A plan for meeting the nursing needs of Taiwan

Landauer, Stella Chen
Boston University

http://hdl.handle.net/2144/6167

Boston University
A PLAN FOR MEETING THE NURSING NEEDS OF TAIWAN

Submitted by

Stella Chen Landauer
(B.S., Boston University, 1954)

In Partial Fulfillment of Requirements for
the Degree of Master of Science

1955
First Reader: Marie Farrell  
Professor of Nursing  

Second Reader: Mary Ann L. Garrigan  
Associate Professor of Nursing  

Third Reader: Helen M. Thumm  
Associate Professor of Nursing
ACKNOWLEDGMENTS

The political, economic, and social changes which have occurred on the island of Taiwan during the last decade have been as profound as any of the more revolutionary consequences elsewhere of the Second World War; but in all this turmoil, the nursing profession alone has remained quiescent, an island within an island. It is true that some feeble if not entirely unsuccessful attempts have been made to adapt the profession to its changing environment; but no organized thinking was done, no master plan evolved to keep it abreast, qualitatively and quantitatively, of the increasing demands made upon it by a population rapidly growing in density and radically changing in composition. In an article written for the "New Life Daily" of Taipei as long ago as May, 1950, the writer pointed out the need for action and specifically recommended that (a) an official study of nursing education needs be undertaken by experts; (b) the number of nurses be increased and their qualifications raised through the establishment of more and better schools; (c) the government open the door to academic education for nurses and organize a nursing school on the university level. Little action on any of these lines was taken, and the writer at last felt that it was incumbent on her to work out a plan. A long-range project of this type can never be complete or perfect, but while clearly aware of its technical shortcomings, the writer affirms that they are due to no want of either courage or conviction. Both have been necessary to her; and it is now her pleasant duty to record her gratitude to those who have sustained her in both.

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The writer is under the greatest of obligations to the World Health Organization whose publications, scholarships, and technical support have in many ways widened her horizon and stimulated the interest which she naturally felt in the development of nursing in Taiwan. Travel, study, and wide contacts in both hemispheres have given her the international outlook which enabled her to see the problems of her own country in the proper perspective, with understanding and concern, but without undue frustration in the face of greater achievement elsewhere. She owes a special debt of gratitude to Miss Elizabeth Hill, former Nursing Adviser to the Western Pacific Regional Office of WHO, whose intelligent sympathy and steady encouragement have been a constant source of strength and inspiration. The writer also is conscious of the most profitable professional influence which she has experienced through her visits to many schools of nursing, made possible by WHO support, in Australia, Canada, New Zealand, the Philippine Islands, and the United States, and through her acquaintance with many educators, administrators, and practitioners in nursing whose counsel has been invaluable but who are too numerous to be mentioned by name here. Finally, it must be acknowledged that the pressure of administrative duties would have made it impossible to undertake the present study if WHO had not relieved the writer of much anxiety through the presence in Taiwan of a team of capable educators who assumed some of her functions in her absence which itself was financed by a WHO fellowship award.

In this context, the writer also wishes to place on record her feelings of gratitude to the university authorities, especially to Dr. S. L. Chien, President, National Taiwan University, and Dr. H. Y. Wei,
Dean, College of Medicine, NTU, for encouraging her to leave in spite of
many misgivings, and for generously providing safeguards to disarm her
objections. President Chien, while in the United States last year, gave
the writer an opportunity to lay before him in outline the substance of
her thinking and planning for the nursing profession in Taiwan and approved
of it in such detail as was then available for presentation; and this
understanding has made the study more meaningful and its writer more
hopeful of success.

It is a matter of course that in preparing the manuscript the writer
should have incurred many debts. She is under a particular obligation
for sound advice received or for reading parts of the manuscript, or for
both, to her friends, Dean Martha Ruth Smith of Boston University,
Miss M. S. Taylor of UCLA, Miss Virginia Arnold of the USPHS, and
Miss Eleanor P. Bowen of the WHO. To Dean Elizabeth S. Bixler of Yale
University, Miss Emily Myrtle Smith and Miss A. Marcella Fay, former and
present Nursing Consultants, respectively, to FOA (China Mission), she is
indebted for practical suggestions and for assistance in obtaining back-
ground information. Her beloved teacher, Mrs. David St. John, formerly
of St. Luke's College of Nursing, Tokyo, read the manuscript and was kind
as she has ever been. Professors Marie Farrell, Mary Ann L. Garrigan,
and Helen M. Thumm assumed the burden of assisting the writer through the
preparation and completion of the study. The deepest obligation of all
is felt by the writer to the nurses of her native island whose conduct
under very trying circumstances has been such as to make every effort on
their behalf a cherished duty and an act of faith.
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CHAPTER I
INTRODUCTION

The island of Taiwan occupies an area of 13,885 square miles (slightly more than the states of Massachusetts and Connecticut combined), but perhaps as much as three quarters of this is practically uninhabited mountain and jungle land. At the end of the late war, after the repatriation of the Japanese residents of the island, the population was less than six million. Its present population is nearly ten million, and it is crowded into the coastal lowlands in the West and North where the population density is extremely high and steadily rising. In fact, the rate of increase is itself increasing: official statistics show that the birth rate rose from 41.2 in 1942 to 49.0 per 1,000 in 1951, while during the same decade the death rate dropped from 18.4 to 11.3 per 1,000. In 1951 the natural population increase was 37.7 per 1,000.

