TUNA was elected. The website is: http://www.nurse.org.tw/. Since then, nurses and nursing professionals who wish to work in hospitals or nursing organizations would be required to join the local union of nurses in order to be able to practice under the "Nursing Law" passed in 1991. This became the only professional organization that requires compulsory membership under the law. The number of members in the Unions of Nurses, which is The National Union of Nurses' Associations R.O.C., is approximately 125,000 people.

The establishment of TUNA is to promote the nursing knowledge for national nursing professionals and nurses. It is also to promote the industry of nursing, carry out social services, and maintaining the rights of nurses, as well as elevating the status of nurses. In addition to the executive committee of TUNA, there are 7 councils: namely, the council of member benefits, the council of nursing administration and medical regulations, the council of the development of nursing studies, the council of international affairs, the council of public relations, the commission of nursing guidance, and the council of financial affairs. Each council has its own missions, the ultimate purpose is to achieve the appointed tasks set by TUNA.

The main missions of TUNA are as follows:

1. to establish and participate in the educational standards for nurses in practice,
2. to establish and participate in the examination standards for nurses in practice,
3. to establish the standard of practice for nursing professionals,
4. to establish the standard of ethics for nursing professionals,
5. to establish and put in practice the health welfares and benefits for nurses in practice,
6. to facilitate the cooperation with international health organizations or other health organizations,
7. to participate in the making of health-related strategies and nursing-related laws,
8. to be the spokesperson for the field and industry of nursing, allowing people to understand this profession,
9. to integrate available resources in the field and industry of nursing, and increase the influence of nursing organizations,
10. to create a scheme of future for the organization, with practical steps,
11. to maintain and increase the nursing professionals' mutual benefits,
12. to advice on and innovate nursing occupational activities,
13. to mediate disputes related to nursing occupational activities,
14. to comply with other affairs defined by relevant regulations.

B. Various Local Unions of Nurses

There is one union for nurses in each district defined by Taiwan's Ministry of The Interior. In total, there are 22 local unions, which were all established before 1979. Article ten of the nation's "Nursing Law" states that: "Nursing professionals must join the local union of nurses prior to practice. Union of nurses must not decline the entrance of any person to join the union with adequate qualifications." Therefore, all the nursing professionals in Taiwan must join their local union of nurses prior to practice.

Taipei has the highest number of members out of all the unions of nurses, and it has about 20,000 members. The second highest number of members rests within Kaohsiung City and Taipei County, each with approximately 10,000 members. Each executive committee is selected from the member representatives, and this position is not paid for. The boards of directors are the unit responsible for execution, while the council of supervisors is the unit responsible for

supervising. Any important decisions that must be made by the board of directors must be first consulted by the council of supervisors. Only then can matters be executed. The members from the executive committee of local union of nurses cannot be repeated, however, the members from the executive committee might also hold posts in TUNA.

III. Social Organizations Related to Nursing

A. Taiwan Nurses Association, TNA

Taiwan Nurses Associated was formerly the Nursing Association R.O.C., and it was registered under the name of "Nurses Association R.O.C." in 1950 in the Ministry of The Interior. In 1961, it became the "Nursing Association R.O.C.", and in 2002, it was officially changed to Taiwan Nurses Association in response to the request by the International Council of Nurses (ICN) for the past 20 years. The establishment of TNA is to develop the professionalism of nursing, promoting the academic research on nursing, elevating the standard of nursing education, improve citizen health and TNA's international status.

There are two types of councils in TNA. One is the council of services, and the other is the council of professional nursing. The council of services includes the council of members, council of financial affairs, council of international affairs, and council of editors. The council of professional nursing includes the council of nursing education, council of nursing administration, council of nursing studies, council of community health and nursing, council of internal and surgical nursing, council of emergency nursing, council of complete nursing during surgical period, council of children's and women's nursing, council of nursing on tumors, council of nursing on mental health, and the council of traditional Chinese medical medicine. The council of professional nursing within the nurses association covers almost all aspects in the fields of clinical nursing.

The missions of the councils are:

1. to improve the profession skills and attitude of nursing professionals;
2. to specify and define the relative vocabulary used in nursing professions;
3. to set up a standard of for each subject of nursing;
4. to promote the education and morals of nursing professionals;
5. to process the license of further education for nursing professionals;
6. to promote a standardized system of professional nursing;
7. to promote the study and process of nursing technology;
8. to help each member to exchange ideas and cooperate with each other;
9. to further the study of nursing education and nursing occupational activity;
10. to enhance the relationship, cooperation, and practice of nursing organizations through out the world;
11. to operate in coordination of government' s policy, and to spread the profession of nursing, improve citizens' health conditions, and upgrade living standards;
12. to publish all kinds of academic publication, books and audio visual teaching materials.

There are four types of members in TNA:

1. General membership: Those who have obtained the graduation diploma from a nursing major, faculty or institute in all levels of schooling which are certified by the Ministry of Education, or those who have obtained the license for registered nurse or nurse.
2. Student membership: Those who have not receive qualifications as a nursing professional but are currently enrolled in nursing schools of all levels (excluding those who have already obtained a professional license of nursing but are enrolled for further studies).
3. Group membership: The group must be approved by board of directors and council of supervisors. The members must nominate a representative to exercise member rights.
4. Sponsoring membership: Those who agree with the missions of TNA, and who provides human and financial resources to TNA. This type of member has eight rights, including rights of decision, rights of election, rights of nomination, rights to veto, rights to speak,

and rights to select any one of the published magazines of nursing; rights to apply for the proof of general membership, student membership, group membership, certificate of sponsoring membership and participate in the activities held by TNA.

Established for 90 years in China, the former China Nursing Association is now known as the Nurses' Association in China. Under the leadership of foreign priests, the organization joined and become one of the member countries of ICN. Then, the Yale Nursing School in China, which has been established in Chang Sha by Miss Nina D. Gage in 1909, has also represented China's Nurses' Association between 1925-1929, and was furthermore elected as president of council of ICN. However, the China Nurses' Association has ended her qualification of ICN during the Second World War and the Civil War in China. After the government of Republic of China has arrived in Taiwan, they established Nurses' Association of the Republic of China, and applied for membership at the same year with Nurses' Associations in China in the year of 1957. Due to the same, conflicting English names of the two above organizations, it troubled the ICN. According to the document of ICN[3], it saw the application of China as reinstatement of the its ICN membership, but it saw the application of Taiwan as a new membership application. Due to China's inability to provide a specified detail of members' document the application process was incomplete and its membership not reinstated. Since the approval of the application in Australia in 1961, our Nursing Association has been using the name called Nurses' Association of the Republic of China, Taiwan. .

Ever since, China's international policy has been a "political bombardment" directed towards Taiwan, and in the past years, Taiwan Nurses Association would attend the ICN Congress every four years. Each time, the organizing country would refuse to use the name of "Taiwan" and its national flag within the ICN Congress. Conflicts would result from such refusal. However, our representatives used their intelligence to make the best out of precarious situations, and successfully obtained the right to

Source: http://www.icn.ch

organize the "23rd Annual ICN Congress and Convention of the National Representatives" in 2005. Furthermore, Ms. Yu-Mei, Yu, our nation's nursing representative was elected as the commissioner of "Professional Services Committee", then director, then ICN's board of directors, to the third vice president of ICN, between 1989 and 2005. During Ms. Yu's 16 years of her service, she has been in direct contact with the executive body, which does not only increase Taiwan's visibility internationally, but also incorporated Taiwan's professional contributions and perspectives into the ICN's strategic operations.

In 2005, the ICN Congress considered the advice by TNA, which resulted in naming the major theme of discussion as "Nursing in Flight: Knowledge, creativity and energy". At the same time, TNA also defined the ICN Congress as a "Feast of Cultural and Academic Endeavors." It has successfully introduced Taiwan and its nursing profession to the international participants. ICN Congress was a success and came to a close on May 27th, 2005 with 148 countries, 4,359 health and nursing professionals participating in the event, which was the first academic meeting to involve the highest number of international participants and countries in Taiwan. This convention has earned splendid recognition and praises from international participants, and it also has presented the intelligence of the nation's people, passion and efficiency to all corners of the world. It is deeply believed that Taiwan has left a strong impression in the hearts of international nursing professionals, which in turn successfully completed the "diplomatic exchange of nursing knowledge".

B. Other social organizations related to nursing

Although the committee of the TNA already covers all the different fields of clinical nursing, these members still establish new and independent social associations. The main purpose is to promote further development in the field of nursing. The same committees members' names can be seen on different organization's lists, which can make people doubt such organizations' independence, and the guarantee of membership's rights and interests. When different organizations have conflicts of interests, how will those executives committee protect the rights and benefits of all members?

Due to the fact that the rights of the nursing professionals have not been protected by the establishment of social nursing organizations, the indicators of painfulness for nursing professionals have been on the rise. The lack of security in their working environment, the lack of human resources, the deprivation of labor rights, as well as the lack of nursing units within the central governmental organizations all contribute to the insecurity of nursing professionals. As a result, a group of passionate nursing professionals who wish to protect the rights, promote the relationship, increase the exchange between nursing professionals and other groups established the "Association for the Promotion of Nursing Rights in Taiwan." The main missions of the this association are:

1. to maintain and promote the basic rights of nursing professionals;
2. to process and handle matters arising from the disputes regarding employers and employees;
3. to supervise and innovate strategies concerning health and labor;
4. to maintain and innovate strategies concerning national health and welfares;
5. to accept and process matters entrusted to the association by organizations, groups and nursing professionals;
6. to promote the exchange and cooperation between members;
7. to promote the exchange and cooperation between the association and internationals organizations;
8. to promote strategies concerning the benefits of nursing professionals and the training of professionals in leadership and executive abilities;
9. to publish all kinds of magazines, books and audio materials concerning the basic rights of nursing professionals.

The executive committee of this association has been actively fighting for the rights of nursing professionals, who have voiced the needs of nursing professionals on many occasions.

IV. Conclusion

Although there are many nursing organizations in Taiwan, and the groups with executive committees hold related meetings, and established with their own written rules and missions, it is still limiting in satisfying the needs of nursing professionals in Taiwan. For instance, the lack of a common goal in the future, the lack of integration when it comes to resources in the nursing field, which in turn can contribute to the inefficiency for the groups who wish to be heard; the lack of action in striving for the rights and benefits for nursing professionals, as well as casting influence when it comes to the decision of executive strategies; the inability to act as a voice for those in the nation to understand the contribution of nursing professionals. There are also more to be done when advancing Taiwan's visibility in the nursing field internationally and the integration of professional organizations in order to promote education, as well as combining nursing theory with nursing in practice. The theme of nursing ethics is not emphasized enough, as well as the lack of organizational structures for union of nurses. All these can result in the silencing of the needs for nursing professionals.

200,000 people have the license of nursing in the Taiwan, but there are over 23 associations and 27 academic organizations. From having so many of these associations, we can see that each professional nursing teams are eager to establish an association by themselves to protect their rights and citizen welfare. Every professional nursing association, has its' respective goals and missions. Nursing staffs should have basic understanding of the association they belong to, so as to dedicate themselves and utilize their specialty. The professional nurses should also promote positive influences of nursing profession to the society, improve the development of nursing, advancement and independence, and the internationalization of nursing.

In the future, each union and academic organizations should focus on team-work , to mutually promote the unification of lecturing, testing and application, and emphasize on moral issues and to guide behavior of nursing practice, be responsible to promote the internationalization of nursing in Taiwan, the promotion of educational activities for nurses, develop mutual visions, integrate resources, take effect actions in protecting the rights of nursing professionals, to exercise influence over health and nursing related policies, and finally, be the voices of nursing professionals to allow the public to understand the contributions by nursing professionals.

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Nurses Dolls Made by the Union of Nurses' Association R.O.C. (Photo courtesy: Ching-Min Chen)

Chapter 6

Important Issues and Challenges

I. Nursing Manpower

II. Nurses' Working Conditions and Salaries Status

III. Disaster Nursing

IV. International Health Cooperation

V. Policies and Plans for Nursing Development

VI. Aging

VII. Advanced Nursing Practice

Chapter 6
Important Issues and Challenges

Photo courtesy: Bureau of Nursing and Health Services Development, Department of Health, R.O.C.

As technology and medicine advanced, the focus of health care has shifted from treating acute and severe diseases to preventive medicine. In this rapidly changing society, the challenges that the nurses in Taiwan face are no longer same as before. This chapter discusses the new issues that are present in different topics such as Nursing Manpower, Nurses' Working Conditions and Salaries Status, Disaster Nursing, International Health Cooperation, Policies and Plans for Nursing Development, Aging, and Advanced Nursing Practice. This chapter also touches on the issues and challenges that Taiwan nursing is currently facing.

NURSING

Section I

Nursing Manpower

Mei Chang & Yu-Mei Chao (Yu)

There are two types of nurses in Taiwan: registered nurse (RN) and licensed practical nurse (LPN). Registered nurse (RN) and licensed practical nurse (LPN) have to pass a national examination organized by Institute of Professional Examination and in order to qualify for RN certification, one must have a nursing degree from junior college or university, for LPN certification, must graduate from vocational high school or above. Those that pass the national exam can register for registered nurse (RN) or licensed practical nurse (LPN) licenses from the Department of Health (DOH), where they can obtain the qualification to practice. Since 2007, the nursing license needs to be renewed once every 6 years, those who are seeking for license renewal needs to complete 150 hours of continuing education. In 2006, a group of advanced practice nurses, called nurse practitioner (NP) were recognized and finally towards the end of 2006, the DOH, Executive Yuan commissioned a credible institution to administer the first official examination for NP certification. Currently, the number of nurse practitioners makes up a minority of the total nursing manpower. An overview of nurse practitioners will be discussed in detail in a later chapter. The nursing manpower in this chapter refers to registered nurses, licensed practical nurse, registered professional midwives and midwives.

I. Changes in the Number of Nurses and Midwives

According to the Department of Health "Database of Information Management System for Nursing Workforce" until September 2006, there are more than 130,000 RN licenses and more than 180,000 LPN licenses[1]. Because some nurses have both licenses, so that there are almost 200,000 professional nurses.

When we talk about nursing manpower, which usually leads us to think about midwives, because the content of education and training is very similar, nursing personnel usually took double majors or transferred to midwifery major. In the past, for most vocational high schools or junior colleges providing double major (nursing & midwifery) programs, it was not until 1990, where those programs were changed to pure nursing programs[2]. The reason for this change is because of the easy access to health care services in Taiwan, people usually chose to go to hospitals for gynecologists, leading to the decrease in demand of midwives, and causing the midwifery industry to die out. Nevertheless, the country still holds midwifery certification test until 2010, and those who are eligible to take the test must graduate from vocational high school or above majoring in midwifery care or nursing and midwifery training, and those who pass the exam can register for a midwifery certificate from DOH. In order to improve the quality of midwives, midwifery was bought to the higher education system and since 2004, the country added a new examination for the certification of midwives, those that are eligible for the exam must hold either an associate degree from a junior college majoring in nursing and midwifery or a degree from university/independent college degree majoring in midwifery and those that have RN, LPN or midwife licenses with masters in midwifery care. Those who pass

the examination can register for a registered professional midwife license from DOH. So far, there are around 53,000 people who hold a midwife license in Taiwan[1], most of which holds a RN or LPN license, there are only a little more than 300 people with midwife license alone[3].

In Taiwan, nurses have to work under the Nurses Act and midwives have to work under the midwifery regulation, according to laws, all RN, LPN, or midwives should register with their professional license at the workplace local health authority before practicing. The local authority will then issue a license for practicing.

There is a significant increase in the number of practicing nurses and midwives in the past 30 years, the figure below clearly shows the growth trend in the number of practicing nurses and midwives and a decrease in the number of persons served per nurse or midwife from 1961 to 2006. There were only 3,861 nurses and midwives in 1961 and the ratio of practicing nurses and midwives to the population was one nurse/midwife to every 3,039 persons. The number of nurses and midwives were about the same before 1971. Before 1966, the number of nurses were less than the number of midwives, maybe because the main focus before were placed on community health care and public health and the delivery of birth lies heavily on midwives. The number of midwives lies within 2000-3000 in 1961 to 1986, where the changes were insignificant. The number of nurses increased significantly in 1976, which went up to 3 times the number of midwives, where the number of nurses and midwives totaled to around 10,000. The average number of persons served by one nurse or midwife was significantly decreased to 1,462, and this change was related to the increase in the number of hospital beds. In 1991, there were more than 40,000 nurses and the number of midwives decreased to less than 2,000, causing the average number of persons served by one nurse/midwife to decrease to 475. The number of nurses doubled from 1991 to 2001 in the 10 years period and in 2001, the number of nurses exceed 80,000 while there were only around 500 midwives left, decreasing the average number of persons served by one nurse/midwife to 269. The increase of nurses in the past 10 years should be related to the Nurses' Act of 1991, the requirement of a higher standard of care from the hospital accreditation system and the increase in hospital beds in the past few years. The decrease in midwives was caused by that most women chose the prenatal care and birth delivery services provided by hospital physicians.

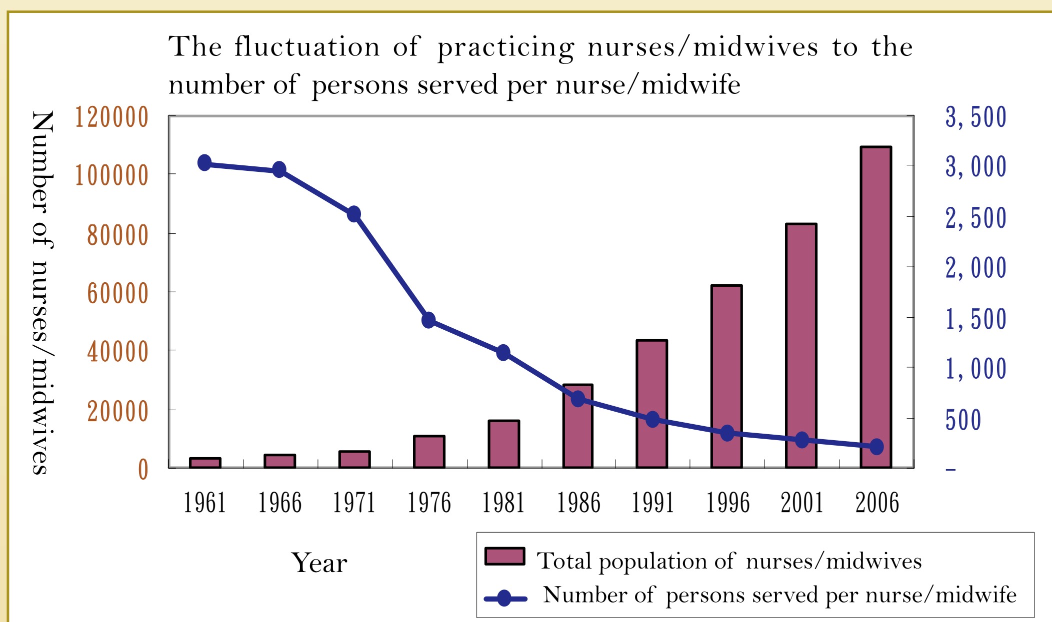

Figure 1. **Changes in the number of practicing nurses/midwives**

II. Current Status of Nurses

According to the statistics disclosed by DOH in 2006[3], practicing nurses and midwives make up 53% of the total number of medical staffs (figure 2). Nurses and midwives are always the most prevalent medical staff. In 2006, the average number of people that each nurse/midwife needs to serve is 209, therefore this means that for every 100,000 people, there are 479 nurses and the ratio of nurses/midwives to physician is 2.76: 1.