The tremendous and continuing population growth carries in its wake the need for a similar increase in health workers, particularly in the field of nursing; and it is the main purpose of this study to show, first, that this need has not been met in the past and is not being met now; and second, how it may be met in the future.

Having stated the problem in its broadest terms, we may now proceed to a somewhat more detailed analysis of it.

The shortage of nurses which now exists in Taiwan, and which is bound to become aggravated in the future, bears two main aspects:
a quantitative and a qualitative one. That is to say, there are not enough nurses; and the nurses there are are not good enough. It is proposed to examine these aspects separately and to answer the following specific questions which arise out of them:

A. Quantitative

1. How many registered nurses are there in Taiwan?
2. How many nurses are needed?
3. What is the capacity of the available training facilities?
4. How much must the capacity of existing training facilities be expanded to meet the need?
5. How many nursing students can be recruited annually?

B. Qualitative

1. What is the present standard of education for nurses? Is it adequate?
2. What is the best way to expand existing training facilities?
3. Shortcomings in schools of nursing may be of many kinds: training of instructors, physical plant, teaching aids, financial support, curriculum, administration, housing and care of students, etc. What are the chief shortcomings and how can they be dealt with?
4. The education of nurses and the control of nursing schools in Taiwan are governed by laws administered by the Ministry of Education. What are the legal aspects, what standards and limitations are set by law, and how can the law be used to the best advantage of the public and of the profession?
Limitations have been imposed on the present study partly by circumstances and partly voluntarily: (a) it is confined to nursing personnel whose education is such as to enable them to function independently; auxiliary personnel are not included; (b) there is an army school for nurses in Taipei; no statistics are available as to its operation and output; army nurses do not at this time enter civilian occupations and so will be disregarded in this paper; (c) the present study is a provisional blueprint prepared by a qualified planner; it is not authoritative as to its chances of being carried into effect; it is hoped, however, that its circulation among responsible officials will furnish some of the motivation necessary to obtain action on the lines suggested; (d) while the National Taiwan University administration and the educational authorities concerned have been most sympathetic to the plans of the writer and have supported her by supplying information and encouragement, limitations of time, distance, and contact have prevented her from maintaining the continuity and intimacy of communication that might have insured prompter acceptance of her plans and earlier action on them.

The writer's close acquaintance over many years with the nursing situation in Taiwan, and her long preoccupation with its problems, have led her to accumulate a fund of data, statistics, expert opinion from many sources, and other pertinent information on which she could draw as soon as she set herself the task of organizing the ideas which had been taking shape in her mind. The scope of the task became apparent in the course of the analysis of the problem; as indeed it always will if an analysis is searchingly conducted. A properly-asked question is likely to contain the germ of its answer; and the range to be covered by the
present investigation revealed itself through the quantitative and qualitative questions stated above. The thinking of investigators pursuing similar problems will often develop along independent but convergent lines, as the following quotation well shows:

"The committee considers that, in order to plan for the provision of an adequate supply and quality of essential nursing personnel through varied educational programmes, it is necessary that each country study:

(1) the existing supply of nursing personnel;
(2) the estimated needs for nursing services;
(3) the factors, obvious or hidden, which interfere with securing candidates for training of various types;
(4) the effectiveness with which nursing resources are used."

An approach similar to that of the WHO Expert Committee on Nursing has been indicated by Arnstein in her "Guide for National Studies of Nursing Resources," and by Farrell in her "Design for Nursing in New York State."

The sources of information on which the writer has drawn have been indicated in the text wherever a factual statement has been made which was capable of documentation. Textual references have been grouped together at the end of each chapter, and appended to the manuscript is an alphabetical bibliography which contains supplementary, collateral, and supporting material relevant to the subjects discussed.
Reference