Based on the statistics disclosed by DOH in 2006[3], the total number of nurses/midwives was 109,521, where there are 81,690 registered nurses(74.6%), 27,408 LPN(25%), 419 midwives and 4 Registered professional midwives. Their demographic characteristics are as following:

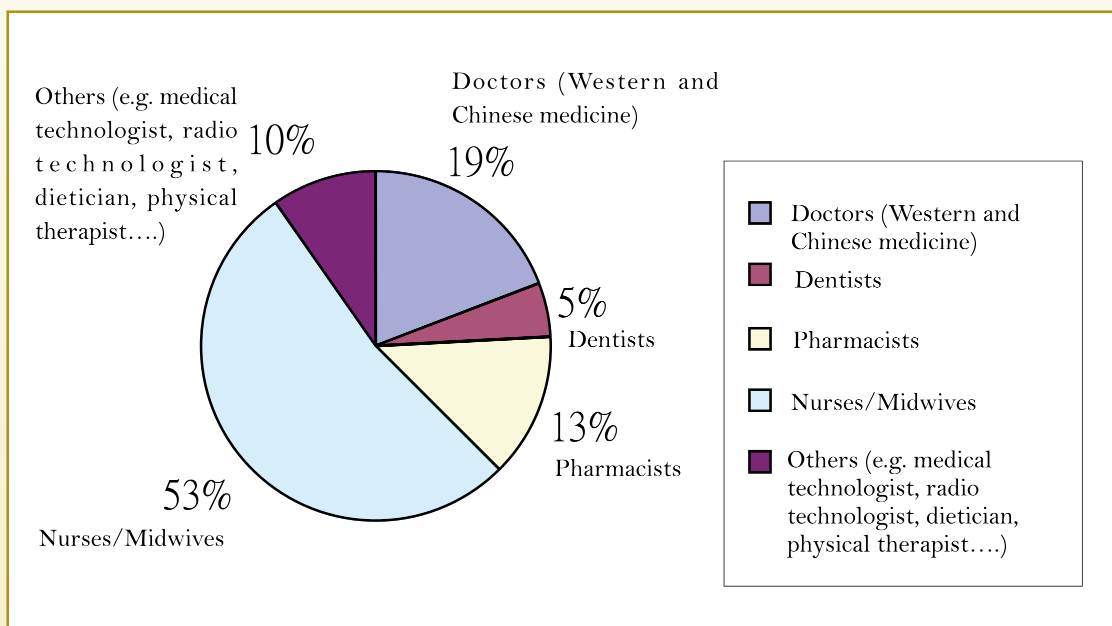

Figure 2. **Distribution of medical staff**

A. Age

According to the Statistics from Department of Health "Database of information management system for nursing workforce" in September 2006, majority(54%) of the nurses/midwives are aged between 25-34, followed by 22-24(10%) and 35-39(13%), and those over the age of 40 accounts for about one-fifth[1]. From this age structure, we can conclude that the practicing nurses/midwives in Taiwan are relatively young.

B. Gender

The majority of the nurses/midwives in Taiwan are female (99%), there are only 765 male practicing nurses in total[1]. The community' s acceptance of male nurses is low, and males are a minority of the student population in nursing schools, and even fewer of them to work in the nursing field after graduation

C. Workplace

The main workplaces for nurses/midwives are concentrated in hospitals (72%) and clinics (13%), which totals to 85%. Nursing institutions (nursing and post-natal care institutions) take up 3% of the total number of nurses. Nursing and post natal care institutions include nursing homes, day-care services, midwifery practice and post-natal care institutions. Other community institutions take up the remaining 12%, including health centers, school, clinics affiliated with workplace, social welfare institutions etc[3,4].

D. Geographical distribution

Figure 3 illustrates the geographical distribution of practicing nurses based on the six areas used by the Bureau of National Health Insurance (BNHI). Due to the convenience in transportation, the main factor that causes such geographic distribution is practicing opportunity, therefore the distribution and density of nurses

is highly related to the location of medical institutes, where most(46%) of nurses/midwives are distributed in Taipei or the northern regions of Taiwan[4].

E. Education level

Since there are no statistics on the education level of nurses/midwives in the DOH database, the figure below is used to demonstrate the education level of nurse/midwives who work in hospitals. The figure below is the education level distribution from the information collected in 188 hospitals (close to 30,000 nurses/midwives employees) that are under the 2006 hospital accreditation evaluation. The data indicates that amongst all the nurses/midwives, 2/3 are graduates from junior colleges and 1/4 are university graduates or above, less than 1/10 graduated from vocational high schools, and 1/100 holds a master degree[5].

III. Demand and Supply of Nursing Workforce

A. Demand of nursing workforce

In the past decade, the demand on the nursing workforce are affected due to the demand of acute medical care services, from the above current practicing status, most nurses and midwives are employed by hospitals and clinics, therefore the development of clinics and

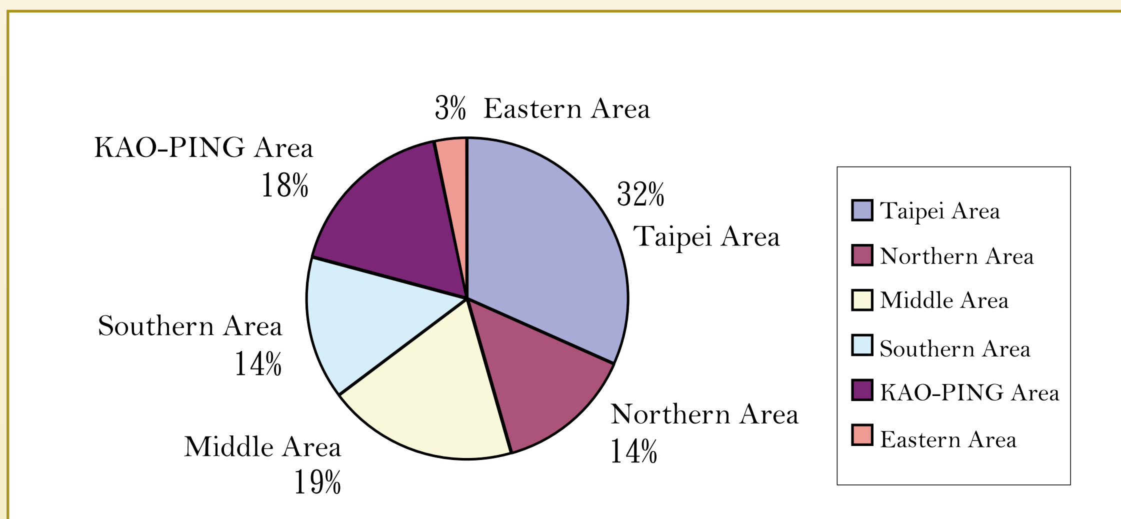

Figure 3. **Geographical distribution of practicing nurses/midwives**

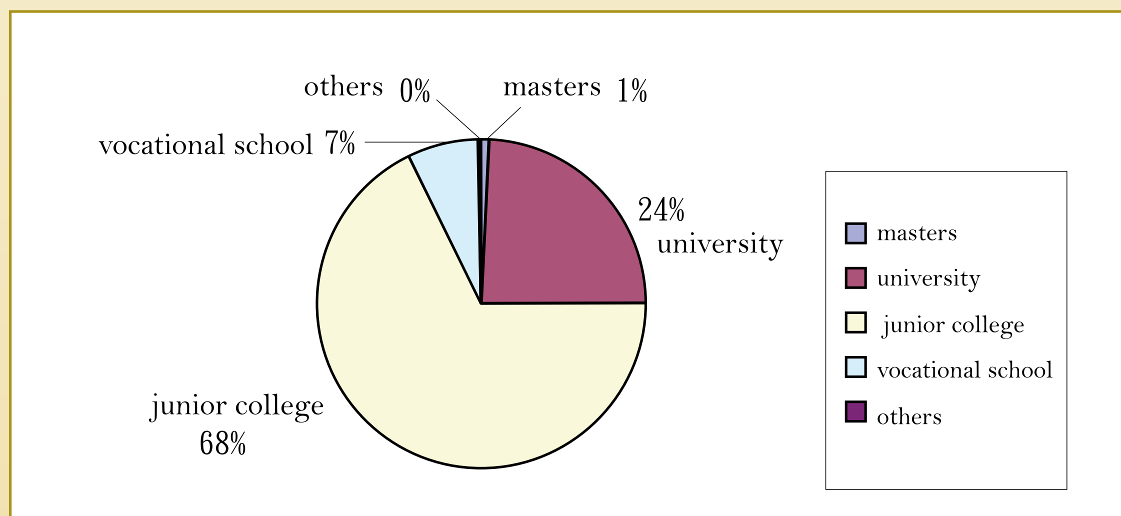

Figure 4. **Distribution of the education level of hospital nursing staff**

hospitals is the main factor that influences the demand of the nursing workforce. Before the implementation of NHI, only 57% of the general public had health insurance[6], many patients without health insurance either gave up their chance for treatment or reduced the number of visits to their doctor due to the high cost. Since the implementation of NHI in 1995, 95% of the total population is covered, it significantly increased the access to health care and reduced the burden of costs, causing an increase in the demands for health care. In the past decade, the number of hospital beds, hospitalization, and out-patient service continues to increase every year, and the number of nurses/midwives that are employed has also increased, from 56,458 in 1996 to 92,729 in 2006[3]. However, due to cost concerns, the number of nurses employed is usually insufficient to meet the real demand.

In addition to the prevalence of NHI, another cause for the increased demand in the nursing workface is due to the technological advancement in Taiwan. This advancement has allowed treatment for diseases that were previously untreatable, for example, liver transplants, lung transplants, and certain cancers. This technological advancement has increased the scope of the service, where more severe patients are being hospitalized and care has became more complicated, causing the demand of nurses to increase, for example, the number of intensive care unit increases. In addition to the increase in the number of patients, the trend in shorter hospital stays and the acuity of patient diseases increase the complexity of the patient care. Medical centers prioritize hiring the nurses with bachelor degrees or only recruit nurses with bachelor degrees. This reflects the need for high quality nurses in the future.

The majority of the hospital wards in Taiwan do not come with nurse aid personnel, all the care services are delivered by RNs or LPNs, and due to special cultural practices, most hospital will allow the patient's family members to accompany them, those accompanying family members or health aids hired by patients will share the job of personal care, however, experts believe that the demand of ward nurses would not decrease because of these type of support[7].

Moreover, the aging population in Taiwan is another reason why the demand for nurses is increasing. The rapidly growing aging population not only increases acute medical service needs, but also creates the need for chronic disease care and long term care services. Previously, the development of health care delivery system has been focused on acute medicine. Even though long term care models such as home care, nursing homes, and day care centers have been developing for 20 years, but the speed of development of nursing institutions is very slow and in 2006, there were 2946 nurses/midwives employed by such units3. The government is now aggressively developing and building long term care delivery system, as it is predicted that the demand of nursing manpower will increase with the demands of nursing homes, home care, day care, assisted living, and other long term care services. Research done on these demands estimates that in 2012, the number of nurses needed are: lowest estimate 4649, average estimate 6018, and highest estimate 8985[8]. According to the Nurses' Act, these nursing institutes require nurses to be in charge, therefore management skills is one of important characteristics of the future long term care talent.

There are two types of institutions within nursing institutions. The first type is a midwifery practice, which is where midwives and registered professional midwives operate their own facilities. Recently, due to the decrease in number of births and the conscious choice of most pregnant women to use hospital services for child delivery by doctors, the need in this sector has become very scarce. Post natal care facilities are facilities that provide new mothers services for recuperation after birth, while also giving newborns necessary care services. Women who have given birth can choose to stay in these facilities for 1-2 months to adjust themselves physically and mentally and with the aid of professionals, feed and care for their newborns. In early days, these types of care were provided by families at home, but with the transformation of the family structure to a nuclear family, most family members have jobs, which have led to the rise of post-natal care facilities. In 1997,

the first facility of this burgeoning industry was established, and in 2001, there were 23 facilities with a total of 583 beds and 74 nursing personels. Currently in 2006, there are 46 facilities with a total of 1,536 beds, with these facilities hiring 392 nursing personnels[3].

At present, the proportion of nurses in community services is very low, but it does not mean that their demand is also low. Taiwan has a very comprehensive public health service system in which every county and town has its own health center where public health nurses are the main service provider in implementing prevention and primary health care. Even though health promotion and preventative health care are very important, but due to government policies, those have been neglected in the long term. The number of public health nursing personnel has not been able to adjust with the growing population, as there are around 2,900 public health nurses in Taiwan and the distribution of nurse to population ratio is very uneven, with those that work in metropolitan areas having bigger burdens. The ratio for public health nurses to population is 1: 10,000 to 20,000[9]. Since the importance has been heavily placed on chronic disease prevention and emerging infectious disease prevention, we need more public health nursing staff to do this primary health care, in other words, in order to achieve our objectives of primary health care, more nurses are needed in this field.

There are other two types of nurses in the community, one is school nurses and the other one is occupational health nurses. According to the school health laws, there should be at least one nurse in every school. Schools with more than 40 classes would have to hire 2 nurses. If there are 35 students in one class, then each school nurse will have to take care of more than 1000 students. Academics in this field mentioned that with this ratio, it is impossible to achieve ideal school health service and recommended to increase the ratio to 1:750 [10,11].

For occupational nurses, according to the labor health protection rule[12], general corporations with more than 300 employees must hire one nurse. According to the DGBAS, Executive Yuan statistics, in 2006 the labor participation rate is as high as 57.92% and there are more than 10 million employees, but only around 1000 occupational health nurses. The main reason behind this is because most companies have less than 100 employees, which according to the laws, need no nurse, leading to current circumstances where although there is a demand for care, there is an insufficient number of nurses in this field.

B. The supply of nursing workforce

The main suppliers of nurses are nursing schools around the nation. The number of graduates in one year is as follows: In 2006, there were around 8,000-9,000 graduates, where 10% graduated from universities, 65% from junior colleges and 25% from vocational schools[2]. According to a sample survey conducted in 2001 of nursing school graduates, those that graduate from vocational schools (around 85%) seek continuing education in junior colleges or even in universities, half of those that graduate from junior colleges enter the nursing workforce and 1/3 of them seek education in obtaining an associate degree and that 70% of those who graduate from universities enter the nursing workforce[11]. In 2006, there were around 2,800 students that graduated from junior colleges and around 5,000 that graduated from the university's RN-BSN program[2]. According to a random sample of nurse graduates in 2001, 84% of those who graduated from the RN-BSN program will enter the nursing workforce and also 70% of those that graduate from junior college will enter the nursing workforce[13]. This high percentage may be interpreted as that those people have been working as a nurse during their studies. In other words, graduates of generic nursing education would not become nursing workforce until they complete associate degree or bachelor.

Nursing graduates need to pass the examination set by the country before becoming a licensed nurse. This examination is held twice a year, and the pass rate differs significantly according to each school, but the average pass rate is 30%-40%[14]. Nursing graduates can take the examination multiple times. Graduates from junior colleges or universities go for the LPN examination if they fail their RN examination, to receive their certification. DOH Executive

Yuan has issued 7,000-12,000 RN licenses and 5,000-9,000 LPN licenses every year in the past 5 years[3]. Those that have both the RN and LPN certifications are included too, which is the reason why the number of newcomers each year is slightly less than the total number of RN and LPN certifications.

The education level of Taiwan's nurses has been affected by changes in the types of nursing programs. Prior to 1970, there were around 1,000 nursing graduates each year, with half of them graduating from vocational schools. After 1970, with the rise of many junior colleges, the number of nurses graduated from junior colleges increased dramatically. Simultaneously, nursing vocational schools also began to heavily recruit students, thereby also keeping the population of nurses who graduated from vocational schools very high, with the growth of this population to be around 3,000 per year. In the mid 1980s a two year junior college curriculum was started for those who graduated from vocational schools, meanwhile the yearly graduates of generic nursing education gradually increased. Up till the mid 1990s, the number of yearly graduates from nursing education came close to 10,000 per year, and RN-BSN curriculums were eventually offered to junior college graduates at the end of the decade. After 2000, there was a decline in the number of students in vocational nursing schools, until the application of new students was completely ceased in 2005[2] in vocational nursing schools. The development of continuing nursing education programs significantly increased the education level of Taiwan's nurses, transforming the vocational school and junior college education of previous nurses to that of junior colleges and universities. By comparing the results of a national study conducted in 1984 on the nurses in hospitals[15] and Figure 5 which depicts the education levels of nurses in 2006, it is easy to see the difference that occurred in the past 22 years. The 1984 study found that the nurses in hospitals were mostly from vocational schools or training courses, with junior college level nurses at around 40%, and university level nurses at only 5%. In 2006, university level and above nurses accounted for a quarter of the workforce, while junior college level nurses accounted for 68%, and vocational school level nurses only accounting for 7%. This change is directly related to the overall increase in the level of Taiwanese education and the need for highly educated nurses.

There has been a shortage in nurses in United States in the recent years, as a result, institutes that help other countries recruit nurses started to arise in Taiwan, aiming to attract graduates from nursing school to study English and professional knowledge to take foreign nursing license examination in order to work abroad. However, as English is not a native language of the Taiwanese, those who move aboard to work as nurses are in the minority.

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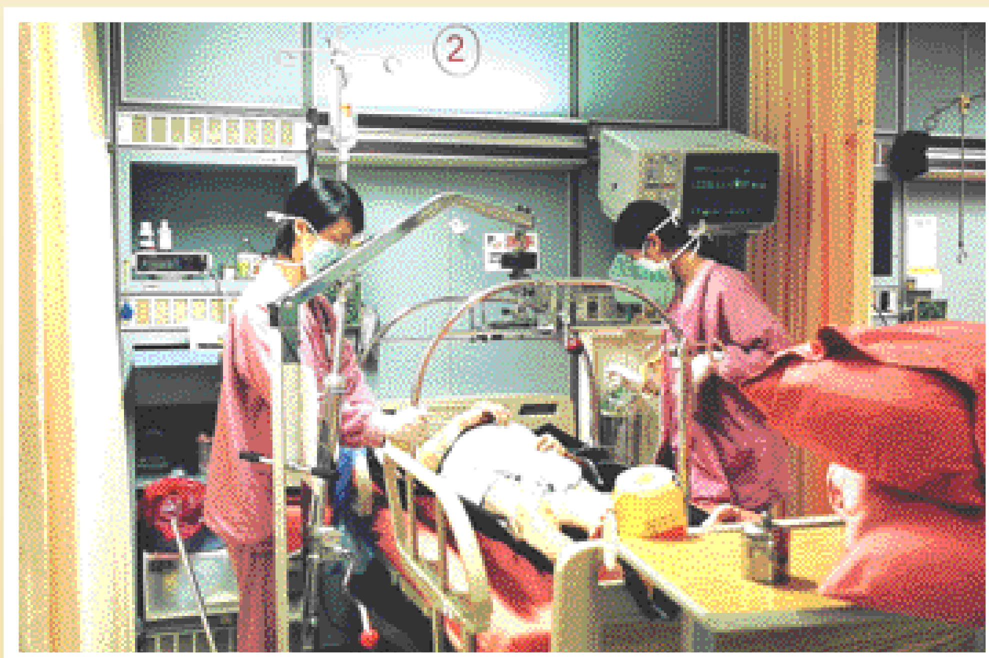

Section II
Nurses' Working Conditions and Salaries Status

Shwu-Feng Tsay

I. Overview of Nursing Manpower in Hospitals

Taiwan's nursing personnel are mainly derived from formal education systems. Currently, there are 13 universities, 7 colleges, 5 technology universities, and 14 vocational junior colleges, which offer nursing major programs. With the 2002~2005 classes as an example, there are approximately 14,200 graduates per year[1].

Studies reveal that there is a decrease of nursing graduates who practice nursing in the past four years (only 40% of graduates in those graduating from two and five year vocational colleges) but in the past four years, graduates who participate in non-nursing related industries have been increasing. According to research conducted by the Department of Health in 2007, the employment rate of nursing graduates was as follows: 74%-79% for 4-year college graduates and 84%-91% for 2-year university graduates. Two-year RN to BSN program in university is between 86%~96% and 94%~96% for vocational college graduates. In two-year junior college (day school) it is 47%~60%, while for two-year junior college (night school) it is between 49%~70%, and it is between 35%~44% for 5-year college graduates. In terms of employment rates unrelated to nursing, universities range from 7%~9% while vocational colleges range from 7%~14%[2].

The Nursing and Care Department of the Department of Health began to plan a Nursing Human Resources' database in 2006 to systematically monitor the working conditions of Taiwan's nursing manpower. According to data from the Department of Health medical personnel management system data, at the end of 2006 approximately 200,000 occupational nurses and registered nurses had licenses, but only 120,000 nurses on job, and nursing personnel in real practice were about 60% of those with licenses[3].

According to data from the Council of Labor Affairs[4], Taiwan's nursing personnel with licenses include occupational nurses, registered nurses, nursing midwives, and nurse practitioners. Their work environments are split into five major areas, with most nursing personnel in hospitals accounting for 90% of Taiwan's total nursing personnel; And that is the reason why the figures discussed in this document will be focused on hospital nursing personnel.

In 2005, the Department of Health conducted studies[5] on the current situations of hospital nursing personnel in 463 hospitals all over Taiwan. Results showed that the majority of hospital nursing personnel were women, with many of them less than 30 years of age with junior college degrees, singles and having 5-10 years of experience. Most of them were registered nurses, with most of them working under shifts.

According to the research report, 84% of the nursing departments have the right to appoint nurses, and 75% of the nurse appraisal system is conducted by the nursing department. Overall, the average on-the-job of training hours for new personnel is 28 hours and 35 hours and a year for nursing staff. In 2001-2005, the total turnover rate was 22-28%. The turnover rate distribution in 2001-2004 is as table 2 [5].

Table 1
Distribution of Hospital Nurse

Variable	Number of people (n)	(%)
gender (n=2783)		
male	26	0.9
female	2757	99.1
Age (n=2667)		
<30	1459	54.7
30-39	917	34.4
≥40	291	10.9
Average age		30.8±7.5
Qualifications (n=2756)		
Nursing school	123	4.5
Vocational College (including 2, 3, and 5 year program)	1728	62.7
Technology university (including 2 and 4 year program)	664	24.1
4 year University	203	7.4
Master or above	38	1.4
Marital status (n=2724)		
Single	1523	55.9
Married	1165	42.8
Other	36	1.3
Type of Hospital (n=2783)		
Medical center	855	30.7
Regional hospital	1117	40.1
Local hospital	811	29.1
Practice field (n=2757)		
Internal medicine	554	20.1
Surgery	340	12.3
Pediatric	171	6.2
Gynecology	124	4.5
Out patient	171	6.2
Emergency	132	4.8
Operation room	198	7.2
Dialysis room	98	3.6
ICU	407	14.8

Variable	Number of people (n)	(%)
Integrated branch	133	4.8
Psychiatric	129	4.7
Others	300	10.9
Years of practice (n=2783)		
<1 year	374	13.4
1-2(including) years	382	13.7
2-5 (including) years	444	16.0
5-10 (including) years	684	24.6
10-15 (including) years	543	19.5
15-20 (including) years	22	8.0
20-25 (including) years	88	3.2
25-30 (including) years	31	1.1
>30 years	14	0.5
Current position title (n=2783)		
Licensed practical Nurse	1242	44.6
Registered Nurses	1172	42.1
Nurse Specialist	59	2.1
Leader	62	2.2
Vice-Head Nurse	69	2.5
Head Nurse	97	3.5
Supervisor	14	0.5
Assistant Director	4	0.1
Director	7	0.3
Others	82	3
Employment method (n=2750)		
full time	1,962	71.4
Contract	754	27.4
part time	34	1.2
Shift (n=2769)		
Fixed day	605	21.8
Rotating shift	2026	73.2
Fixed night shift	104	3.8
Others	34	1.2

Table 2

Distribution of Turnover Rate in 2001-2004

Year	Turnover rate within three months (%)			Turnover rate between three months to one year (%)			Turnover rate more than year(%)			Total turnover rate (%)		
	aver-age	SD	range	aver-age	SD	range	aver-age	SD	range	Aver-age	SD	range
93	12.5	3.0	1.0~80.0	10.5	5.0	0.8~91.2	14.8	10.0	1.0~60.0	28.0	8.0	0.8~100.0
92	11.7	10.0	0.3~53.1	9.7	10.0	0.2~46.5	14.6	1.0	1.0~60.0	26.4	20.0	0.2~100.0
91	9.6	2.0	0.4~40.0	9.0	5.0	0.1~64.0	13.0	20.0	1.0~50.0	22.6	12.5	1.0~100.0
90	11.3	0.6	0.2~43.8	7.7	4.0	0.1~47.8	13.0	1.0	1.0~54.0	22.2	12.5	0.8~100.0

II. Nursing Working Conditions in Hospital

Taking a 6 day-shift nurse in a surgery from one of the medical centers in Taiwan as a sample, Li-Chu Wu and Chang-An Liu recorded the job description and time distribution of the nurses during an eight-hour shift and took 60 samples. Results show that their time is distributed amongst following: 58.7% of the time is spent on direct nursing care, 27.30% on indirect nursing care, 8.6% on things related to nursing care, and 5.3% on personal time. Within the 14 tasks that are related to direct nursing care, dispensing medicine to patient takes up 18.47%, which is the most prevalent, followed by "patient physical assessment" which takes up 8.08%, and "room patrol" which takes up 7.86%; Amongst the six tasks under indirect nursing care, "nursing records" takes up 18.65%, which is the most, followed by "communication with patients" which is 4.48%; Amongst the 9 tasks under related nursing care tasks, "health education" is the top, which takes up 3.24%, followed by "meetings" (including morning meetings, management discussions, policy promotions and etc) which take up 2.28%. Under the six tasks of personal time, "meals" takes up the most, which is 2.18%[6].

In August 2003, the Taiwan Nurse Association performed a survey in 26 medical institutes from all levels and monitored 269 daily activities which included: regular tasks, entering and leaving hospital, vital sign measurement, emergency treatment, preparation before and after inspection, giving medicine, taking care of wounds, education assessment and guidance, all types of catheter care, and daily care[6].

III. Nurse Salary Chart Analysis

Through the use of work manuals and the process of working assessment, including work analysis, assigning different levels and values to tasks, and setting the value of tasks, Lin Chiu-Fen and others established a salary chart through their research. There were 52 positions ranked and assessed by level and points, with three result categories. Nursing was ranked between levels 4-11 with 257-766 points; medical types were between levels 3-11, with 257-616 points[7].

The job title of nurses includes nursing director, overseer, head of the nursing department, education nurse, ICU nurse, nurse, surgery nurse, general out-patient service nurse, operation room secretary, medical care nurse, and administrative nurse, which amounts to up to 12 types. The title and job description can be seen on table 3, where we can see "overseer" and "head of the nursing department" show the same job description as administrative "medical staff" and medical category of "clinical pharmacist"; Even though "ICU nurses" have the same job description as administrative "social workers", "public working staff" and medical category of "radiologists", "outpatient pharmacists", "nutritionists", "medical examination personnel" and "anesthesia technicians"; "nurses" or "operation room nurses" have the same

Table 3
Job Description Evaluation by Level

Level	Credit (upper and lower limit)	Credit distance	Nursing type	Administrative Category	Medical category
16	>931				
15	930-841	90			
14	840-751	90	101 Director of nursing department (766)		
13	750-681	70		201Director of logistics (702)	
12	680-611	70			301 Director of nutrition department (616)
11	610-561	50		222 Supervisor of Insurance (581)	302 Radiology therapy technology officer (604)
10	560-511	50	102 Overseer (556) 103 Head of nursing department (518)		303 Occupational therapy technology officer (548)
9	510-461	50		208 Software engineer (505) 203 Commissioner secretary (477) 218 planning staff(461) 219 audit staff(461)	304 Rehabilitation of physical therapy supervisor (469) 305 Special imaging radiology division supervisor (468)
8	460-411	50	104 Deputy head of nursing department (428) 108 Education nurse(423)	215 medical staff(412)	308 Clinical pharmacist (435)
7	410-381	50	105 ICU nurse(392)	211 Social worker(400) 214 Public worker (398) 205 Insurance worker(388)	306 radiologist(404) 309 outpatient pharmacist(403) 317 nutritionist(400) 307 medical inspection personnel (392) 316 anesthesia technicians (392)

Level	Credit (upper and lower limit)	Credit distance	Nursing type	Administrative Category	Medical category
6	380-351	30	106 nurse(362) 107 surgery nurse(362)	209 Disease categorization personnel(368) 206 accountant(358) 207 human resource personnel(358) 213 procurement personnel (358) 216 superintendent room personnel(358) 217 Labor Safety Personnel (358)	311 physiotherapists (380) 312 occupational therapists (380) 318 special technicians (380)314 clinical research assistant for genecology (369) 313 respiratory therapist (362) 310 clinical psychologist (361)
5	350-321	30			319 general technicians (327)
4	320-291	30	109 outpatient nurses(310) 112 operation room secretary(310)	204 Front desk staff(310)	
3	290-261	30	110 medical nurse(267)	212 chef(281)	
2	260-231	30	111 administrative nurse(257)	210 medical history staff (260) 220 ambulance driver(257)	315 Assist for the preparation of operation room (257)
1	＜230			221 cleaner (209)	

job description as "disease categorization personnel", "accountants", "human resource personnel", "labor safety personnel" or medical category "physiotherapists", "occupational therapists", "respiratory therapists", and "clinical psychologists"[7].

According to the market research, job evaluation and references from Taipei Medical University and Public service pension tables, the salary of different employees at different levels is listed in table 4. There are three categories of nurses: nurse practitioners (level 8-11), registered nurse (level 5-10) and occupational nurses (level 4-6). There are four levels of nurse practitioners: senior, level one, level two, and level three. There are six levels of registered nurse: advanced nurse, N4, N3, N2, N1 and nurse; there are three levels of general nurses: level one, two, and three[7].

IV. Nursing Salaries

There are three components of clinical nurse personnel: (1)basic salary; (2)different types of allowances, for example: professional allowance, license allowance, duties allowance, unit allowance, advanced allowance, special license allowance, performance bonuses,

Table 4
Comparison Table of Job Titles at Different Levels

<table>
<tr><th>level</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th></tr>
<tr><td rowspan="3">Nursing type</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Specialized nurse</td></tr>
<tr><td></td><td></td><td></td><td></td><td colspan="6">Nurse</td><td></td></tr>
<tr><td></td><td></td><td></td><td colspan="3">General nurse</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="4">Admin type</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Specialist</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td colspan="5">Staff</td><td></td></tr>
<tr><td></td><td></td><td></td><td colspan="6">Administrator</td><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="4">Affairs staff</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="4">Pharmacy</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="4">Clinical pharmacist</td></tr>
<tr><td></td><td></td><td></td><td></td><td colspan="6">Pharmacist</td><td></td></tr>
<tr><td></td><td></td><td colspan="3">Pharmacist assistant</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="3">pharmacist</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="2">Nutrition
Radiation
Psychology
Respiration</td><td></td><td></td><td></td><td></td><td colspan="6">Nutritionist, radiologist, psychologist, respiratory therapist</td><td></td></tr>
<tr><td></td><td></td><td colspan="3">Assistant</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="3">General Technician</td><td></td><td></td><td></td><td></td><td></td><td></td><td colspan="5">Technician</td></tr>
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incentive payments, full attendance bonuses, out-patient benefits, hospitalization benefits, food allowances, transportation allowances; and (3)year-end bonuses. Generally, if you compare the salary of nurses with other staff in the hospital aside from doctors, around 45% of the people think it is roughly about the same and 17% think it is higher[5]. Most hospitals provide incentives and welfare, including late night shift allowances, basic labor rights, retirement system, staff dorms, travel incentives, education incentives, fixed shifts, maternity leave(without pay), and NHI[8].

In Taiwan, the factors for the different payment structures of nurses are number of years of service, positions (general nurses, registered nurses, nurse practitioners, deputy head of nursing department, head of nursing department, overseer, deputy director, director), institute (public or private), and levels of the institutes (medical center, area hospital or regional hospital). Table 5 demonstrates the different payment structures for nurses working in different institutes, positions, and levels. On average, nurses that work in public institutes have a higher salary than those who work in private institutes, other than specialized nurses, the differences range from 10,000 to 35,000 NT. The higher the level of hospital, the higher the salary. Medical centers have higher salaries than area and regional hospitals, if the position is excluded; the range is from 4000 to 10,000 NT, hence, the higher the position, the higher the salary. As you move up one level in management, the salary increase ranges from 4,000 to 20,000 NT[8].

The analysis of the payment structure of doctors, pharmacists, nurses, social workers, medical examination staff, physiotherapist, nutritionist, hospital administrators, and other medical staff, daily and weekly working hours in comparison with nurses is as following: the average payment of nurses ranges from 36,000 to 38,000NT, which is lower than medical examination staff (45,000~61,000NT), pharmacist (37,000~41,000NT), nutritionist (35,000~43,000NT) and physiotherapist (43,000~45,000NT), and is about the same as social workers' (38,000~40,000NT). The average working hours of medical health service industry were 7.59 hours(2003),7.20 hours(2004), 7.65 hours(2005), 7.34 hours (2006). The average working hours per week for medical health service industry were 41.75 hours(2003), 40.53 hours (2004), 43.36 hours (2005), and 41.17 hours (2006)[8].

The report published by Yu-Fang Chen and Hso-Mei Tasi indicated that, according to the "salary type survey" directed by the Council of Labor Affairs and Statistics Department, the

Table 5

Salary of Nurses at Different Positions in Public/Private Hospitals, Area Hospitals, and Regional Hospitals

category		General nurse	Nurse	Specialized nurse	Deputy head	Head	Overseer	Deputy director	Director
public	Medical center	49,610	57,134	61,983	67,229	77,384	86,485	104,960	125,079
	Area hospital	44,678	51,746		69,039	62,931	66,110	72,378	86,066
	Regional hospital	36,504	41,528			54,394	61,567	70,884	76,102
private	Medical center	35,416	38,240	60,355	43,510	55,005	60,800	69,367	88,445
	Area hospital	31,766	34,534		38,905	45,387	53,995	62,494	81,388
	Regional hospital	26,115	28,832		34,381	38,162	47,947	58,050	54,706

regular salary of newly appointed female nurses in 2005 was 23,058 NT, which was 97.6% of the salary of males (2.4% difference between genders), and the survey on "employee salary survey" conducted by Council of Labor Affairs and Statistics Department indicates that the regular salary of females is 31,406 NT and males is 39,172 NT, which only amounts to 80.2% of a male salary[9].

The data from Council of Labor Affairs and Statistics Department shows that the average salary for employed nurses is 38,000 NT. According to the data collected from a university hospital specialist and 104 Information Technology Company, the salaries of newly appointed employees who work in normal hospital rooms range from 30,000 to around 32,000 NT. Nurses who work in special units of hospitals such as the intensive care unit, operating room, emergency room, anesthesia nurse, or the infectious care unit will have extra allowance ranging from 3000-5000NT. In addition, being in charge of management will have additional allowances at different levels; clinic assistant's salary is around 25,000NT. Generally, the pay raise will be determined according to the number of years of service and position. The salaries for nurses are generally higher than those who work in other industries (monthly wage) because the job is usually harder,

Table 6
Included Ratio of Nursing Fees

Timeline	Description
March 1995	Acute hospitalization fees, such as normal beds, economy beds, burn beds, emergency room stays and separated beds prices include 50% of nursing fees.
July 1998	Nursing fees included in normal beds adjusted to 56%.
2003	Increase in nursing fee points.
February 2004	Hospitalization fees according to room type and care personnel. Clear marking of room fees and nursing fees.

Note: National Health Insurance hospitalization fee payment description
1. "Hospitalization fees": Include building and equipment costs, water and electric expenses, waste management and administration operational costs, etc.
2. "Hospitalization nursing fees": Refer to hospitalized patient and the fees relating to the care given to them by nurses during their time of stay (includes regular management, hospitalization and discharge care, life signs, assessment, drug administering, and hospitalization care, etc.).

Table 7
Change in Pay and Credit for Nurses at Different Units

Category	From 2003 to YTD	2001	Difference
General bed(medical center)	613	580	+33
General bed (area hospital)	542	508	+34
Severe neonatal bed (medical center)	1,599	1,230	+369
Severe neonatal bed (area hospital)	1,458	1,089	+369
Burn center	8,746	6,728	+2,018
Burn bed	1,119	861	+258
A class intensive care bed	3,840	3,840	0
B class intensive care bed	3,240	3,240	0

and the working hours are not as stable as those that work in offices[10].

V. Payment for Nursing in National Health Insurance (NHI)

It has been 12 years since the implementation of NHI in 1995. Before the implementation of labor insurance standards, hospitalization nursing fee was not taken into account. In order to respect the medical services provided by nurses, after the implementation of NHI, each basic treatment was defined and allocated points which included nursing fees, and hospital room fees, while diagnosis fees were clearly marked to include a ratio of nursing fees or points (nursing fees include a ratio as in table 6; each type of hospital room nursing insurance point adjustment are in table 7).

However, in specific treatments, including examination, treatment, surgery and anesthetics, the complete clinical process includes related medical personnel. Thus, the payment standards dictate that payments for medical labor related services (such as nurses, technical staff, examination doctor, rehabilitation specialist...) are included in payment. That is why they are not listed in additional nursing fees.