CHAPTER II
SURVEY OF PRESENT CONDITIONS

1. Number and Qualifications of Nurses Available

Up to the end of World War II, the Japanese Government during its fifty years of occupation of the island had established thirteen training schools for nurses, one in each of the thirteen territorial General Hospitals of Taiwan. The total number of nurses graduated from these schools was 3,201, of whom only 1,087 or 34 per cent were natives. In addition, there were some few who had received their training in Japan, and others who had obtained nurses' licenses by taking qualifying examinations without previous attendance at a Government school. After the end of the war, when the first count was made in 1949, this number had shrunk to 987 through the departure of the Japanese nurses, death, and retirement. In the course of the evacuation of mainland China by the National Government, some registered nurses came to Taiwan. In 1951 the total number was approximately 1,100 and, as the schools on the island had stopped functioning in 1946, the increase obviously must have been due to outside sources flowing in temporarily. Since that time, two schools founded by the Chinese Government after the war have contributed approximately 150 new graduates to the total, which therefore must amount to about 1,250 nurses.
The typical pattern of Japanese nursing education was the (exclusively clinical) training for two years of girls who had a background of six years of elementary and two years of middle school. It was based on originally German concepts into which features borrowed from the Nightingale system had been incorporated by Japanese who early had studied military nursing in England. The curriculum consisted of basic biological sciences and principles of nursing taught in the first year, while teaching in the second year was confined to clinical specialties. Classes were conducted rather irregularly, as was customary in many other countries at that time. All courses, including principles of nursing, were taught by doctors who had to fit classes into the conduct of their main business and cancelled them when there was conflict.

Acceptance of applicants by the hospital schools was on the basis of competitive examinations, and competition was keen. Nursing was one of the few careers open to women, and it attracted the most intelligent and courageous girls among the large annual yield of middle school graduates whom free education had inspired with ideas of independence from domestic bondage, while their lack of means restricted their choice of escape. Many of them, no doubt, found a deeper satisfaction in serving their fellow man.

Thus, while students were a group highly selected for scholastic ability to begin with, the hardships and rigid discipline of the training period eliminated those who were not endowed with endurance, will power, and a strong loyalty to their profession. It was largely due to these qualities that, in spite of the acute personnel shortage and enormous difficulties of the postwar period, the service was not only continued
but the profession as such made great progress and attained a higher status in the public esteem than it ever had previously held.

The nurses who have come to Taiwan from the mainland have had a different schooling. Their entrance requirements generally had been six years of elementary and three years of middle school, and the length of nursing training had been three years. The management of mainland nursing schools by and large had been guided by American practice, and the contents of their curricula had been similar to those of three-year hospital nursing schools in the United States. There were, however, occasional exceptions to this rule.

2. Number and Types of Existing Schools

In order to give the nursing profession a new start and to adapt its educational standards to those of mainland China, all training schools for nurses in Taiwan were discontinued in 1946. The first school to conform to the new standards was the Taipei Provincial School of Nursing and Midwifery which was organized in 1947 and enrolled its first class of nursing students in 1948. The course offered covers four years, of which three years are in nursing, followed by one year in midwifery. The school has graduated a total of about fifty nurse-midwives in its first two classes (1952 and 1953). From 1954 on, an annual yield of about fifty graduates may be expected from this source. In addition to its four-year course, the school established in 1953 a parallel three-year programme on the "Technical School" level with an enrolment of over forty students in the first class. The new course differs from the old one in three respects: the midwifery course has been eliminated, entrance requirements
are high school graduation instead of middle school, and the curricula are not entirely identical.

The National Taiwan University Hospital School of Nursing, established in 1950, is the second school of nursing on the island. It gives a three-year course of instruction and accepts both female and male students. In 1953 it graduated its first two classes (enrolled in spring and autumn of 1950), totalling eighty-one nurses. The school may be expected to accept fifty students annually and to graduate about forty of them every year.

In 1952 a third school was established in Tainan. Like the previous school, it is a three-year vocational school accepting middle school graduates. It was founded by the initiative of the local community and was maintained for the first year by locally-raised funds. After one year of operation, it was taken over by the Provincial Government and is now known as the Tainan Provincial School of Nursing. Its annual enrolment is forty students, and its first class will graduate in 1955.

All three schools have one feature in common, viz. public health nursing is integrated in the basic programme throughout the entire course. Administratively as well as in teaching, they differ. While the two provincial schools are financed by the Provincial Department of Education, the University Hospital School receives its funds from the National Government through the University. The first-mentioned school, through its combination courses of nursing and midwifery, strongly emphasizes the maternal and child health aspects of nursing. The second school, through its fortunate association with the University, has access to an excellent teaching staff, to good laboratory facilities, and to a 500-bed hospital representing the best and most complete clinical teaching field on the
island. The latter also serves as the teaching hospital of the College of Medicine. In addition to the theory and practice of public health nursing and communicable disease control, the students of this school are given clinical experience in psychiatric nursing.

The third school suffers from the disadvantage of being distant from other centers of higher education, which makes it difficult to obtain teachers; and it has serious problems in providing adequate clinical nursing experience for the students.

3. Government Regulations Affecting Nursing Schools

It is to be understood that the present discussion is not intended to cover the entire contents of educational legislation affecting schools of nursing. The writer shall confine herself to setting forth the administrative aspects and the essential features of the curriculum prescribed by law. These are incorporated in the various parts of the "Educational Acts and Regulations." Nursing education in these Acts is treated under the section dealing with "Senior Vocational Training." The establishment, finance, and faculty qualifications of a school are laid down in the "Revised Regulations Governing Vocational Schools." Concerning the establishment and control of a school, it is stated:

"The establishment, modification, and discontinuation of a Senior Vocational School shall be carried out upon approval of the plans by the Ministry of Education." Concerning school budgets, the Act provides that initial, operating, and incidental expenses be borne by the Government at the level at which the school operates. Private schools are excepted.
In the paragraphs dealing with Personnel, the Act provides that "appointment of teaching personnel is subject to the approval of the Educational Authority in direct control of the school." In the same chapter, the qualifications of the teaching staff are specified as follows:

"Instructors in vocational subjects at Senior Vocational Schools, besides possessing a healthy personality and specific knowledge in his subject, shall also possess one of the following qualifications:

(1) graduation from professional education institutions with at least one year of practical field experience

(2) graduation from a technical school or a technical course in a Teachers' College, with a minimum of two years' practical experience in the field

(3) possession of special ability demonstrated in the field, has held senior position for at least 4 years in a professional institution, outstanding record."

The revised "Regulations Governing the Operation of Senior Vocational Schools of Nursing" prescribe, inter alia, that "the entrance requirements shall be graduation from middle school or the equivalent, age 16-30, and the length of the course shall be three years...."; that the ". . . .director of a school of nursing shall concurrently be the director of nursing at the teaching hospital...."

The latest revision of the curriculum, published in November, 1950, is summarized in the following table:

<table>
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<tr>
<th>General Culture and other Courses</th>
<th>(480 hrs., 20%)</th>
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<tr>
<td>Chinese</td>
<td>200 hrs.</td>
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<tr>
<td>English</td>
<td>160 hrs.</td>
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<tr>
<td>Music</td>
<td>40 hrs.</td>
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<tr>
<td>Physical Exercise</td>
<td>80 hrs.</td>
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Social Sciences and Allied Studies (340 hrs., 14%)

- San-min Doctrine: 80 hrs.
- Civics: 80 hrs.
- Social Problems: 20 hrs.
- Professional Adjustments and Ethics: 80 hrs.
- Psychology and Mental Hygiene: 80 hrs.

Biological and Physical Sciences (320 hrs., 14%)

- Anatomy and Physiology: 140 hrs.
- Bacteriology and Parasitology: 60 hrs.
- Chemistry: 60 hrs.
- Physics: 60 hrs.

Medical and Nursing Sciences (1,220 hrs., 52%)

- Personal Hygiene: 40 hrs.
- Nursing Arts: 320 hrs.
- Nutrition and Dietetics: 100 hrs.
- Pharmacology: 120 hrs.
- Pathology: 40 hrs.
- Medical Nursing: 120 hrs.
- Surgical Nursing: 120 hrs.
- Pediatric Nursing: 60 hrs.
- Obstetric Nursing: 60 hrs.
- Gynecological Nursing: 20 hrs.
- Psychiatric Nursing: 40 hrs.
- Public Health Nursing: 80 hrs.
- Physiotherapy: 20 hrs.
- Case Study: 20 hrs.
- First Aid: 20 hrs.
- Household Management: 40 hrs.

Field Practice (19 months)

- Medical Nursing: 4 months
- Surgical Nursing: 5 months (including operating room)
- Pediatric Nursing: 2 months
- Obstetric Nursing: 4 months
- Public Health Nursing: 2 months
- OPD: 1 month
- Dietary: $\frac{1}{2}$ month
- Central Supply Room: $\frac{1}{2}$ month

Note: A School Year consists of forty weeks, a semester has twenty weeks, and each week has forty working hours.

The "Revised Regulations Governing Vocational Schools" in the chapter on curricula prescribe that "as a general rule, the
professional subjects shall occupy 30% of the time, general subjects 20%, and field or other practice 50%. "\[12/\]

The above curriculum outline has been adopted in principle for the guidance of the three schools of nursing in Taiwan, but in practice modifications have been made by each of them in accordance with its philosophy, the needs of the students, and the judgment of the faculty.

We shall now examine where else nursing education may be fitted into the existing framework legally prescribed for higher education.

It almost goes without saying that the complexity of present-day health problems and the increasing responsibilities faced by nurses confronts them with a perpetually growing demand for greater maturity and higher intellectual responses. Nurse educators are agreed that girls sixteen years of age are much too young to enter a nursing school. Not only are they too inexperienced to cope with the baffling life situations that are a daily occurrence in the nursing profession, but their scant pre-vocational schooling prevents them from acquiring the necessary scientific knowledge at the nursing school. A professional worker who is concerned with questions of life and death and whose judgment in deciding such questions must be developed by knowledge acquired in years of rigorous training obviously must not be educated on the same level as a manual worker handling inanimate objects. What, then, are the possibilities open to provide the desired type of education?