VI. Conclusion

Multiple studies show that for employees, satisfaction with their salary is one of their motives to continue at their job; however this factor is not just a problem in numbers. A salary is an organization's payment for the services provided, and many factors that affect salary can be categorized as internal and external factors. These factors include the operational situations of their institute, salary standards of the area and their peers in the industry, market demands and others. In order to improve the working conditions of nursing personnel, the Department of Health has initiated since 2006 a study on the salaries of nursing personnel to analyze related factors in order to create an environment that can retain superior nursing personnel in this fierd.

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Section III
Disaster Nursing

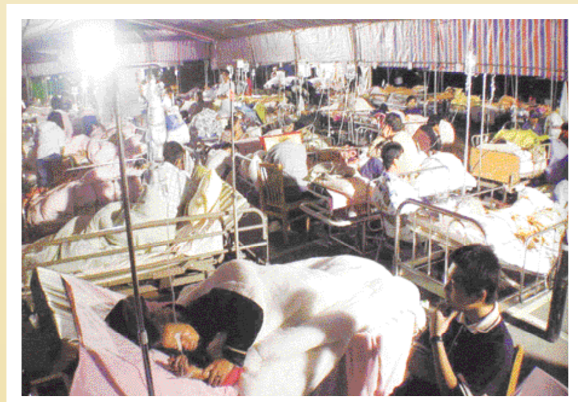
Chouh-Jiaun Lin & Ching-Min Chen

I. Definition and Stages of Disaster Nursing

Regardless of natural or manmade causes, there have been many incidents of disasters in the 21st century that resulted in major damages and Taiwan is no exception either. The time and form of when and how disasters strike are difficult to predict based on existing human technology. Nevertheless, proper learning and preparation are able to reduce the number of deaths and injuries caused by disasters. This is not just a reduction in number but also saving lives which happens to be the duty and social responsibility of professional nurses.

Two of the most noteworthy disasters that hit Taiwan in recent years are 921 Earthquake of 1999 and SARS of 2003. Furthermore, incidents of typhoon and mudslide each year are the other more common disasters in Taiwan. Since 921 Earthquake, geological conditions have remain somewhat unstable, the addition of over developments in the hills means disasters are almost inevitable when heavy rainfall or typhoon strikes. Due to the nature of its topography, Taiwan is susceptible to typhoons during summer time, strong typhoons had all caused significant damages of various extent, for example, disruptions in road, bridge traffics that led to inability to communicate rendering only local medical personnel and equipment that are able to provide emergency care, if not for air support, patients would have to wait until roads are restored before receiving medial attention from doctors in other regions. Typhoons and heavy rainfalls are all possible causes of mudslides, damages brought by mudslides are even worse. This is especially the case in remote, rural areas where health clinics are in shortage of medical resources, medical personnel of those places (especially health clinics) are often required to bear more responsibilities in emergency care. Medical personnel in most places are able to perform emergency care during preparation period in hopes of reducing the number and extent of deaths and injured. In the event of typhoons and mudslides, warnings could be issued by meteorological services through forecasting, advance warnings and proper education are able reduce the extent of deaths and injuries.

With increasing numbers of disasters, nurses have more opportunities to perform emergency care in response to disasters. Emergency care could be divided into 3 periods namely, pre-disaster period, response period and recuperating period with different emphasis on tasks performed in each period. Pre-disaster period entails preparation works that take place in advance of disaster which include disaster



Temporary Tent as Hospital Room

emergency care education, disaster prevention training, disaster monitoring measures, establishing an emergency care network and drill exercises for disaster response. During response period, it mainly involves providing emergency care services, treating injured individuals, life support, medical attention provided by temporary medical facility, temporary housing for victims and medical support from external parties. Recuperating period is also known as mid and long term periods; it mainly involves the assistance effort in rebuilding, providing psychological support, prevention and monitoring effort in communicable diseases, and the assistance effort in getting victims back to their normal lives. Even though disasters come in different types, each requires different emergency care process, but they should all include the content of these 3 periods[1-3].

II. Emergency Medical Experiences in Major Disasters in Taiwan

A. 921 Ji-Ji earthquake

In 1999, the time was 1:47am when an earthquake of Richter scale 7.3 shook Nantou County of central Taiwan, many people were wakened from their sleep. According to statistics released by Fire Service Department on October 13, nearly 10,000 people were injured and more than 2,300 were killed by this earthquake. Taichung County sustained the highest number of deaths and injuries, followed by Nantou County then by Taichung City[4]. Local medical institution of respective cities were the first one came to the rescue effort, nonetheless, medical institution in disaster area were also severely damaged making assistance from outside inevitable. As the size of disaster area grew, the number of rescue workers also grew exponentially. Medical personnel in central Taiwan are all subjected to heavy workload by taking on continuous overtime in emergency service, hospital rooms, operating rooms, intensive care units to complete their nursing duties. Medical personnel at health clinics in disaster areas also took part in frontline rescue efforts, even though they were victims at the same time but they ignored their own pains and contributed to relief activities. Other than the self-help efforts, rescues from other regions were also of great importance especially in executing rescue missions that required fast, precision operations. In the meantime, medical centers around Taiwan all participated in rescue efforts as well, medical staff of all level came together and committed themselves to on-going medical assistance at hospitals in disaster areas afterwards[5,6].

On-going medical assistance provided by hospitals in disaster areas entails integrating medical resources, outpatient services, medical service tours, medical transfers, reporting of communicable diseases, preventive education while collaboration efforts with local medical institutions were established to conduct medical service tours by visiting shelters, temporary housing zones, villages and local communities. Countless number of medical staff has joined this task.

Post-Traumatic Stress Disorder Seminar

7days after the earthquake, medical needs of the public turned from emergency care of severe trauma to controlling minor injury, respiratory tract infection, diarrhea, psychological impact and chronic illness. Victims' needs for medical attention was reducing and medical institutions were getting back to normal routine, responsible hospitals had set looking after the mental health and social needs as mid and long term projects. Therefore, strengthening psychiatry treatments,

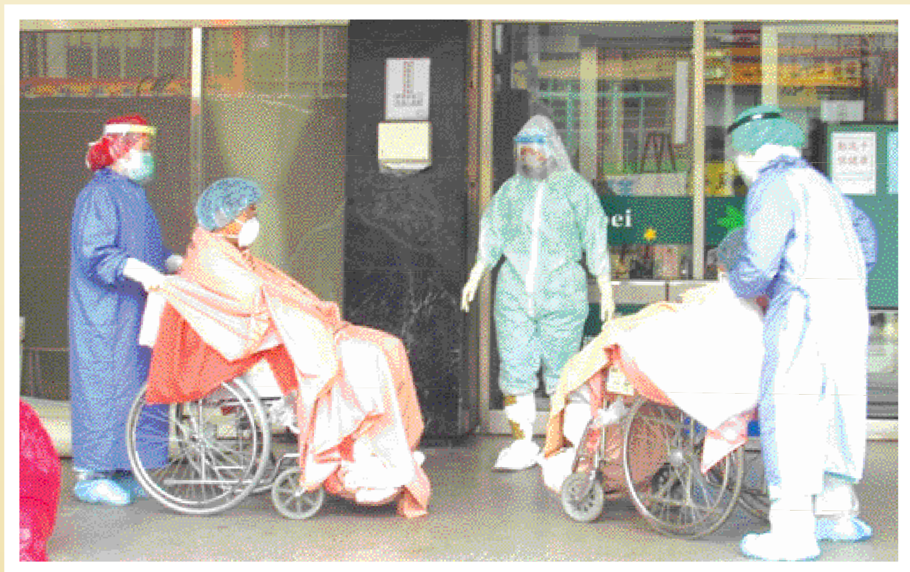
psychological rehabs and social services became more important while following up individuals of high risk groups with proper counseling was also a priority. In addition to assisting doctors, the jobs of nurses were extended to educating the importance of taking medicine properly, medicine consultation, establishing awareness of preventive measures, preventive measures of skin diseases, food and drinking hygiene, environmental hygiene, psychological counseling and medical transfers. Furthermore, victims showing symptoms of post-trauma distress syndrome were to be identified in early stage and to be transferred for proper treatment[5,6].

In the following year, in order to address the need for improving the health conditions in disaster areas, Department of Health had set budget aside to sponsor "Building a Healthy Community" campaign so that more communities in disaster area would walk out of the dark shadow of misfortunate and to bring people together. Many teaching staff at nursing schools had taken part in establishing healthy community centers that educate volunteers at respective communities about improving health conditions.

B. SARS outbreak

Severe Acute Respiratory Syndrome, SARS, was the first emerging acute communicable disease of the 21st century. Since March of 2003, the time when the very first case was indentified at National Taiwan University Hospital, Taiwan became an infected area. In the middle of April, there was a large-scale outbreak at He- Ping Hospital in Taipei, in May, Chang- Gen Hospital of Kaohsiung started to record cases of infected individuals and this spread to other hospital as well therefore the public became agitated about SARS. At that time, in all the cases reported throughout Taiwan, hospital staff accounted for 34%, of which, 63 were medical personnel of which 4 individuals died of SARS infection because they were looking after SARS patients[7].

The strike of SARS has really caught the public off-guard as it was like an invisible enemy. In the beginning, medical personnel were not prepared to address this issue and they could only learn about the extent of damage from the news; it was fairly difficult to approach preparation tasks in the early stage. Department of Health later on issued SARS preventive measures while Executive Yuan was establishing SARS prevention and relief commission, issuing guidelines to handle SARS. Integrated SARS prevention and medical resources centers were being set up through out Taiwan to coordinate preventive efforts[7]. Medical personnel began to understand the importance of environmental clean-ups and disinfection, washing of hands regularly and wearing N95 mask. Medical institutions started to put up body temperature monitoring stations, fever screening center, quarantine training. During SARS, He-Ping Hospital was sealed off but due to shortage in masks, quarantine clothing were short on hand plus there were incidents of medical staff running away from the hospital. As matter of fact, medical staffs have suffered from the



Transferring Suspected Cases (Photo courtesy: Nursing Department, Taipei Medical University Hospital)

pressure caused by attending to SARS patient over a long period of time[8]. From this event, it was learned that nurses should really come together to give each other support thus creating a beneficial situation to patients, medical institution and nurses.

During SARS outbreak, Department of Health did not only create many policies in response to the circumstances, it has also introduced health management, household quarantine[7]. Medical staff at health clinics not only have to deliver lunch box, health management personnel at school level also carried the responsibility of preventive measures in addition to checking body temperature and executing the quarantine policy, medical staff at respective community is required to receive training and certification of the skills that address new communicable diseases while integrating resources for response strategy[9].

III. The Role and Function of Nurses in Disasters

A. Clinical nurses

During the process of disaster nursing, emergency care performed by clinical nurses is of the most urgent nature. The definition of emergency care as prescribed in Emergency Care Act[10] of Taiwan is as follows: (1) emergency care and medical treatment provided on-site to severely injured patient or large number of patients; (2) emergency care provided during medical transfer; (3) medical transfer of severely injured patient or patient from off-shore island or remote area; (4) emergency care service at medical institution. Clinical nurses especially those in emergency rooms, intensive care units or operating rooms are frontline personnel in medical care. Their duties include: triage, life support, emergency care, sometimes they are also required to provide support at site of disaster individually or with doctors or to provide care prior to patient's arrival at hospital. Nurses perform rescue mission along side doctors or medical technicians in a medical team, as their role is of an important nature, they must be in control of the situation. After the disaster, during recuperating period, many patients need mental help, nurses of psychiatry specialty visit disaster area to take care those in need of care. Group therapy is one of the most common approaches taken.

Three factors involved in effective execution of nursing duties and caring for patients by nurses are: orientation, improvisation and aggressiveness. More details are as follows. (1) Orientation-whether in disaster area or emergency room, it is necessary to assess the circumstance and establish priority on the seriousness of each patient. (2) Improvisation-making use of medical materials and equipments on hand to perform initial response. (3) Aggressiveness-take control of the best timing to attend the needs of each patient[1,3]. Nurses perform a role of determining the needs of patients independently, execute the orders of doctors and communicate with other rescue workers. Therefore, frontline nurses are required to have more than emergency care knowledge and skills but also in need of possessing team spirit and strong communication skills.

Nurses at emergency care are required to have Advance Cardiac Life Support (ACLS) certification; this is an indication that professional capacity of emergency nurses and clinical nurses is enhanced through various training to strengthen their skills in taking care of the seriously injured or ill patients. Medical institutions of various levels are committing more resources to better cope with disasters, for examples, emergency care center and on-site helicopter landing area. Overall, emergency care has been receiving more attention from

Temporary Emergency Care

government agencies, professional personnel, fire service personnel and the public.

B. Community health nurses

Community health nurses include nurses at health stations, schools and factories. They are often the only professional medical personnel at the site of disaster. They are responsible for on-site rescue works, nurses prior to arrival at hospital and on-site care giving after the disaster. Nurses are often members of rescue teams and they sometimes have to perform rescue works on their own before doctors arrive. During response time of a disaster, duties of nurses extend to preparedness planning, community collaboration, preventive health education and working with and advocating for vulnerable population. Especially in places like off-shore island or remote location, they have to take on the role of emergency care, communicating with Disaster Medical Assistance Team (DMAT), initial treatment, proposing medical requests and taking care of patients on the way to hospitals for further treatment.

Care from disaster area to hospital is usually performed by nurses independently, other rescue workers might be onboard of ambulance but in the case of helicopter, nurses are most likely the only ones with emergency care training onboard a helicopter. Therefore, nurses of health stations are often required to participate in on-site or onboard rescue efforts as they need to attend patients on the way to hospitals from mountainous region or off-shore islands or other remote locations. Nurses are to transport patients to National Military Rescue Center or Helicopter Squadron, and then the nurses will provide direct care to these victims on the way to hospital. Helicopter generally is not equipped with sufficient supplies and equipments so nurses have to bring their own. On-site rescue efforts and medical care prior to arrival at hospital demand basic life support skills from nurses[11].

Tasks during recuperating period performed by community nurses include community reconstruction effort, sheltering victims, caring for residents of temporary housings, environmental hygiene, preventive measures of communicable disease and physical and mental health of temporary housing residents. Furthermore, nurses from health clinics are also required to assist victims in physical and psychological rehab efforts. Most common health issue facing victims after a disaster is Post-Traumatic Stress Disorder (PTSD), depression, anxiety and other psychiatry disorders like insomnia and headache. Therefore, they need both physical and psychological therapy; nurses are not just care provider but also information provider and care giver[12].

C. Non-government organization (i.e. professional associations, unions, Red Cross)

Taiwan Nurses Association and National Union of Nurses Association are the main professional nurses' associations in Taiwan. Immediately after disaster strikes, they are to assist professional nurses in response to dealing with the disaster. For example, following 921 Earthquake, Taiwan Nurses Association held a seminar within a month[12]. In just a month's time, under the assistance from Professor Yu Yu-Mei, all preparation works were completed in time, the "Caring for Post-Traumatic Stress Disorder Seminar" was held between 10/21 and 10/23 of 1999 in both central and northern Taiwan. At the seminars, Dr. Patricia Underwood of International Council of Nurses and Dr. Noriko Katada of Japan Nurses Association and 2 other experts were invited to share their post-disaster nursing experiences in Kobe Earthquake of Japan. During SARS outbreak, Taiwan Nurses Association and the National Union spoke on behalf of the frontline professional nurses[13] to fight and ask donation for more medical supplies

Japanese Rescue Nursing Staffs Visited Disaster Area

(i.e. protective gear against SARS).

According to the experiences from Kobe Earthquake, agencies participating in rescue efforts, other than government units, were Red Cross, Japan Nursing Association and other volunteer groups. Red Cross also took part in the rescue efforts in Taiwan while its main function during normal time is to promote CPR. Chairperson of Japan Nurses Association, Dr. Minami had teamed up with Japan Health Department to recruit volunteers and organized volunteer information according to respective specialty so that in time of need, volunteers could be dispatched. Japan Nurses Association has also established rescue service organization that handles disaster rescue training and issue rescue manual while the association also assists overseas rescue efforts[2,14]. The fact is that nurses in Japan have been active in rescue efforts and they have become stronger partners to government agencies and the public; things done by Japan Nurses Association could serve as reference for nursing community of Taiwan.

The 921 earthquake had made us witness the passionate citizens who spared no time in joining the rescue efforts; this has touched the hearts of many people. Many private groups with various backgrounds including welfare groups, religious groups and enterprise groups marched into disaster areas. Welfare groups included Lifeline Association, Family Welfare Association, Chionyuan Foundation, Children Development Association, Children Welfare Center -Taichung Branch, Garden of Hope Foundation, Teacher' s Hotline, and Ji-Er Children Development Foundation, and their support services encompassed economic support, material assistance, psychological counseling, child care, short and long term sheltering, volunteer works, caring for the elders, caring for the handicaps and donation of publications. Religious groups were among the first ones to arrive at the disaster area and their contribution included food and housing for victims, material supplies and rebuilding efforts. Enterprise groups were there to offer medicine, food, water, groceries and they also help set up medical stations, assist in transportation needs and build public toilets. Enterprise groups have also set up service stations throughout towns, villages in disaster areas to offer assistance in evacuation, locating missing persons and providing medicines to injured individuals and military personnel. For example, certain pharmaceutical company brought medicines to disaster area, 7-11 stores offered water and ice to injured individuals, a number of hospital had also set up medical service station that provided medical attention to those in need and medical consultation to the victims[6].

IV. Conclusion and Future Prospects

A. Strengthening emergency nursing care

There is a serious shortage in the education and training provided for disaster nursing professionals in Taiwan. At this point, most nursing schools do not offer appropriate disaster relief courses. In fact, students should be given the opportunity to develop awareness of emergency nursing during their education. They should be encouraged to volunteer for domestic and foreign disaster rescue efforts in order to strengthen their capacity in this area.

For advanced education, Red Cross College of Nursing in Korea has established school of emergency nursing and Hyogo University in Japan has also developed Research Institute of Nursing Care for People and Community. Taiwan should learn from these two countries to have better advanced education in emergency rescue for nurses. Emergency nursing care is a specialty under nursing professional discipline and it requires professional nurses of a different specialty to study this subject. At times of disasters, patients of all types of medical history like pregnant women, chronic illness patients as they are in need of extra attention during time of disaster. It is recommended that entry level nurses should take fundamental courses in emergency nursing such as basic disaster nursing knowledge and skills. For senior nurses, it is recommended for them to take advanced level courses such as caring strategy for patients with complicated medical history. As for emergency care personnel, they are required to have ACLS or Emergency Trauma Training Course certification in addition to taking advanced level emergency rescue courses and participating in

domestic or foreign rescue efforts.

B. Establishing support group for nurses participating in rescues

Professional nursing training has prepared nurses to remain calm in performing their duties during times of crisis. They do not have time to be scared. Nevertheless, after work, when they go to sleep, they would realize what sort of nightmare they just went through and they simply could not fall in asleep. This is a common amongst rescue nurses. There should be a more developed plan that provides comprehensive support network for frontline nurses so that they could have an even more impressive performance. On-the-job support group tends to encourage current nurses to remain on their posts and it would attract more people to join this noble profession.

Aerial Rescue

C. Complete air rescue transportation and equipment for rescue teams

To transport patients to hospitals, many nurses in places like off-shore islands or remote locations use either ambulance or helicopter. Equipment for ambulances is already part of Emergency Care Act whereas ambulances are being better equipped as time progresses. Driver and staffs onboard are required to pass Emergency Medical Technician (EMT) training. Overall, patient's safety onboard an ambulance has received more attention and nurses are able to perform their duties onboard ambulances. On the other hand, safety on rescue aircrafts still needs improvement. There is no helicopter dedicated for rescue mission in Taiwan as many patients are transported by military aircrafts. Unfortunately, these aircrafts are not designed for medical transportation of patients, therefore, most helicopters are not equipped with life support system. When performing in-flight nursing efforts, nurses often need to bring their own oxygen tank. In addition, onboard personnel of helicopters does not take rescue training, which is why onboard staffs are not capable of providing care in rescue. Although the town of Kingman has developed air rescue, it is not applied to other off-shore islands or remote locations.

D. Playing the role of global citizen through disaster care

The quality of professional nursing and medical services in Taiwan is highly recognized through out the world, additionally our National Health Insurance system is admired by many countries. Such outstanding performances should be shown to the world. Through disaster rescue missions, it could enhance our role as a world-class citizen. In recent years, our government has been taking part in international rescue efforts. Nursing professionals should be more active in planning and executing, and developing a disaster care network. Through joint efforts with other rescue teams, assistances had been provided to international rescue efforts, and this would broaden the perspective of nurses.

E. Strengthening the integration with professional and private groups

Disaster rescue care is a multi-discipline rescue behavior, since not only medical personnel are part of this equation but also the people from fire service departments. Integrating governmental agencies, medical institution and private groups and having them support one another are of great importance. Nevertheless, integration of professional and private groups is not fully implemented which has adverse impact on rescue results. It is recommended to integrate private groups in rescue efforts so that victims are taken care in a better, more practical way while receiving comprehensive care.

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Healthy Community Building in Disaster Area

Section IV

International Health Cooperation

Ching-Min Chen

With the economic, public health, and quality of life improvements of Taiwan, many communicable diseases have been eradicated. However, with the recent increase of international exchanges in relations, tourism, business, and the immigration policy on foreign labor, the chance of the spread of epidemic diseases has significantly risen. Added to that, the global climate change, transformation of natural ecological systems, mutations of germs, viruses, and sources of diseases, these are all factors that can lead to endemics of communicable diseases.

Diseases are without borders and with the rapid changes in our world today, the spread of disease and mutation has far surpassed the speed we once expected. We are faced with challenges of different diseases, and beside the prevention of epidemics, we must also improve medical techniques to be fully prepared. However, since1972, due to the changes in political environment, Taiwan has consistently been barred from United Nations related organizations. Although we have advanced medical technologies, we are unable to perform our duty as a member of this global village. Furthermore, we expose our citizens to great danger with the lack of real time international health information and support.

In the inevitable wave of globalization, Taiwan has been refused to participate on the international stage. A history of a closed information network within the island coupled with the disinterest of nursing personnel towards international affairs caused unfamiliarity of the government and nongovernmental groups in international health cooperation, and often leads to misunderstanding. This article will explore the current status of international health cooperation for nurses, introducing related international health organizations including the World Health Organization and International Council of Nurses. Hopefully this article will help readers understand the importance of participation of nurses in international health affairs, understand the course of development of nursing personnel and finally, encourage the participation of our nurses in international health affairs.

I. Global Village and Health for All

In the past, there have been many different voices questioning the need for Taiwan's aggressive participation in international health cooperation. Taiwan has not been a member of World Health Organization (WHO) for more than 30 years, but we continue to have medical advances and are very thorough in preventing epidemics, and if these are true, why must we join the WHO? The SARS epidemic of 2003, due to a lack of information and support from the WHO, Taiwan fought this epidemic alone and was unable to control the epidemic, causing total losses of 820 million US dollars[1], and highlighted the need of Taiwan to participate in international health affairs.

The World Health Organization was formed under the guiding principle of "Health for All" and became an official organization of the United Nations (UN) in 1948 with the hope of promoting international cooperation to achieve the goal of disease and epidemic prevention. The WHO has established laboratories in each region which systematically monitor infectious disease

and helps member countries identify disease agents, discover new viruses or bacteria, and prevent the spread of new infectious diseases. However, since Taiwan is not a member of the WHO, despite our comprehensive healthcare system, we do not have any stable and official international channel of health cooperation. When severe health problems occur, having the immediate aid of experienced experts is very important. Since Taiwan has been completely excluded from these types of aid systems, there is a serious impact on the overall health of Taiwan's people. In 1998, an epidemic of enterovirus 71 occurred in Taiwan and if not for the aid given by the Centers for Disease Control and Prevention of America, the results would have been catastrophic. Therefore, Taiwan must actively seek to establish official channels of cooperation in the international community, and the most direct channel is to file an application for the observership or full membership of WHO.

Apart from the prevention of infectious disease, another important topic of international health cooperation is the prevention and relief of disaster. Natural disasters are an old subject, and from the new perspective of international health, the focus is to setup prevention methods before disasters to minimize the loss of life and damage in health, and use measures that swiftly and effectively reduce the loss of life and damage in health through international cooperation. Although Taiwan has been suppressed by China in channels of international health exchanges, we are still one of the few international countries that are willing and able to offer humanitarian aid. Taiwan has sent humanitarian aid to Afghanistan and Iraq, and during the 2004 tsunami in the Indian Ocean, the Taiwanese government provided 50 million US dollars towards relief efforts, and becoming one of the top 20 donating countries of the world. On top of that, civilian donations amounted to more than 100 million US dollars[2]. Still, Taiwan was excluded in committee meetings dealing with international donation, disaster prevention, and the establishment of a tsunami alert system, leaving us unable to contribute more. This is not only a loss for the international community, but also regret in international humanitarian cooperation. There is a common value that all international health scholars and experts hold, and that is the fact that inequality in international health and the development of international health means injustice and must be changed through international health cooperation. Since Taiwan is a member of this global village and possess many qualities to become an important contributor to the resources of international health societies, we can naturally help the U.N. and WHO to achieve their goals in helping the less fortunate.

Table 1

Taiwan's Participation in Non Government Organizations by Type

Type	Number	Type	Number	Type	Number
Technology	101	Cultural Arts	37	Education	32
Journalism	3	Police & Law	17	Labor Unions	82
Engineering	16	Transportation and Tourism	21	Leisure and Entertainment	27
Sports	100	Industrial Techniques	31	Electronics	11
Medical Sanitation	232	Minerals and Energy	18	Environmental Protection	26
Agricultural and Fishing	48	Business and Financial	68	Religion and the Scholarly	61
Research Development and Management	76	Social Benefits	49	Women and Scouts	8

II. International Health Organizations

Although faced with an unfavorable international situation, in order to ensure the basic rights of the 23 million citizens of Taiwan and carry out our duties as a citizen of the global village, Taiwan continues to exercise our superiority in the medical achievement and help shoulder some of the responsibility of international health related tasks. In recent years we have been actively participating in Asia Pacific organizations, pushing for membership in WHO, performing international medical relief work, with all of these tasks taking a considerable amount of resources and dedication, yet there are not significant progress towards our participation in international health cooperation affairs. On top of that, the fast changes in international affairs and various emerging issues of health related topics have affected Taiwan's policy towards international health, such as the southeast Asian tsunamis, biological terror, new epidemics such as SARS or bird flu, and the humanity safety and health. These are topics that need cross disciplines, cross departments, and international cooperation to resolve and further assesses the adaptability and international status of Taiwan. In order to encourage participation, it is imperative to gain an understanding of the mission related international organizations, and the current status of Taiwan. Currently, there are more than 7,200 international governmental organizations, yet we are only members of 26, and observers of 17[2]. In order to break this barrier that is in front of us, Taiwan has actively joined many NGOs as listed in table 1[3], especially those related to health care, as in table 2[3].

A. World Health Organization

The World Health Organization (WHO) is a specialized institution under the United Nations (UN) which can be traced back to the International Health Department established in France during 1907 and the International Alliance of Health Organizations established in Geneva during 1920. After the world war, the UN decided that their 64 member countries would attend an international health meeting in the July of 1946 to sign and create the WHO. On April 7, 1948, 26 members of the UN passed this proposal and officially established the WHO in Geneva. In 2008, it has 193 official member states.

The guiding principle of the WHO is to give the people of the world the best possible health, with the definition of health being "a complete physical, mental, and social well-being; not merely the absence of disease or infirmity." The main tasks of the WHO include: th promotion of communicable diseases and diseases of local origin, improve public health and the promotion of international standard of biological products. The World Health Assembly (WHA) is the supreme decision-making body for WHO and is held once a year to provide working reports, set budgets, evaluate new members and discuss other important events amongst the executives. The executive board is the operating agency of the WHA, responsible for decisions, strategy, and the commissioning of missions. The Executive Board is composed of 34 members technically qualified in the field of health. Five of these are from the United Nations Security Council, serving three terms, and changing a third of these members each year. Members are elected for three-year terms. The secretary general has established regional offices in Africa, America, the east Mediterranean, Southeast Asia, and west Pacific[4].

Since Taiwan was forced to leave the WHO in 1972, we have still remained enthusiastic in the participation of global health care affairs. Through selective participation in important technical meetings, we have gained a better understanding of health situations internationally. Furthermore in March, 2006 we established the Taiwan International Health Action (Taiwan IHA) to attempt to cooperate with international organizations on health affairs in a more enthusiastic and effective way to contribute to global healthcare. As we are living in the modern society of "diseases without borders," only through the cooperation of countries can we exterminate health problems that endanger the people of this world. However the exclusion of Taiwan from UN, does not only exclude the contributions of Taiwan but also create a big gap in epidemic prevention!

Table 2

List of International NGOs which Taiwan Owns Official Membership

International NGOs	Acronym	Taiwan Members
Asia Pacific Occupational Safety and Health Organization	APOSHO	Taiwan Industrial Safety and Sanitation Committee
Asian Association of Occupational Health	AAOH	Taiwan Environmental and Occupational Medical Scoeity
Asian Beauty Association	ABA	Asia Beauty League, Taiwan Association
Asian Federation for Medical Chemistry	ATMC	Chemical Society of Taiwan
Asian Federation of Sports Medicine	AFSM	Aerobic Fitness & Health Association of R.O.C.
Asian Pacific Association for Laser Medicine and Surgery	ASALMS	Taiwan Medical Lasers Organization
Asian Society of Toxicology	ASIATOX	Taiwan Committee of Toxicology
Controlled Release Society	CRS	Taiwan Medical Materials and Medicine Association
European Health Forum Gastein	EHFG	Taiwan Medical Rights Organization
International Alliance of ALS/MND Associations		Taiwan Motor Neuron Disease Association
International Asthma Council	IAC	Taiwan Asthma Association
International Bureau for Epilepsy	IBE	Taiwan Epilepsy Association
International Commission on Microbiology Specifications for Foods	ICMSF	Taiwan Microbiology Association
International Commission on Taxonomy of Viruses	ICTV	Taiwan Microbiology Commission
International Committee for Microbiological Immunological Documentation	ICMID	Taiwan Microbiology Association
International Committee on Economic and Applied Microbiology	ICEAM	Taiwan Microbiology Association
International Committee on Food Microbiology and Hygiene	ICFMH	Taiwan Microbiology Association
International Committee on Microbial Ecology	ICOME	Taiwan Microbiology Association
International Committee on Systematic Bacteriology	ICSB	Taiwan Microbiology Association

Table 2
List of International NGOs which Taiwan Owns Official Membership (continued)

International NGOs	Acronym	Taiwan Members
International Confederation for Plastic, Reconstructive and Aesthetic Surgery	IPRAS	Plastic Surgical Association Republic of China
International Council for Respiratory Care	ICRC	Taiwan Association for Respiratory Care
International Council of Nurses	ICN	Taiwan Nurses Association
International Federation for Medical and Biological Engineering	IFMBE	Chinese Association of Engineering
International Federation of Gynecology and Obstetrics	IFGO	Taiwan Association of Obstetrics and Gynecology
International Federation of Medical Students' Associations	IFMSA	Federation of Medical Students in Taiwan
International Federation of Psychiatric Epidemiology	IFPE	Institute of Biomedical Sciences, Academia Sinica
International Menopause Society		Taiwan Menopause Society
International Mycological Association	IMA	Mycological Society of Republic of China
International Society for Bacteriology	ISB	Taiwan Microbiology Association
International Society for Virology	ISV	Taiwan Microbiology Association
International Society of Andrology	ISA	R.O.C. Society of Andrology
International Society of Chemotherapy	ISC	Taipei Epidemic Society
International Society of Internal Medicine	ISIM	Taiwan Society of Internal Medicine
International Union of Immunological Societies	IUIS	The Chinese Society of Immunology
International Union of Microbiological Societies	IUMS	Taiwan Society of Microbiology
International Union of Pharmacology	IUPHAR	Taiwan Society of Pharmacology
International Union of Physiological Sciences	IUPS	Taiwan Society of Physiological Sciences
La Leche League International	LLLI	La Leche League International – Taiwan Branch
National Organization for Rare Disorders	NORD	Taiwan Foundation for Rare Disorders
Thalassaemia International Federation	TIF	Taiwan Thalassaemia Association

Table 2

List of International NGOs which Taiwan Owns Official Membership (continued)

International NGOs	Acronym	Taiwan Members
The Federation of Immunological Societies of Asian-Oceania	FIMSA	The Chinese Society of Immunology
World Association for Social Psychiatry	WASP	Taiwan Association Against Depression
World Congress of Family Doctors	WONCA	Taiwan Association of Family Medicine
World Federation for Mental Health	WFMH	John Tune Foundation
World Federation for Ultrasound in Medicine and Biology	WFUMB	The Society of Ultrasound in Medicine, R.O.C.
World Federation of Neuroradiology Society	WFNRS	Neuroradiological Society of ROC (Taiwan)
World Medical Association	WMA	Chinese Medicine Association
International Pharmacy Federation	FIP	The Phatmaceutical Society of Taiwan
World Small Animal Veterinary Association	WSAVA	Taipei Veterinary Medical Association

Therefore as of 1997, Taiwan began to promote for the re-entry of the WHO and become an observer of the WHA with hopes of becoming an official member of the WHO in order to improve the health of Taiwan, and even the citizens worldwide.

B. International Council of Nurses

International Council of Nurses (ICN) is a unifying organization of international nurses. Established in 1899, it contains the most members of any international organization and is the most important international organization of professional nursing. Currently, ICN has 128 member countries, maintaining relations or communicating with at least 297 professional nursing organizations, and having more than 2 million nurses participated around the world. ICN's headquarters is in Geneva, Switzerland. Due to its geographical locations, ICN is one of the earliest NGOs to establish official affiliations with WHO, which is why the operation of ICN has always had a close relationship to the policies of WHO.

The ICN does not only concern itself with world health problems, but are also focused on international nursing issues. From the three pillars of professional practice, regulation and socio-economic welfare, they establish global nursing policies and deliver member countries position statements that can be used to guide and improve the professional level of nursing worldwide to ensure the quality of their services. The ICN board meeting is held every 4 years by the elected delegates of each member country in order to regulate international nursing, health, and societal policies by discussing their values, mission, goals, strategy, and planning by announcing their policies. The three goals of the ICN are to bring nursing together worldwide; to advance nurses and nursing worldwide; and to influence health policy. The five core values are: visionary leadership, inclusiveness, flexibility, partnership, and achievement. Following

Taiwanese Professionals Gathered in Geneva to Support the Nation's Bid to Join the WHO
(Photo courtesy: Foundation of Medical Profeeionals Alliance in Taiwan)

these values and missions, ICN advances nursing, nurses and health through its policies, partnerships, advocacy, leadership development, networks, congresses, special projects, and by its work in the field of professional practice, regulation and socio-economic welfare.

The Council of National Representatives (CNR) is the governing body of ICN and sets its policy at the macro level, including admission of members, election of the Board of Directors, amendments to the constitution, and setting fee schedule. The CNR meets every two years; and the international congress held every 4 years to encourage members to publish research findings, while communicating nursing information to all member countries (in multiple languages, English, French, and Spanish). Their publication, the International Nursing Review is also published quarterly. Furthermore, they have also developed the ICN Code for Nurses to act as a basic guideline for nursing practice. These ICN standards and guidelines are suitable for use in matters of practice, regulation and socio-economic welfare. By requesting that all nurses follow these guidelines, they hope to achieve their highest principle – advancing nursing and health worldwide[5].

Taiwan has been a member of the ICN since 1961, through the R.O.C. Nurses Association (now renamed to the Taiwan Nurses Association, TNA, as per request of ICN in 1998). From 1989, Taiwan's nursing community has been proactively participating in ICN events. Since 1997, through the promotion of the TNA, two of Taiwan's nursing leaders have held positions as ICN board of directors. Furthermore, we hosted the 23rd International Council of Nurses Congress in 2005 which included 148 countries and 4,359 participants from Taiwan and around the world. This was the biggest meeting of international scholars in the history of Taiwan, and a successful international exchange.

III. The Current Status of Nursing Participation in International Health Cooperation

Although Taiwan has started to show some results in participating in international health cooperation, due to the exclusion of international health in nursing curriculum in the past, the understanding and participation of nurses in international health cooperation was very limited. Below, "Nursing manpower development plan of diplomatic countries" and "Marshall islands nursing personnel training plan" will offer two examples to illustrate current status of participation of nurses in international health cooperation.

A. Nursing manpower development plan for diplomatic countries

Since 2005, the Department of Health began the "Nursing Manpower Development Plan for Diplomatic Countries" and invited the advanced nursing staffs from other countries to come to Taiwan for participation in training. Since its establishment, this program has lasted for 3 rounds and trained members from Papua New Guinea, Bahrain, Israel, Swaziland, Burkina Faso, Gambia, Indonesia, Gilbert Islands, Tuvalu, Bangladesh, Palau, Poland, South Africa, Bolivia, Columbia, Peru, the Solomon Islands, Malawi, the Marshall Islands, Czech, Fiji, Chile, the Philippines, Vietnam, Senegal, Republic of Sao Tome and Principe, Mongolia, the Republic of Nauru and other countries with diplomatic ties with Taiwan. The goal of this training plan is to help cultivate advanced nurses of diplomatic countries and increase their leadership, administration and management abilities, and their quality of care. The educational background of trainees include undergraduates from university, as graduates and even doctorates, and many of them being nursing executives, clinical nursing consultants, nurse practitioners or nursing professors, and all of them being the leading position in their home countries. Furthermore, it is hoped that this international plan of cooperation can:

1. Exemplify the medical and health capabilities of Taiwan and its importance in international role to become a force for our application to the WHO.
2. Through exchanges with international nurses, to introduce the high quality nursing

2007 Nursing Manpower Development Plan for Diplomatic Countries (Photo courtesy: Nursing Department, China Medical University Hospital)

profession of Taiwan and aid our diplomatic allies in improving the quality of nursing, and expand Taiwan's international visibility in international health affairs while increasing the actual level of cooperation between Taiwan and our diplomatic allies.