The writer shall quote here only the regulations and leave to a later chapter the discussion of the opportunities which they seem to offer.
The Technical School Act, Section 1, states that the purpose of a technical school is to educate technical personnel through the teaching of applied sciences, and further says that:

"the entrance requirements for technical schools shall be graduation from senior high school or equivalent, and passing of the entrance examination."14/

and

"the period of education in technical schools shall be two to three years."15/

The "Revised Regulations for Technical Schools," chapter 2, divides technical schools into four categories, viz., A. Engineering; B. Agricultural; C. Commercial; D. Others. Eight different types of schools are listed under (D), but nursing schools are not among them. However, D - 9 is left open for schools not already listed, and nursing schools could be organized under this position.

The same chapter also prescribes that "the credit system shall be applied in all Technical School curricula." However, curriculum requirements are not yet established.

The University Act, Section 1, states that:

"the aim of the university is to educate professional personnel through research in advanced subjects."19/

"...a university has Schools of Arts, Sciences, Law, Medicine, Agriculture, Engineering, and Commerce." (Sect. 4)

(Thus, schools of Pharmacy, Nursing, and Dentistry have no place in a University, according to official planning.)

"...each School in a University, and each independent College shall be divided into departments." (Sect. 6)

"...a Department in a University or College may establish an Institute if the latter's record of management and performance justifies it." (Sect. 7)
Note: Students holding a bachelor's degree, through two years of continuous attendance at an Institute, may acquire a master's degree. See "Educational Acts and Regulations," Taipei, 1953, p. 133.

"...a University School, with the approval of the Ministry of Education, may establish a 'Technical Course,' enrol Senior High School graduates (or equivalent), length of course to be two years." (Sect. 28)

It appears that the "Technical Course" established by the Taipei Provincial School of Nursing and Midwifery is intended to take advantage of this section (Tsu-an-hsiu k'o). It must be noted that the establishment of a Technical Course is a privilege reserved to University Schools and Colleges. It would hardly be logical to allow a school of lower education to give courses in higher education; if it were, a high school might run a college.

The existing educational system in Taiwan, from Kindergarten to University, is illustrated by Figure 1. The reader may consult the diagram especially for clarification of the issues involved in the distinction between vocational and technical schools and the relation of colleges to institutes.
FIGURE 1
STRUCTURE OF THE EDUCATIONAL SYSTEM IN TAIWAN

Age in years

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4

Institute of Graduate Studies Teachers' College 3 yr Technical School 2yr 5yr (Midwifry) (Nursing) Senior Vocational School Normal School

High School

Middle School

Primary School

Kindergarten

* Internship

Source: Official information published by the Taiwan Provincial Government.
Reference

1/ From the unpublished data in the records of the Taiwan Nurses' Association. Survey made in 1949-1950.


4/ Ibid., pp. 188-193, Revision of April, 1947.

5/ Ibid., p. 188, Chapter 2, Section 13.

6/ Ibid., p. 189, Chapter 3, Section 18.

7/ Ibid., p. 191, Chapter 12, Section 75.

8/ Ibid., pp. 192-193, Chapter 12, Section 93.

9/ Ibid., pp. 199-201, Revision of October, 1942.

10/ Ibid., p. 199, Chapter 42, Section 2.

11/ Ibid., p. 201, Chapter 42, Section 19.

12/ Ibid., p. 190, Chapter 6, Section 37.


14/ Ibid., p. 103, Section 19.

15/ Ibid., p. 103, Section 20.

16/ Ibid., pp. 103-105.

17/ Ibid., pp. 103-104, Chapter 2, Section 5.

18/ Ibid., p. 104, Section 9.

CHAPTER III
DISCUSSION OF NEEDS AND RESOURCES

For as many years as it is profitable to look into the future, no great degree of specialization is required or, indeed, desirable for any staff nurse working in Taiwan. The functions of a nurse will materially be the same, no matter in which field she may be operating. While caring for the sick in hospitals, meeting the patient's physical and socio-psychological needs,—the therapeutic ends of nursing,—the nurse also is a health educator to the patient as well as to his family to the end of promoting health and preventing illness and the recurrence or aggravation of disease or disability. Similarly, nurses working in the preventive field cannot limit themselves to health education or prevention alone; they also are concerned with the total care of the individual, the family, and the community. More often than not, they are confronted with situations in which therapeutic nursing is a responsibility and a challenge.

"The basic need in most countries is for nurses capable of providing total nursing care in hospital and home and of undertaking public health nursing functions in an organized health service."[1]

In view of the great shortage of nurses in Taiwan, every nurse must be graduated from school fully equipped to play competently any of the roles normally encountered in her profession in that local environment in which she is functioning.
1. Quantitative Requirements

While the population of Taiwan has risen by more than 60 per cent since 1945, the hospital-bed capacity has actually been reduced; and for financial reasons, this is not likely to be remedied soon. Even if the bed capacity could be substantially raised, with the living standard as low as it is, relatively few people could afford hospitalization and the large majority of people confined to bed must remain at home.

Present hospital-bed capacity is 2,331 in Provincial Hospitals and 500 at the University Hospital. Private hospitals are not considered here. The average rate of bed occupancy in these hospitals as computed from the sources quoted was 71 per cent in 1952 and 1953, or 2,000 patients. Assuming each patient to require 3.5 hours of professional nursing care per day, and nurses to work 8 hours daily, a total of 880 nurses is required. Similar computations based on data derived from the same sources lead to a total of 100 nurses required for outpatient department work. If to these is added an allowance of 10 per cent to account for annual leaves and other absences, it will be seen that the hospitals require about 1,100 staff nurses.

It may appear that the ratio of 3.5 professional nursing hours per patient per 24 hours is rather high. This is not so. Taiwan requires a higher nurse-to-patient ratio than Western countries for the following reasons: (1) poor layout of physical plant of hospitals; (2) insufficient and inconveniently contrived working facilities; (3) the fact that most patients are seriously ill, since people cannot afford long hospitalization and do not enter hospitals until practically in extremis. Since
nurses are required to put in more time and harder work for each patient, the above nurse-to-patient ratio is considered a minimum.

It has been mentioned above that among the bedridden the rate of hospitalization is relatively low because of the high cost of hospital care. Thus only the more critical cases ever enter the hospital, and among them the mortality obviously is higher than it is among the lighter cases staying at home. By a not unnatural confusion of cause and effect, a prejudice arises which equates hospitalization with a low life expectancy, and this in turn reduces further any desire for hospital care. Such an attitude is not altogether unfortunate; it is gradually being admitted in the more advanced countries that, from a patient-centered point of view, hospital care for the bedridden may after all not be the only, or the most desirable, solution: "We now know that, if adequate complete medical services are provided, patients get well faster and are happier at home...." Medical and nursing care for such patients, therefore, is not only desirable in the light of the best modern thinking; there also is a great demand for it in Taiwan and, presumably, in many other Eastern countries. The Raper Report on rural problems in Taiwan lists twelve of the most frequently made demands among farmers, and three out of these concern the improvement or extension of one or another kind of health services.

If to ordinary bedridden patients are added those requiring maternal and child health care, as well as ambulatory cases suffering from tuberculosis, venereal disease, malaria, trachoma, and other communicable diseases in need of expert nursing, it will be seen that the field for community health nurses is very large indeed. In 1952, according to official statistics of the Provincial Health Department, there were 350 health
stations operating under 22 health centers in Taiwan. Together they employed 130 nurses, 127 midwives, and 60 attendants, an utterly inadequate number. The inadequacy results not from a lack of vacancies or an unwillingness on the part of the authorities to employ the necessary personnel, but from the lack of planning and of qualified candidates.

When it is taken into account that visiting nurses at best will have bicycles for means of transportation, the maximum population group that a nurse can reasonably be expected to look after will not exceed 2,000 people, or 400 families. This estimate is based on the personal field experience of the writer and is supported by recommendations made by the United States Public Health Service. Because of the difference in population densities, a nurse in Taiwan commuting by bicycle, though she cannot cover as large an area, can serve as many people as an American nurse using a motor car. At this rate, and using the latest available estimate of the population of the island as being nearly ten million, a total of 5,000 community health nurses is required.

From kindergartens to university, there are 1,514 educational institutions on the island. Among them are a substantial number of very large schools requiring two or more nurses in full-time attendance. A ratio of 1.5 nurses per institution is considered a minimum estimate, and the total in this field amounts, therefore, to 2,270 nurses.

No dependable data have been published concerning the number of factories and mines on the island, or the number of people employed by them. Emily M. Smith, an expert in occupational health nursing working for the Foreign Operations Administration in Taiwan and a qualified
observer of industrial conditions, made the following statements on two occasions, two years apart:

"As of March 1, 1952 approximately a hundred thousand people were employed in industry. Many of the larger industries employ nurses and physicians to give medical care to employees and their dependents. During the past six months over six hundred new industries have opened in Taiwan. Many of these will be employing nurses and physicians. The exact needs are not known."8/

"There are approximately 227 government operated industries and 10,030 privately operated. Combined with agriculture the industrial population is approximately five million. According to a recent written survey by the Department of Reconstruction, approximately 322 nurses are employed in government operated industries."9/

The difficulty of making an estimate of the number of nurses required in industry will be recognized in the light of information such as the above. If Smith's figure of 100,000 industrial employees were accepted, there would be need for 330 nurses at the recommended ratio of one nurse for 300 employees. Since government already employs this number of nurses, the mutually exclusive conclusions could be drawn that (1) government employs vastly more than one nurse per 300 industrial workers, or (2) the 10,030 privately owned factories do not employ any workers.