3. Increase the international awareness of Taiwan's nursing preparation and proactively promote the international diplomatic abilities of our nursing personnel. Strengthen the ties between with our diplomatic allies by exchanging cultural differences to promote understanding.
4. Solidify the good relations with our diplomatic allies through health diplomacy.

Besides professional nursing training, the training program also includes the introduction of Taiwan's health care system, sharing experiences of Taiwan's public health, and the discussion of important health issues such as Taiwan's National Health Insurance system, epidemic prevention, family planning, patient safety, and hospital management. These discussions can help diplomatic allies better understand our healthcare system, the functions of our nursing organizations, and share the success of Taiwan's public health with them while promoting our healthcare capabilities.

B. Nursing personnel training plan of Marshall Islands

Besides inviting nurses of our diplomatic allies for training, the Department of Health has also sent Taiwan's academics and experts to our diplomatic allies to provide assistance and support. In the experience of advanced countries, it is better to train health care personnel to assist other countries to advance their health care to achieve independent operational abilities. This is why the WHO mainly trains medical personnel from less advanced countries. In most countries, nursing has the biggest population of labor in the medical care system, working in every field such as hospitals, schools, factories, homes, and communities, which is why the training of these personnel is the most cost-effective way to advance health care.

In the summer of 2007, two professors, Chen, Ching-Min and Chang, Wen-Ying from Taipei Medical University traveled to our ally, the Marshall Islands in the south Pacific and provided a 4 day "Nursing Issues and Practice" workshop training course. The curriculum was planned to meet the current health problems and needs of nursing personnel of the Marshall Islands to provide basic nursing training, community development and nursing leadership role training. About 70 healthcare personnel attended this workshop. For the instructors, they were able to improve the abilities and actions of their pupils, increase the quality of nursing care, and improve the health of their pupils. For the other nursing personnel who attended this workshop, those who completed training could become future training instructors to lead and develop other activities. For the medical care team, the training made them more effective in their abilities to participate and handle team duties. For the general public, their hopes of better public health care and improved health duties came closer to reality by preparing a better qualified health care provider. For the government, better management of health care duties was achieved. Lastly, for the policy makers and those in administrative position, training nurses in leading position can further improve the development of their policies. In general, this training plan solidly improves the nursing personnel and care quality of the Marshall Islands, and further improves their medical system to help ensure the health of their citizens.

This training plan for Marshall Islands is merely the first step. In the future, we hope to promote this model to other diplomatic allies that require aid. Through the establishment of a training system, it is possible to share information and mutually learn the related policy establishment process and strategies to improve the nursing in countries of various regions and strengthen the network of elite nursing personnel for mutual prosperity. Furthermore, this platform will enable the nursing associations of all countries to form alliances and channels of cooperation to solidify a common ground in the development of nursing and aid in the cooperative discovery and development of new models in nursing.

(Photo courtesy: Foundation of Medical Profeeionals Alliance in Taiwan)

IV. Conclusion

With the emerging concept of a global village, many issues have come under the international spotlight. International health cooperation is one of the topics with the longest historical development. Even though Taiwan has been suppressed by China for more than the tens years, various fields in Taiwan still actively promote our participation in international health affairs in our hope to contribute to the tasks of international health care. Since 1997, Taiwan has applied for membership with the WHO and failed for a total of 12 times, and until we succeed, a gap will continue to exist in the global health surveillance system and it will be hard to promote full-scale global epidemic prevention policies. Only by discarding our political bias can we cross the barriers of country, culture, language, and race to begin professional cooperation and exchange of global health and create a society without health concerns. Nurses must be more in tuned with international health cooperation topics, devoting themselves to international health cooperation related tasks, and actively seeking opportunities to join the World Health Organization.

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Section V
Policies and Plans for Nursing Development

Ching-Min Chen

There has never been a greater need for nurses to get involved in the political and policy process". This quote by the academics reflects the imperative nature for nurses to participate in politics in face of the shrinking in medical resources and the shortage of nurses in US[1]. International Council of Nurses established Nurse Politician Network in 2007 to facilitate exchange of nursing policies and to encourage participation of nurses in politics[2]. On the other hand, after implementing the Global Budget system for total reimbursement of the National Health Insurance in Taiwan, nurses are at the forefront of the drastic changes that have been taking places in our health care system as the profession has experienced cut-back in human resources while the pressure of workload on nurses are increasing. On average, a nurse is required to look after 7 to 13 patients. With poor working conditions and low level of satisfaction in their works, it is no surprise that nurses leave their jobs, and nursing schools have troubles in enrolling new students. This has presented serious challenge to the future development of nursing profession. Until now, nurses of our country are considered the minority in the policy making process[3].

In light of the difficulties and current conditions faced by nurses to participate in politics and the imperative nature for nurses to become part of the policy making process, this article intends to cover the recent political development pertaining to nurses and conclude with the "Nursing White Paper in Taiwan" on the future direction and prospect of nurses in political participation. This article expects to help readers realize the importance of nurses in political participation while providing direction in their efforts in political participation and ultimately encouraging them in becoming more active in politics.

I. The Current Status and Difficulties Face by Nurses in Political Participation

Since the topic of "health policy" is not required in the nursing curriculum of Taiwan, nursing students in learning process have not received any form of training on this subject, therefore most of them are not in full understanding of the definition of health policy, policy making process and the imperative nature of political participation[4]. Nurses have not incorporated policy making as part of the requirement for their professional development and not much attention is paid to the content of actual professional practice and their advocate role in influencing or taking parts in health policy.

The lack of interest started during their formative training and continues into their professional career as they are occupied with heavy workload on a daily basis rendering them no time to be concerned with issues pertaining to public health or their own nursing rights. Although nurses enjoy advantages such as the number of medical care personnel, the capacity of providing seamless care, as well as the ability to provide intimate care to their clients, nevertheless most nurses are not aware of their power. Due to low sensitivity in political changes, this means other political interest groups are able to operate at the expense of nurses, and leaving working conditions of professional

nurses to deteriorate even further. The Chair of Nurse Politician Network, International Council of Nurses, Asta Möler, has pointed out many of the difficulties challenging nurses in their efforts to participate in politics and many of those are also similar to the conditions in Taiwan include[2,3]:

A. The nurses are socially lower than that of other health professionals.

B. The fact that the majority of nurses are women and women tend to view power and politics negatively.

C. The working hours of nurses and domestic responsibilities in their homes that often rely on women, prevent them from political activism.

D. The lack of visibility on nursing issues in the media.

E. Lack of health policy education and political socialization in the nursing curriculum.

F. Lack of enthusiasm from nursing professional organizations to participate in policy making process is accompanied by insufficient training of nurses to take part in politics.

Besides, unlike nurses in other countries who have experiences in political participation, nurses in Taiwan are short of resources and role models when it comes to political participation. According to statistics, 40.8% of the representatives in Scandinavian legislative council are women while the number is only 16.4% in Asia. Iceland and Norway have the highest percentage of public representatives from nursing as the number is 3.17% and 2.95% respectively[2]. In Taiwan, other than women taking 23.08% of the seats in the city council of Taipei at one stage, the number is usually less than 20% for central and local legislative bodies. The number is even lower for nurse's participation in politics as the record indicated only one individual representing nursing had served two terms as legislator in the Legislative Yuan. The number is certainly not enough to be meaningful in political operation. Due to lack of experience in running elections, insufficient role model in political participation for nurses, no one from nursing field has been elected as public representative since 2002.

II. Current Development in Nursing Policies

Even though nurses have been the passive minority in political participation, but with the increasing educational preparation and rising awareness in feminism, together with the endeavors of many pioneers in nursing field, an unique "Nursing Section" was officially established in early 2004 as part of Bureau of Nursing and Health Services Development, Department of Health, Executive Yuan. This was made possible by "Department of Health Organization Amendment" resulted from series of voting and political activities including protests. The new division is in charge of policy planning and making in relation to nursing, midwifery, and the development and training of personnel for community health nursing programs. Furthermore, a combination of lobbying that influence the personnel affairs of government has finally led to the development of first nurse to become Deputy Minister of Department of Health in the same year. More importantly, we have successfully influenced the formation of the following important health policies.

A. Nurses Act

Prior to the introduction of "Nurses Act", regulation of nursing practices was governed by a simple regulation called "Regulations Governing Nurses". Due to insufficient legal regulations plus the overflowing number of uncertified personnel, nursing profession is generally perceived as lower social status. Nevertheless, the combination of rising economic prosperity and better educated publics has led to demand for better quality of medical care and increasing interactions between nurses and patients, this result in more disputes concerning nurses and patients. In light of this, the nursing leaders took a proactive approach by conducting a series of forums, negotiation sessions to lobby representatives from government and medical field in an effort to initiate Nurses Act which was officially introduced by the President in May 17th, 1991 after being drafted in 1984, submitted to Executive Yuan in 1989, proposed to Legislative Yuan and passed in April of 1991.

"Operational Guideline Governing Nurses Act" was declared to the public in April of 1992.

With the passing of Nurses Act and in an attempt to address shortage of nursing personnel, nursing leaders continue their efforts to introduce "Transition of Professional and Technical Personnel to Civil Servant Regulation" thus granting public hospitals the right to recruit nurses and expediting the examination process that make hiring qualified personnel right after examination possible. In addition, implementation of this new regulation also made Ministry of Education to loosen the restrictions on establishing nursing schools, assist nursing vocational schools in upgrading to a higher educational level and expand the numbers on the enrollment of nursing students. These developments have all been part of the effort to strengthen nursing manpower, enhance care giving quality so that the people of Taiwan can receive better overall care.

At a time when the Act was almost being fully implemented in June of 1993, Department of Health proposed amendment to Article 37 and 57 in an attempt to revise relevant penalties and implementation date, such movement had again caused a series of protests from nursing field. On June 22, National Union of Nurses Association R.O.C. and Taiwan Nurses Association declared a joint statement titled "To Protect Public Health, Firm Opposition to Amendment" in addition to initiate other protest actions. During this period, countless visits and efforts had been spent in lobbying legislators. On June 28 of 1993, a consensus conference on "Auxiliary Medical Behavior" was held by the Department of Health under the pressure of legislators; on June 29 and 30, more than 200 nurses has joined together to take parts in a public hearing as well as sit-ins. Nursing leaders have also attended many talk shows, written to mass media and legislators, and thanks to successful maneuvering in politics,

Figure 1. **"Nurses Against Illegal Nurses", Nurses in action protest with sit-ins at Legislative Yuan (Photo courtesy: The National Union of Nurses' Associations)**

integrity of the Act remained intact (Figure 1)[5].

Other than the "practice right", Chapter 3 of Nurses Act entails the establishment, and operate the nursing institutions thus authorizing nurses the right to open business. Requirements introduced in August of 1993 "Standards for the Establishment of Nursing Institutions" have included care giving for chronic illness patients, individuals with long-term needs, women after childbirth and new born as part of the parameter of nursing business. Plus, in order to enhance the capacity and care quality of nurses, Section 1 of Article 7 of the Nurses Act was added to establish nurse practitioner system and the objectives were to: (1)enhance the health care quality, prevent medical errors; (2)implement the spirit of medial team works, improve access to medical care service; (3)improve relationship between health care providers and clients; (4)reorganize the work of medical care team in hopes that physicians can concentrate on medical treatment, medical research and education thus strengthen overall quality of medical service; and (5)establish the standards of professional care giving nurse practitioner to ensure professional competence and quality. In 2007, there have been a total of 582 professional licensed nurse practitioners based on the "Regulations Governing Specialties and Examination of Nurse Practitioner" announced on October 27, 2004. The latest amendment, Article 8 of the Nurses Act on January 29, 2007, dictates certain hours of continuous education within a 6-year period required for license renewal as part of an attempt to ensure care giving capacity and quality; this is considered an important milestone in the professional development in nursing.

B. National Health Insurance Act

After years of preparation and planning, National Health Insurance Act was finally passed by the Legislative House on July 9 of 1994 and was officially implemented on March 1 of 1995. The purpose of developing the act was to provide appropriate medical and health care services to the entire population, to use medical resources effectively and to lower the financial threshold in acquiring medical services thus enhancing public health. Since its introduction, it has made acquiring medical service more convenient for the public while reducing the financial burden for many seriously ill patients, and generating over 80% public satisfaction on this policy. Nevertheless, implementing this policy has also meant serious impact to the nursing profession. On the positive side, due to cost constraints from the pressure of reimbursement paid by National Health Insurance, patients might be asked to be discharged before a full recovery, therefore the likelihood of patients getting nursing services from nursing institutions increases greatly[6]. To complement the implementation of Nurses Act, clients receive services from home health nursing and nursing institutions are covered by National Health Insurance; thus the importance of nursing practices have been improved and role of nursing has been expanded.

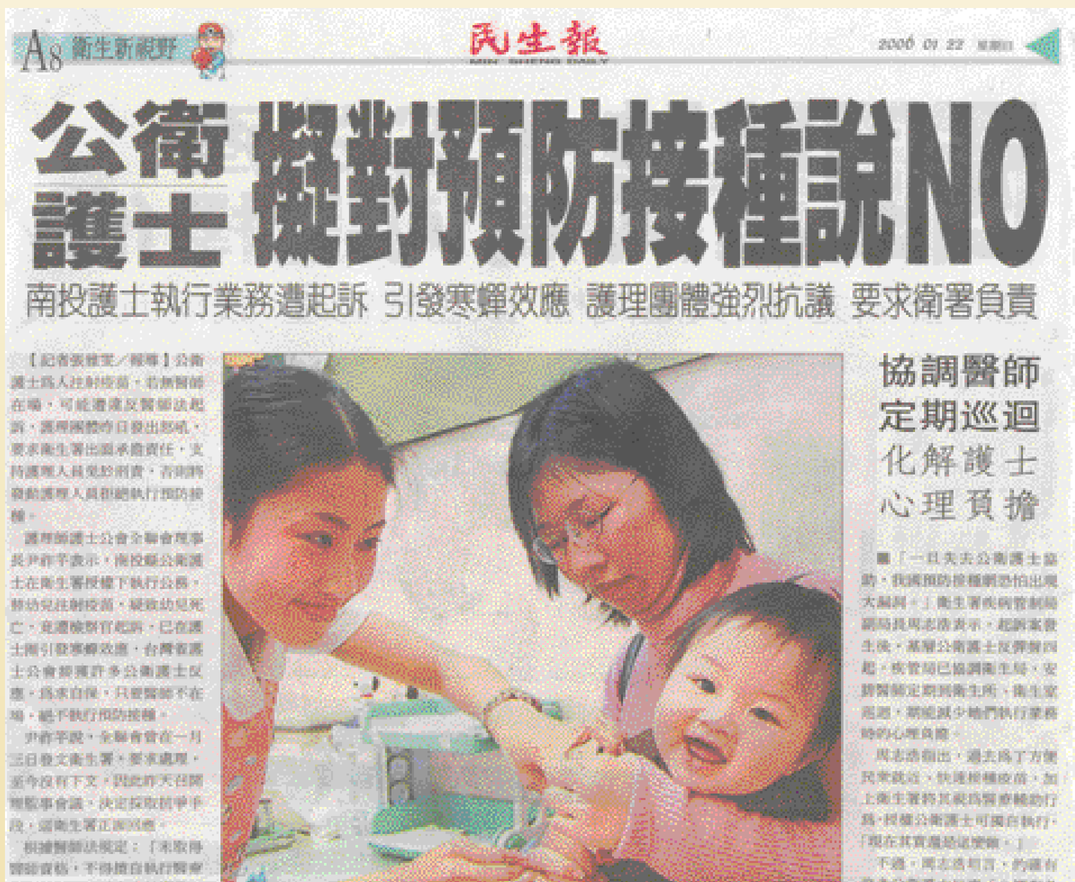
On the negative side, due to the pressure from National Health Insurance reimbursement, there has been significant reduction in nursing manpower that leads to excess workload for nursing staffs while service quality is compromised. In addition, many public hospitals has resorted to contractual terms of employment as a cost cutting measure that leads to great variation in benefits among nursing staffs, leading to low morale and high turn-over rate. The major reason for this problem is that hospitals do not define nursing unit as a revenue center therefore no solid financial contribution from reimbursement paid by National Health Insurance for clinical nursing service. In response, nursing leaders had been asking for independent calculation on the cost of nursing. Especially after many nurses had sacrificed their lives during SARS epidemic, independent calculation on the cost of nursing was brought to the attention of the public and National Health Insurance Bureau. By the end of 2002, public hearing sessions were held to seek support from legislators, Department of Health promised further discussion on the subject after further studies. In January, 2003 representatives from National Union of Nurses Association passed the resolution that "nursing cost" is to be independently listed in "ward charge under hospitalization expense". On November 26, it was passed by the "National

Health Insurance Reimbursement Council", and the compensation is 56% for standard hospital ward and 60% for intensive care unit. However, based on results from national surveys, the current compensation scheme paid by National Health Insurance is not able to fully reimburse the nursing cost incurred by medical institutions. Nonetheless, it still means the effort and contribution of nursing personnel finally receive the recognition they deserve. As for obtaining higher level of compensation, it is the direction of future endeavors. When it comes to political participation, we have successfully earned a seat of representative in the "National Health Insurance Medical Expense Assessment Commission"; currently we are also looking to join "Supervisory Commission of National Health Insurance", these efforts are meant to produce solid contribution for nursing personnel in the future[7].

C. Amendment of "Communicable Diseases Prevention Act"

In July of 2002, a nurse at a public health station of Nantou County performed vaccine injection on a baby boy, 12 days after the injection, the boy died. Although the autopsy report indicated the death was not caused by the vaccine, prosecutor still charged the nurse for violating Article 28 of Physician Law "perform medical operation without proper license" as the nurse performed injection without the presence of a physician. The nurse was indicted in 2005, once the news was out, it had caused quite a stir in nursing community.

Vaccine injection is clearly listed as one



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協調醫師定期巡迴
化解護士心理負擔

Figure 2. **Title is "public health nurses plan to stop vaccine injection due to the fact that one of their colleagues in Nantou was indicted for performing his or her duty, nursing community strongly protest to such decision, Department of Health is asked to stand up" (Photo courtesy: Chen, Ching-Min)**

of the preventive medical services in Nurses Act as it has made great contribution to disease prevention plus it is also one of the most important practices for a public health nurse. Prior to the shot, nurses have been fully trained on physical assessment and various limitations of vaccines; under normal circumstances, vaccine injections are performed under doctor's prescription. Nevertheless, to promote preventive medical measures in remote rural areas, Department of Health had declared through "Executive Order" in 1983: public health nurse performing vaccine injection in accordance with preventive measures prescribed health authority is regarded as medical auxiliary behavior under the guidance or prescription of a doctor. Unfortunately, a civil servant who also happened to be a nurse performed her duty after conducting necessary assessment was not protected by the executive order as the individual is found in violation with "Physician Law" in a dispute caused by injury from vaccine injection.