Neither of these conclusions is warranted in the light of known but unrecorded facts; the estimate of 100,000 workers is probably much too low, and the writer believes that industry easily could absorb nearly twice as many nurses as are now reported to be employed in government, or about 500.

Adding up the figures previously listed, we arrive at a total of 8,870 staff nurses needed by the present population in existing institutions.
For the purpose of educating present and future nurses and of supervising staff nurses as well as nonprofessional personnel, a group of administrators and educators must be added to the list. Hospitals will need more personnel in this category than other institutions, since most of the basic education is carried out in the hospitals and since they operate 24 hours a day rather than the usual 8 hours. A ratio of 3:7 of administrative and educational personnel to staff nurses is here assumed as reasonable, and on this basis the 1,100 hospital staff nurses will require 470 nurses to occupy the posts of directors, instructors, supervisors, and head nurses. The majority of them will, of course, be concentrated in the teaching institutions.

In the public health fields, a lower ratio of perhaps one administrative to ten staff nurses may be assumed. Since a total of 7,770 staff nurses has been estimated to be needed for this purpose, about 780 administrators and educators have to be assigned to them, allocating one each to the Health Centers and stations, one each to the larger factories, while the rest may be relatively concentrated in the field training centers for participation in the nursing education program.

We have now arrived at a grand total of roughly ten thousand nurses for the island. The number looks vast, being exactly eight times as many as we now have; however, in proportion to the whole population, it amounts to only one nurse for every thousand inhabitants. This is modest when compared to the proportions prevailing in some other countries with better facilities and less disease which have ratios of one nurse to every 300 to 500 population as, for example, Canada, Great Britain, The Netherlands, and others.
Emily M. Smith, in her official report, estimates that in Taiwan

"...33,334 qualified nurses are essential for minimum population needs. Of this number, two-thirds should be professional while one-third should qualify as subprofessional."\(^{13/}\)

As will be pointed out later, the population increase, as far as it can be anticipated, will to a large extent offset the planned increase in the number of nurses. The number of 10,000 nurses here advocated has been based not so much on what is a theoretically desirable nurse-population ratio, but on what are thought to be limitations imposed by what the country can afford economically and as regards the creation of teaching facilities.

2. Sources of Future Nurses

The number of young people graduating from the schools each year is constantly increasing. Following are the figures available for the last two years:

<table>
<thead>
<tr>
<th>graduates</th>
<th>1951</th>
<th>1952</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school graduates</td>
<td>5,985</td>
<td>6,196</td>
</tr>
<tr>
<td>High school graduates</td>
<td>1,270</td>
<td>1,669</td>
</tr>
<tr>
<td>Colleges and university</td>
<td>93</td>
<td>160</td>
</tr>
</tbody>
</table>

Available official statistics predict the following numbers of graduates:

<table>
<thead>
<tr>
<th>graduates</th>
<th>1953</th>
<th>1954</th>
<th>1955</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school graduates</td>
<td>6,361</td>
<td>7,413</td>
<td>19,338</td>
</tr>
<tr>
<td>High school graduates</td>
<td>1,578</td>
<td>1,691</td>
<td>2,126</td>
</tr>
<tr>
<td>Colleges and university</td>
<td>224</td>
<td>264</td>
<td>417</td>
</tr>
</tbody>
</table>

The above figures (in both tables) refer only to women graduates. Vocational schools are not included. Since only one out of ten high school graduates who attempt to go to the university manages to pass the entrance examinations, and a much larger number does not even try, there
is among high school graduates a very large reservoir of potential nurses. For all practical purposes, the additional reservoir of male nurses is unlimited.

The real problem facing the profession is not the lack of recruits, but the lack of schools of nursing to educate them, and more serious still, the lack of teaching personnel to staff the schools. The shortage of qualified instructors is an acute, immediate problem of the existing three schools which would be considerably aggravated by any premature attempt to establish additional nursing schools. Any such attempt would require long-range planning with a view to relieving the teacher shortage by adequate teacher-education programs at a rate commensurate with the rate of establishment of new schools.
Reference


3/National Taiwan University Hospital Department of Nursing, "Daily Patient Census, 1953," Unpublished data on the departmental file.

4/Personal communication from Margaret S. Taylor, November 13, 1954.


6/Taiwan Provincial Health Administration, op. cit., p. 99.


8/Smith, Emily Myrtle, "Nursing in Taiwan." Paper read at the 1952 Annual Convention of the Taiwan Nurses' Association.