This result has initiated a wave of political participation among nurses. First of all, a lawyer was hired by local nurses association to accompany the defendant in court and assistance from local health bureau was requested. A letter from the National Union of Nurses' Association was sent to Department of Health asking the Department to be responsible in authorizing the performance and to revise respective regulation so that the action of nurses in performing vaccine injection is protected by law. On January 21st, 2006 the nursing community declared to stop giving vaccine injection unless their actions are protected by law. After extensive media coverage (as shown in Figure 2), officials from Department of Health were sent to visit the nurse in the law suit, the Department was also in negotiation with respective legal department discussing the nature of the law suit. Department of Health also expressed it will have officials testify on the nurse's behalf and all legal expenses will be paid by the Department. On March 6, the nurse in question was found not guilty and the nurse's action was justified.

In many of the public health stations and schools in remote rural areas, in response to shortage of doctors, the executive order issued by Department of Health requests nurses to performed vaccine injection without the presence of a doctor. Furthermore, other common medical practices such as Pap smear Test, Oral Cancer Screening, Blood Test are invasive medical practices, are they vulnerable to be found in violation with respective laws? In response, the nursing community has joined together in an effort to introduce amendment of Article 4 of "Communicable Diseases Prevention Act" after seeking support from legislators and sessions of public hearings, the amendment became official on May 23rd, 2006, thus excluding nurses from Article 28 of Physician Law authorizing them to perform vaccine injection without the presence of a doctor. This is recognition to nurses' effort in medical preventive measures and it also serves as the foundation to strengthen the role of nurses in the future[9].

III. A Nursing White Paper in Taiwan

Although initial progress has been in political participation by the nursing community in recent years, when comparing to the series of policies and declarations introduced to strengthen the quality of nursing care in the international communities thus leading to significant contribution to health issues on a national or global level, there are still room for improvement to be made by us. Department of Health has commissioned National Health Research Institute to draft "A Nursing White Paper in Taiwan" in hopes of improving care giving quality of our country and to setting a direction for the development of nursing policies in the future.

Through a series of intensive seminars and workshops attended by experts, a total of 4 preparation sessions were held to discuss the following 5 sub-topics that were considered most urgent to nursing community of Taiwan, the expectation of these efforts were to produce plans and recommendations to relevant authority.

(1)Regarding establishing fundamental nursing information, it was recommended to create "Nursing Data Bank of Taiwan" in order to be in control of nursing manpower at any given time.

(2)About confirming the scopes of professional

nursing practices, it was suggested to a) strengthen the role of "Advisory Commission of Nurses"; b) examine the certification process of professional licenses; c) devise a salary structure and scope of professional nursing practices of various levels; and d)implement a system that defines the professional nursing levels.

(3)In the areas of "enhancing professional capacity of nurses in Taiwan", the recommendation was to reinstate continuing education center for nurses throughout Taiwan to provide educational training to nurses at various levels, clinical nursing preceptors are added to hospitals for training of new nurses, accreditations are conducted to determine the professional capacity and quality of educational and medical institutions of all levels.

(4)As for "enhancing the service and quality of nursing profession in Taiwan", it is recommended to integrate research resources to determine short-, medium- and long-term missions and direction of development in clinical nursing researches.

(5)In "strengthening the integration of professional nursing service and crucial health policies", it was suggested to upgrade "Advisory Commission of Nurses" to a cross-departmental organization, and promote a system for renewal of professional licenses in every 6 years. Strengthening the role of nurses in evidence-based nursing studies and to apply research results to improving health care service and then moving up to participate in the making of health policies.

IV. Conclusions

Even though nursing staff is at the front line of medical care system and occupies the majority number of employees, nevertheless they are usually in a passive position sometimes even become oblivious to current policies. How to encourage nurses to participate in politics that concern them has become an issue of urgent nature. For those in the leading position of nursing community, since they tend to have more channels of participation, plus they often have more influential power, leaders in nursing community ought set an example by taking part in the political process to have positive impact on professional nurses organizations and to train more new-comers so that more nurses would participate in the process to create an even brighter future for the development of nursing professionals.

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Section VI

Aging

Lotus, Yea-Ing Shyu

Society of Taiwan is aging. The average life expectancy in 2005 reached 77 years old[1], and elders at least 65 years old currently account for over 10% of the total population, or about 2.28 million elders[2]. This number is estimated by the Economic Development Council to reach over 20% in 2026, or roughly 4.76 million. These numbers mean there would be 1 elder for every 5 persons[3], and the fastest growing segment of the population would be elders at least 80 years old. In the face of such a rapidly aging society, the nursing profession in Taiwan will need to address several challenges and important issues for elders, including health promotion/disease prevention, integrated health care, care for elders with dementia, care for older persons with chronic diseases, family-centered care (care including family caregivers), and elders in retirement community. These challenges and issues are addressed in detail below.

I. Health Promotion / Disease Prevention for Older Persons

Elders of Taiwan's aging society are in line to support the notions of "aging successfully," "aging productively," "compression of diseases," and "active life expectancy," which emphasize the physical and psychological aspects of life, social function, living independently, and autonomy. Central to these ideas is the social value of health promotion. Elders are no longer regarded as people who tend to be demented and incapable, needing to be institutionalized, but rather as active older people, for whom health should be promoted and diseases prevented.

The objective of health promotion and disease prevention is to reduce preventable mortality, while maintaining quality of life in the remaining years of life. Both elders and younger adults can benefit from health promotion and disease prevention, but as the number of elders grows and lives longer, more of the public benefits from health promotion and disease prevention. For elders, the main objective of health promotion and disease prevention is to enhance quality of life and functional independence. Health promotion for elders has been shown to strengthen healthy behaviors and improve their health condition, as well as to improve community health and reduce the cost of caring for sick elders[4].

Health policy in Taiwan has been changed to meet the public's needs by placing less of an emphasis on medical treatment and more on promoting public health. This change is evident in the establishment of the National Health Bureau and Health Education Promotion Council to promote health policies that include screening and diagnosis of older adults for breast cancer and pulmonary tuberculosis, passing the Smoking Hazard Prevention Act, establishing a health-education resource center, promoting outpatient services for health education, promoting compliance with prescribed medications, and advocating a culture of healthy eating. Nursing staffs play a vital role in establishing and executing health policies by encouraging elders to maintain an active social life, engage in an appropriate amount of exercise, follow a nutritious and balanced diet plan, undergo regular physical check-ups, review

medications, receive vaccine shots to prevent pneumonia and flu, strengthen household safety, avoid falls and other accidents while maintaining an independent lifestyle. Nurses play this role through various forms of clinical consultation, health education demonstrations, research, and participation in policy making.

II. Integrated Health Care for Older Persons

Many elders in Taiwan are in poor health. For example, nearly 30% of elders over the age of 65 in 2005 reported thinking that their physical and psychological health was not good because almost 65% had chronic or serious illness, they visited a hospital 2.25 times per month, close to 20% had been hospitalized in the past year, and 12.67% had trouble taking care of themselves in daily life[5]. Indeed, the most frequent users of medical services are mainly elders, hospitalized patients, and those with chronic and serious illness[6]. Although the elderly account for only 9.74% of total population in Taiwan, the National Health Insurance found that elders used 44.8% of hospitalization expenses. Similarly, the number of elders who are dependent on help for their daily life and who have chronic illness is rapidly rising[5]. Given the projected increase in the future number of elders, the above data indicate that health issues and care needs associated with this aging trend will become more complicated and diversified, while the cost for care will be even greater.

The services required by elders, especially frail elders, are generally of a complicated nature, involving including different institutions, professional disciplines, and modes of assistance. Nevertheless, current health care for elders is segmented, discontinuous, problem- or illness-oriented, and ineffectively integrated and managed. This fragmented approach not only fails to deliver timely effective care to elders, but also leads to redundancy and wastage of social and medical resources. Health care issues associated with the aging population have become an important aspect of health and social policy in many developed nations. The objective is to realize the goal of "aging in place," that is, maintaining the independence and autonomy of elders and extending the time they stay at home in the community. On the other hand, Taiwan is behind on developing integrated health care for elders. With the inevitable growth in the aging population, the needs for long-term health care will grow. If health care resources cannot be systematically and effectively integrated, medical and social resources will be poorly managed, creating unnecessary expenses while reducing the quality of care. Therefore, an issue that needs to considered and addressed is how to provide sustainable and effective caring service with limited resources.

To resolve the poor care quality and increasing medical expenses caused by fragmented services of acute, long-term care and overuse of care resources, European and North American countries have been experimenting since the 1970s with integrated health care planning. At this time, Taiwan has already introduced long-term care management systems to integrate community and long-term care resources. The Department of Health is pushing hospitals to develop their hospital discharge planning services, thus connecting acute health care with long-term, community-based care. In addition, a few hospitals have established geriatric assessment programs headed by geriatric nurse specialists to assess and handle the complex needs of hospitalized elders. However, in most hospitals, older persons are cared for by different medical specialties, while the complexity of elder health condition and the need for comprehensive care are ignored. The status of preparation for hospital discharge varies from hospital to hospital, leaving room for improvement on the continuous aspects of care for elders.

Nurses in Taiwan need to address several challenge related to providing comprehensive, continuous care for older persons with acute, chronic medical conditions and long-term care. We need to participate in developing innovative approaches to caring for elders and progress to participating in policy making.

III. Care for Older Persons with Dementia

Dementia is at the top of the list of issues concerning elders. Currently 24.3 million elders worldwide have dementia, and with the number growing at the pace of 4.6 million new cases each year, the population with dementia is estimated to reach 81.1 million in 2040[7]. In Taiwan, the incidence or occurrence rate of dementia, according to various community-based investigations, is 2% to 4%[8]. Therefore, the Taiwanese population with dementia is estimated to be 46,000 to 92,000. The number of elders was estimated by the Economic Development Council in 2006 to reach 2.44 million in 2010 or 10.6% of the total population, to reach 5.43 million by 2030 or 23.9%, and to reach 6.93 million or 36.7% by 2050. These estimates mean that among elders at least 65 years of age in 2050, 138,000 to 277,000 will have dementia. This high prevalence rate indicates a great future need for care of elders with dementia[3].

Caring for patients with dementia is one the most important health issues facing society in the 21st century around the world. The rising prevalence rate of dementia each year not only increases the chance of becoming disabled and the death rate among elders, but also creates even more burden for families, resulting in high social costs. Dementia is a chronic illness with many complications, because symptoms and behavioral problems vary during the illness trajectory. This complexity and behavioral problems often frustrate family caregivers and influence the physical and mental health of family members, even leading to the development of depression. Therefore, care for elders with dementia needs to be developed and provided in accordance with different phases of the illness trajectory, if services are to be effective and practical.

At this time, Taiwan is still exploring solutions to caring for elders with dementia. Although some experts have already been experimenting with certain care methods, such as day care or home nursing care, these have been limited to specific issue and not integrated. Integrated care for dementia includes addressing cognitive, behavioral, or environmental issues as well as physical care, use of resources, referrals, and family support. In recent years, the concept of disease management has been introduced under care management, which means providing integrated care for individuals with specific medical conditions to offer the most effective service with the least cost. Individuals that need case management often require expensive and intensive services. Continuous services need to be provided to minimize decreases in functionality and to avoid complications and hospitalizations, thus enhancing quality of life. This type of service could also be applied to caring for those with dementia.

To meet the need demands and to enhance the quality of life of a fast growing population of individuals with dementia and their families, nursing staff in Taiwan will inevitably be challenged. Nurses will need to meet this challenge by providing corresponding care services such as home care, outpatient

Health Promotion Activities for Community Elders (Photo courtesy: Community Medicine Center, Taipei Medical University Hospital)

services, screening and health promotion at the community level, institutionalized care, and even development of integrated/ innovative, care services through nursing research.

IV. Care for Chronically Ill Patients

With the population of elders growing at a rapid pace and average life expectancy becoming longer, the number of individuals with chronic illness and functional disability has surged. In the US, nearly 75% of the older population has at least one type of chronic illness, and nearly half of this population has at least 2 chronic illnesses[9]. In Taiwan, chronic illness is one of the major causes of death, with the total number of deaths caused by chronic illness accounting for nearly 60% of total deaths in 2006[10]. Moreover, 1 of every 3 dollars spent on National Health Insurance going to caring for the needs of chronically ill patients. Chronic illness not only obviously endangers the lives of Taiwan's people, but also creates a huge burden on the nation's finance

The irreversible, permanent nature of chronic illness requires long-term supervision, care, monitoring, and rehabilitation, thus challenging traditional medicine, which emphasizes cure. Therefore, the paradigm of the medical system has changed from an acute approach to one that focuses on care. With limited resources, the new paradigm pays more attention to dealing with the diversified, long-term needs of patients with diabetes, asthma, cardiovascular disease, and depression because they all demand long-term, periodic follow up and care[11]. When addressing these patients, nursing staffs need to realize the paradigm shift from cure to care. Nursing professionals need to be fully aware of feelings, recognition, roles and strategies used by individuals, family members, and health care providers during the illness trajectory. Among the members of a health care team, nurses are the most appropriate professionals to address the needs of patients with chronic illness because their professional training emphasizes care of the whole person as well as close interactions with individual clients, and their workplaces are scattered throughout communities, factories, schools, and institutions. Thus, the biggest future challenge to the nursing profession is how to enhance the quality of life for chronically ill patients through health promotion, recognizing illness, effective treatment, and disability prevention.

V. Family-Centered Care

With respect to living arrangements for elders at least 65 years old in Taiwan, the Ministry of Interior found in 2005[5] that the largest proportion (38%) live with a 3-generation family. Elders who are incapable of taking care of themselves are mostly the responsibility of son or spouse/partner (13.38% and 13.20%, respectively)[5]. In the ideal living arrangement, 59.95% of elders in Taiwan wish to live with children. Disabled elders in Taiwan are still mostly the responsibility of their respective family, with the main care providers being spouses and adult children. In response to the concept of "aging in place", which is being actively promoted around the world, as well as circumstantial needs, the mainstream care method in Taiwan has become community-based and family-centered care. Nevertheless, the average household size, according to the 2000 census, has decreased from 4 to 3.4 persons, a sign of family structure turning from larger families to smaller ones with fewer children. In addition, urbanization and greater numbers of women working

professionally have reduced the family's ability in providing care. Furthermore, those who provide family-centered care require even more support to continue taking care of disabled elders at home.

Caregivers for disabled elders were found to include about 30% of elders aged at least 65 years old[12]. The main force in providing family care is women; nearly half of female elders are cared for by their daughters-in-law, and nearly half of older men are taken care of by their spouse. Almost half (45%) of family caregivers have been taking care of disabled elders for more than 5 years. In addition, these care providers usually have to watch over their own children (38%) and face pressure created by conflicts from work (18%); many even need to resign from work to care for elders. Many caregivers have expressed the need for assistance in areas such as accident prevention (70%), recreational activities (40%), consultation (50%), and respite care (42%), indicating that caregivers need assistance and support from society and professional personnel. The requirement for and willingness of caregivers has been shown by research to predict the percentage of disabled elders re-hospitalized and the chances of being institutionalized after discharge from the hospital[13,14].

The needs of family caregivers have recently become more evident in Taiwan society. Family members were specifically assigned the responsibility of caring for elders by the Elders' Welfare Act of 1997. With respect to strengthening care for elders, the Ministry of Interior established a 3-year plan in 1998 that incorporated household service and family support as a key area for implementation. The plan includes respite care and temporary day care service, so that a third of cities throughout Taiwan have day care facilities, with 90 support centers. However, these day care centers have poor accessibility and no shuttle service is available; support centers are only open to serve middle- and low-income families or elders living on their own. In other words, both types of services are not widely available to the public. The Department of Health in Taiwan has been promoting home nursing care and day health care service by increasing their number by 299 and 9, respectively in 2000. Nevertheless these services are still not enough; respite care services have received great reviews but the supply still falls short of demand. Currently, the 10-year, long-term care plan of Taiwan includes care services (including household service, day-care service, paid in-home care service), home nursing, community- and family-based rehab services, procurement of assistive devices or equipment, improvement of handicap-friendly environments, meal-delivery service, respite care service and shuttle service to support family caregivers in hopes of achieving better outcomes.

Faced with an aging society, the nursing profession in Taiwan needs to provide family-centered care not only for elders in hospitals, the community, or long-term care institutions, but also for family caregivers. Nurses also need to understand elders and to use innovative methods to educate family caregivers about caregiving skills while giving them emotional and social support to reduce their burden. By helping to improve the quality of family care, nurses can contribute to enhancing the quality of life for elders and their family caregivers and to reducing unnecessary institutionalization and waste of medical resources.

VI. Elders in Retirement Community

The family structure in Taiwan has changed in the past few years, due to a shift in public mentality, from larger to smaller families. Rather than living with their adult children, an increasing number of elders are considering moving to a retirement community, senior housing community, or other type of communities designed for elders. The nursing profession needs to advance clinical competencies to care for these elders and to identify and deal with early signs of health issues. Another agenda at hand is how to evaluate, intervene, and assess the impact of these living arrangements on elders, as well as to promote and maintain the health and independent capacity of elders. These issues will need to be addressed in the near future.

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Section VII
Advanced Nursing Practice

Shiow-Luan Tsay & Su-Zhen Kuo

According to the American Nurses Association (ANA), advanced practice nurses are nurses who have received advanced nursing education with clinical expertise and possess a certification in their current practice. Generally speaking, the advanced practice nurses according to the ANA are clinical nurse specialists (CNS), nurse practitioners (NP), nurse midwives (NW), or nurse anesthetist. In Taiwan, currently, nurse practitioners and nurse midwives have established their practice model that is why in this chapter, we shall focus on the background, the requirements, the education, and the practice of these two types of advanced nursing profession.

I. Nurse Practitioners

In Taiwan, the term nurse practitioner is a new professional term for the health care profession and general public. The development and practice of nurse practitioners in the past five years has begun to establish a set of standards through efforts and initiatives by the Department of Health, the National Health Research Institute, and also the Taiwan Association of Nurse Practitioner (TANP).

A. The beginnings of the nurse practitioner

In recent years, along with the changes in our society, the changing in types of diseases, and the establishment of National Health Insurance, the medical environment has undergone a very large change. In order to satisfy the changing health needs of the public and take a step closer to provide patients with a sound medical insurance plan, making effective use of nursing personnel has become a very important topic in Taiwan's medical society. Some hospitals have begun to hire staff with nursing background and placed them as physician assistants. According to the studies conducted on January 6, 2005 by the Taiwan Nurses Association, the trained nurse practitioners, who were taking advanced nursing tasks of various degrees roughly estimated at around 745 people, were placed in hospitals around the nation.

Taiwan's "Nurses Act" was revised on Oct 24, 1990 and in the seventh item and the third amendment, "nurse practitioners" were listed alongside "professional nurse" and "nurse" becoming one of the legal names of nursing personnel. This amendment has been announced by the president in November, 2000. With a lack of general standards for execution, many hospitals set their own education plans to train their own nurse practitioners. Due to the fact that these facilities do not have a common ground, related departments (including the Ministry of Education and scholarly nursing organizations) do not have a definition for a nurse practitioner's practice range, and furthermore, do not have a standard set on a nurse practitioner's "clinical competence," and as this is also not described by law, finding a method to realize healthcare service centered on the patient is a problem that needs to be addressed.

B. The certification of nurse practitioners and renewal of the licenses

The certification for a nurse practitioner is separated into two parts, and those who pass both parts of this exam receive their certificate of nurse practitioner. The first part of the exam is a written test, and only those who have passed

the written test can take the second part of the exam, the performance test. The written section is composed of multiple choice questions, and the test encompasses nurse practitioner theory and also the advanced care of Medical or Surgical illnesses. Nurse practitioner theory involves questions dealing with the role and responsibility of nurse practitioners, medical ethics and laws, health quality management and others. Advanced Medical or Surgical care includes: advanced pharmacology, advanced pathophysiology, advanced health assessment, the diagnosis and treatment of health problems and others. The passing score in the part of written test is 60%. The contents of the performance examination include Objective Structured Clinical Examination (OSCE), which focuses on health assessment for patients, inquiries of their history of disease, differential diagnosis, clinical decision making, communication, lab study and images interpretation and other professional abilities. During the test, potential nurse practitioners must report to the OSCE rater with possible health problems of a patient and the reasons, and answer questions asked by OSCE rater according to the conversation with the patient about health assessment, clinical deduction and decisions. The standards of scoring are as follows: the performance test is scored by calculating the average scores given by the 3 OSCE raters, with a passing score 60%. The Department of Health held the first official examination for medical and surgical nurse practitioners on December 29th, 2005 and completed the performance test on April 13th, 2006.

Before the examination requirements for advanced nursing qualifications were announced by the Department of Health in the "acute care nurse practitioner test standards" (December 1st, 2005), the Department of Health assessed the contents, the types of training and as well as the education programs nurse practitioners have taken to determine whether they conformed to the medical regulation 89015237 passed on April 25th, 2000 of the educational criteria of nurse practitioners set by the TANP; and the nurse practitioners must hold a certificate issued by the hospitals which administered their training courses certifying that they have finished the program. By definition from the Department of Health, a nurse practitioner is one who has completed curriculum in either medical or surgical specialty and holds a certificate of curriculum completion; a nurse practitioner may also be one who holds a foreign certificate after completing the curriculum similar to that of Taiwan's and the certificate has been approved by the Department of Health.

The renewal of a nurse practitioner's certification, according to the Department of Health, must be done by completing additional educational courses and being evaluated through a point accumulation system. Those who apply for an extension of their nurse practitioner certificates must submit their existing certificates not over 6 years; those who apply for academic activities or continuing education programs must have accumulated 240 or more points, certifying that their participation in nurse practitioner's practice for 2 years in the

Acute Care Nurse Practitioners Conduct Case Conference (Photo courtesy: Taiwan Association of Nurse Practitioner)

past 6 years. Continuing education courses include professional theory courses, quality control, law and regulations. A minimum 24 points of continuing education in medical ethics and law are required. The standard of accumulating points follow the regulations, including participation in academic seminars or conferences, taking graduate level credit courses, publishing papers or acting as a clinical preceptor. Moreover, the requirements for the quality of conferences and the quality of professors are strictly specified in the regulations that the professors must be above the level of lecturer as defined by the Ministry of Education, or the medical doctor must graduate from university for over least 5 years of professional experience on their speciality, or he is or was an executive officer in medical units associated with the speciality.

C. Nurse practitioner's education

Nurse practitioners are advanced nursing practitioners who have in-depth clinical experience that are hired by medical organizations, and their main task is to cooperate with doctors and to provide continuous and solid nursing and medical care. Although nursing practitioners around the world in advanced countries are mostly trained in graduate studies, due to the legal considerations and Taiwan's need for clinical health personnel, we are promoting the training of nurse practitioners in hospitals to fulfill the market's need in the short term. However, due to the difficulty in maintaining a high quality of education in hospitals, there is a consensus in the nursing profession that nurse practitioners should be trained in a higher educational system.

In terms of hospital training, most early nurse practitioners were trained by traditional apprenticeship methods. With the development and the needs of various hospitals, some nurses were arranged as assistants for doctors to perform medical services. In these cases, clinical doctors played a role of a preceptor to these assistants and instructed their curriculum according to the doctor's specialized area. The contents of the courses were very scattered, that is why the depth and quality of the education was evaluated with much skepticism. Furthermore, the lack of participation of an experienced nursing instructor, resulted in students with insufficient education on the role of advanced nursing professions. In general, the educational plan of nurse practitioners had no common standards and the training programs done in nursing departments were not as thorough since the instructors lacked experience, leading to the quality of nurse practitioner education unbalanced and their roles and responsibilities blurred.

However, in the past ten years, through the exchange of international nursing education and clinical practice in hospitals, the nursing experts of Taiwan have attempted to adopt the training methods of American nurse practitioners as a blueprint and slowly develop the curriculum that works with nurse practitioner education in hospitals. First, the nursing department and medical departments must cooperate in working out a mechanism for nurse practitioners and design a complete educational plan including classroom hours, course content, and clinical teaching hours. Although this plan isn't as complete as the training courses in other countries, but it is still a start for nurturing nurse practitioners in Taiwan. With the accumulation of experience, adding other types of training besides the requirement listed above, including various types of clinical instruction, repeated patient diagnosis, case discussion, in-hospital team discussions and courses to update nursing knowledge. We offer nurse practitioners not only new knowledge, but also discussions amongst various departments in a hospital, and increase their experience and professional knowledge of care. Moreover, hospitals should support their doctors and nurse practitioners in academic or clinical seminars to promote the exchange of professional knowledge in various fields.

In 1965, America held in Colorado University the first 4-month nurse practitioner training course[1], which opened a new page in the development of nurse practitioner standards, and because of the success of this program, it influenced many countries to follow. Due to the increasing need of medical care and the increasingly superior clinical performance of

nurse practitioners, the role of the nurse practitioner has continued to develop from taking doctor's orders to an independent and authorized role to write prescriptions and make clinical decisions. With the expansion of a nurse practitioner's role, the training courses, certification, and occupational demands will become stricter. Currently, many countries require that nurse practitioners have at least 3-5 years of clinical experience and receive a graduate level of training in order to obtain their occupational qualifications[2]. America attempts to move nurse practitioner education to the PhD level by 2015. In comparison with America's graduate studies for nurse practitioners, Taiwan's is only in its' primary stages.

Acute Care Nurse Practitioner in Clinical Practice (Photo courtesy: Taiwan Association of Nurse Practitioner)

Nurse practitioners in Taiwan mainly focus on acute care patients who have complicated diseases, or fatal health conditions. Aside from needing plenty of clinical experience, nurse practitioners also need critical thinking and decision making skills to face the rapidly changing conditions of patients and assess or treat these changes within a demanding timeframe. To train these experienced nurses to become good nurse practitioners, National Taipei College of Nursing began graduate level Acute Care Nurse Practitioners (ACNP) in 1999, aiming at training acute care nurse practitioners for adult patients. Chang Gung University also established graduate level courses in 2003 for Family Nurse Practitioners (FNP), and National Taiwan University's graduate level studies in nursing was established this year, 2008; in March the completed curriculum which defined the course names and credits of the nurse practitioner major were scheduled to officially begin in the fall of 2009.

The goal of graduate studies for nurse practitioners is to train nurse practitioners to think critically and to perform advanced care and assignments, such as making clinical decisions, communication, coordination, sanitation education instruction, acting as professional counselors, managing cases, doing clinical research, making moral decisions with humanitarian care, and monitoring the quality of care to provide solid, continuous medical treatment and services. The curriculum includes the common core courses of graduate level studies, and advanced nursing core curriculum. Of the three main directions in the nurse practitioner's curriculum, one direction of the core curriculum includes nursing related theories, research methodology, nursing morals, health care policies, and the development of professional roles. The core curriculum of advanced care includes health assessment, advanced phamacology, advanced disease physiology theory, and advanced care. The curriculum for nurse practitioners is to mainly focus on the common health problems in an acute care setting, health maintenance, disease prevention, and providing continuous and comprehensive care.

The difference between a nurse practitioner's training and a nursing graduate level study is the emphasis on internships, where a nurse

practitioner is required to fulfill a minimum of 500 hours of internship in a specific department of care[3] in order to increase a student's clinical experience. Furthermore, their internship and related expertise training is provided by a certified nurse practitioner or a doctor who acknowledges the role of a nurse practitioner. The focus of the training is to review clinical skills and clinical decision making abilities and to provide plenty of opportunities of learning, to help students accumulate and use what they have learned in advanced nursing, disease physiology theory, phamacology theory, health assessment, management theory, and related knowledge. From their learned knowledge and clinical service, students can strengthen their abilities from the care and treatment in patients and consolidate their skills in diagnosis, education, leadership, and other nursing abilities to improve their depth of experiences. This can also help their communication and coordination with medical teams through the clinical practice of nurse practitioners, and cultivate professional nurse practitioners.

In order to train nurse practitioners to practice in acute care hospitals we must provide them with comprehensive and continuous care skills to cope with the rapidly changing conditions of patients. Therefore, clinical training and experience must be broad and deep, but for a nurse practitioner of acute care patients, what the minimum requirements for clinical experience and professional abilities are? How many levels of education and training are required, and what contents should be included? Currently, Taiwan does not have common standards for this, so we should establish a set of standards as early as possible through the help of clinical experts and educators to act as a guideline for the future development of the education of nurse practitioners.

D. Nurse practitioners and quality management

The role of nurse practitioners in clinical tasks is to offer direct care, health education, care coordination to patients, and as well as to ensure the management of care quality. According to the Department of Health, public announcement in 2007, the care duty includes: (1) the physical examination, assessment, and consultation of hospitalized patients; (2) taking down various physical tests and results of hospitalized patients; (3) dealing with medical inquiries and giving disease explanation to patients and their family members; (4) under the doctor's order, drafting prescriptions with the details of the doctor's name and diagnosed time, and according to laws, asking the doctor personally sign the prescription; and (5) other responsibility in relation to the medical support range of a nurse practitioner same as described by governmental sanitation institutions[4].

The main goal of quality management of a nurse practitioner is to ensure the safety of patients, to improve care quality and the patient's health. This relates to various levels, but currently in Taiwan's documents on quality management it focuses on the concept of Total Quality management (TQM)[4-9]. Total Quality Management includes areas such as: quality of the individual, systems, and process, and also the quality of products and services.

The quality of individual includes the accreditation of nurse practitioner candidates and the monitoring of nurse practitioners in their tasks. In the first stage of accreditation, what criteria allow a nurse practitioner candidate to participate in Department of Health and nurse practitioner training courses to obtain the requirements for accreditation? Other questions such as whether the training plan is complete or can cultivate the core abilities needed by nurse practitioners to carry out their clinical role. In other words, the quality of the training process must be monitored, and the monitored items should cover the place of training, training instructors, and clinical instructor qualifications and so on. In the second stage of accreditation, what qualities enable a nurse to become a nurse practitioner? This includes the requirements for accreditation, methods of evaluation, and standards of passing evaluations, which are important to understand whether the method of evaluation can ensure nurse practitioners possessing necessary knowledge and clinical abilities. In the third stage of accreditation, a nurse practitioner, upon receiving her certificate, then under what conditions this certificate needs to be renewed to allow her

to continue performing her job. This includes the management level strategy, occupational training, and clinical examination. These three stages of accreditation ensure that the quality of nurse practitioners meets the legal requirements.

From the quality of systems and procedures, it refers to the methods of executing tasks, which surpasses functionality, and is a means to provide patients with the value of specialized areas of care and service. If there is a standard procedure for nurse practitioners to follow, safer and more efficient care will be offered. Doctors and medical personnel units must develop suitable clinical guidelines for nurse practitioners, so that during the process of development, a nurse practitioner's self growth and a good communication channel can be established.

On the quality of products and services, products refer to the care provided by a nurse practitioner, which includes clinical performance and the function of her role to provide services in practice. Promoting TQM should be done on-site; the site meaning the place where nurse practitioners provide care. The question of how to provide quality care includes the employment of personnel and training that conform to "on-site" requirements, and whether their qualifications are nurtured and obtained through examination. In order to increase service quality, indicators of medical quality need to be measured, which include the infection rate in hospitals, the patient's satisfaction degree with nurse practitioners and the satisfaction rate with doctors, nursing staff, and so on.

E. Conclusion

Nurse practitioner standards have taken a first step in the National Health Research Institute, Department of Health, the Taiwan Nurse Practitioners Association, scholars, and clinical specialists. There are a total of 582 nurse practitioners in 2007, and a total of 857 nurse practitioners in 2008, who hold certificates, either with medical experience or surgical background, were working in hospitals around Taiwan. The medical system hires many nurse practitioners who work with doctors to provide continuous and solid medical services in hope of providing better care services for patients and their families. Most training of nurse practitioners is done in hospitals at the moment, and their occupational model of being doctors' assistants is worrisome. Therefore, only if nurse practitioner education is to be conducted at the higher education system then we can nurture nurse practitioners with a higher level of care quality.

Currently, the nurse practitioners in practice have shown their advanced professional abilities and received acknowledgement of the public and other medical professionals. In addition to their professional performance and better development, nurse practitioners need to participate in more systematic and scientific clinic research to ensure their care quality. The area of practice of a nurse practitioner is still limited by law, and that is why the related nursing personnel stipulation need to be further amended to establish a legal suitability for occupation of a nurse practitioner. Furthermore, the data on nurse practitioner employment

Nurse Practitioners Participate in Oversea Clinical Practicum at Jackson Memorial Hospital, Florida ,USA (Photo courtesy: Taiwan Association of Nurse Practitioner)

is insufficient, and now hospitals are heavily training nurse practitioners, and the number of NP certificate holders is increasing each year, showing that an assignment of jobs system to meet the market's needs is necessary. At present, nurse practitioners only specialize in acute care, but once nurse practitioner standards are established, more specializations with better health care will be able to provide for the general public.

II. Nurse Midwives

The training and practice of midwives has gone through significant changes in the past hundred years. With the changing of the times, changes in society, and changes in policy, the midwifery industry has greatly declined. To meet the needs of the macro-environment, and to improve the level of midwifery education, the government sanctioned on August of 1999 the establishment of a 4 year midwifery major in Fooyin Technical College and a midwifery department in Chungtai Institute of Health Science and Technology (August, 2000) Since 2005, all professional nursing schools have ceased enrolling students, and in the August of 2003, Fooyin Technical College has stopped to accept "4-year nursing curriculum" students, and has continuously enrolled "2-year nursing curriculum" students instead. Chungtai Institute of Health Sciences and Technology has also ceased enrolling new students to their nursing midwife department in August 2004. National Taipei Medical University's "nursing midwife graduate program" began to accept new graduate students in the August of 2000. Up to December 2007, Taiwan has trained approximately 600 nurse midwives. The Examination Yuan has begun offering certification programs for nurse midwives after law amendments made to birth support personnel, and until 2006, there have been 169 members who have been awarded the nursing midwife certificate[10].

The nurse midwives of Taiwan have been absent from hospitals for a long time, which is a phenomenon greatly different from Japan, Sweden, and other countries where most midwives operate in hospitals. Currently, Taiwan has few nurse midwives who practice midwifery in communities. According to statistics from the Bureau of National Health Insurance, in 2006 Taiwan there were only 24 small-sized maternity hospitals providing insurance payment coverage in which birth and postpartum services were rarely used such as Pap smear. Delivering a child by a doctor is the priority choice in Taiwan, and there are no midwives in charge of delivering a child in the hospitals. Medical scholars explored this phenomenon and state that having nurse midwives care for mothers and infants is beneficial to both care and finances concerns. However, with legal restrictions, the lack of improvement in the educational system, and the uneven payment of health insurance regulations and other political reasons, nurse midwives have been marginalized in the female healthcare system and forced out of the mainstream from their role since the 1970s. The small number of nurse midwives in hospitals and community health centers are also facing difficult situations due to the decreased employment of nurse midwives in public hospitals according to the Department of Health.

Postwar Taiwan, nursing midwife related tasks written in the nursing midwife law passed on September 30, 1943 which defined the tasks of a nursing midwife as: (1) practicing midwifery; (2) prenatal examination and health care instruction; (3) postnatal examination and health care instruction; (4) infant healthcare instruction; and (5) birth instruction. With the rise of the education of nurse midwives to the university and graduate level studies, the amendments made by the Department of Health on laws related to nurse midwives was announced on July 2, 2003. The law stated the duties of nurse midwives to be the same as the 5 items listed in 1943 but was added the sixth item – other accepted categories regulated by the central governing institution. The amended nursing midwife act gives clearer definitions in qualifications, education, and tasks.

Nurse midwives utilize enough knowledge to provide pregnant women and their families with continuous and complete support to satisfy their needs. Because of their closeness to families, they

give the pregnant women a sense of security which is considered a positive birth experience, also a help in the development of family relations. Nurse midwives holding the certificate of midwifery with specialized knowledge should have a channel to maintain their expertise and abilities to ensure their work quality and service standards. Nursing midwife education has already moved up to the college, graduate level studies, and medical facilities ought to establish a role for nurse midwives. Related government departments should aggressively establish a female health unit and promote the establishment of nurse midwives to develop a better standard of referral and make more room for the development of the roles of nurse midwives to provide superior female health care and safe births. These changes have certainly been ongoing in many other countries. To further help nurse midwives performs at full steam, we must consolidate the education, examinations, and applications of nurse midwives to improve their image and professional roles, which are all the things nursing midwife policies should work out in the future.

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Epilogue

Ching-Min Chen, Yu-Mei Yu & Yeur-Hur Lai

The planning and completing of this book was done over a span of 12 months by collecting the historical data and current situations of Taiwan's nursing condition in nursing fields, governmental, and educational parts. The commissioned writers are all elite in their fields and through many times of expert consultation conferences on the contents of this book, we hope to briefly describe the current state of Taiwan's nursing profession without error. As most publications detailing the current situation of nursing in Taiwan are written in textbooks, and in Chinese, these publications have only limited effect on clarifying nursing contribution on people's health, medical advancement and public health. This book is written for various medical personnel in different fields, hope to clearly detail the contents of Taiwan's nursing profession, then translate this content into English to help our international friends understand the history and current situation of nursing in Taiwan to promote the future development of nursing and promote the opportunity for international cooperation.

To achieve the goal stated above, we carefully selected many experts at the leading position of their fields and met with several expert consultation conferences to confirm the correctness of contents. To increase the readability of this book, the editors made extra care to note the writing styles of each author while editing and included many tables and figures to add more depth to the book. Lastly, to promote circulation, this book will be uploaded as a PDF file on the website of the Department of Health, Executive Yuan for related departments to download.

As this is the first try and the lacking complete historical data, certain chapters do not historically exemplify the full picture of nursing in Taiwan. With events ever changing, there may be a miscalculation or mistake in the projection of nursing's future in Taiwan. In order to clearly detail the complicated content, the editors decided to have the book to be first written in Chinese, and then translated it to English. Although this book has been thoroughly edited, but there still may be incomplete portions, which the reader should not hesitate to correct.

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