CHAPTER IV
MEANS OF SATISFYING THE DEMAND

1. Some Immediate Problems

The Educational Act quoted in Chapter II of this paper lays down a system of education for nurses which poses certain practical problems.

(a) Since nursing education has been placed on the Senior Vocational School level by the Act, Nursing Schools are compelled to accept students with only nine years of previous schooling who may be as young as fifteen years of age. The prescribed curriculum for Schools of Nursing, however, is identical with that of other countries training students of at least High School level. The high degree of selection through competitive examinations undergone by our students may provide a source of superior scholastic ability, but there still is much hardship involved in requiring the students to absorb a heavy schedule of highly technical subject matter for which they are insufficiently prepared. Moreover, these young and immature students are required to accept the responsibilities of adults; they must face what to them is sheer carnage and learn to accept an amount of human suffering of whose very existence they had been unaware; and they must sometimes make decisions which may affect the life and death of patients. No educator who has witnessed them would wish to see perpetuated year after year the agonies which such experiences inflict on the
young. At that age, a few years make a great deal of difference in maturity. "The increasing responsibilities that are today being assigned to nurses in many countries, point to maturity as an important qualification."

With more mature understanding of professional responsibilities, young people will suffer less, learn more easily, decide more wisely, and grow up faster under strain with less personal trauma than they could a few years earlier. We are not doing justice either to our students or to society unless the educational system is so planned as to make the wisest use of both the student and the facilities on hand with which to educate her.

There is a world-wide tendency in nursing education for curricula to grow broader in scope and more thorough in the handling of the subject matter.

"More and more nursing has become not only an art but an applied science. As a branch of the science of medicine it necessarily requires for its safe practice the application of scientific principles and also the use of those methods of accurate observation and logical reasoning which are demanded of all workers in scientific fields."

In Taiwan, also, it is to be expected that the scholastic demands made on nursing students will grow heavier as the years go by. These, and the problems mentioned earlier, will be considerably simplified although not totally resolved by raising the pre-requisite for nursing school entrance from middle to high school graduation. This would raise the age of freshmen to a minimum of 18 years.
(b) Under the present educational system, the road to higher education is closed to nurses. The university gates are barred to middle school graduates who have had an additional three years of vocational training. The Educational Act does not provide for any sort of higher nursing education above the vocational school level.

"Yet, it seems undeniable that failure of the educational system to provide opportunities and maintain standards of nursing education is a crucial deterrent to an adequate supply of qualified nursing personnel and therefore to the maintenance of health services at the level demanded by our stage of social development."

Progress in all the curative and health fields will be increasingly hampered if nursing is not enabled to keep pace with the demands imposed by medical advances and expanding services."

As the law stands, however pressing the need for university-educated nursing educators, we cannot find them except by fortuitous circumstances and extra-legal means. It is not well that questions which are vital to the health of the whole country should be left to haphazard solution by accident and instances of good luck. Under the regulations as they stand at present, the only source of nursing instructors is derived from category (3) of the list of qualified teaching personnel quoted on page 11 of this study. The qualifications laid down represent, of course, educational minima and there is nothing in the law to prevent them from being exceeded. Up to now, therefore, we have sent a few nurses each year to the United States or other countries for advanced studies in nursing; but the method depends on the chance availability of suitable candidates and is an insufficient source
from which to cover an urgent need for instructors. Besides, since none of our nurses or institutions can afford the cost of study abroad, the method further depends entirely on foreign aid and the provision of a sufficient number of fellowships. Is it dignified, is it prudent or reasonable for a country to depend entirely on foreign charities for a whole and an essential branch of its higher education? Or, if the country were to go without such assistance, is it wise to deprive it of a potentially fine leader whose education has been too meagre to enable her to rise from the ranks by talent alone?

"Nursing, like every other profession, must have a fair proportion of leaders if the work is to go ahead satisfactorily and some provision must be made for the selection and development of leaders." 4/

(c) It has been mentioned earlier that the countries to which we have sent our nurses for higher education require graduation from high school and a minimum age of 18 years for entrance to schools of nursing. Unless we can make a case of our nine years of secondary education being the equivalent of their twelve years, and our 15 to 18-year-old students being equal in scholarship to their 18 to 21-year-old students, we can hardly expect universities abroad to accept our graduates at the same level as their own graduate nurses. So far, Taiwan has managed to get by because there are only a few fellowships available annually and enough candidates could be found who happened to have graduated from high instead of from middle school; but as this source is beginning to dry up, we shall have to depend on superior ability
among the candidates rather than on their proper schooling. This, of course, is a solution only insofar as Taiwan is concerned; whether foreign universities will accept our candidates as fully qualified university students is quite another question. Even if they did, it would be unfair for the students to be sent abroad at so severe a disadvantage; and it is the responsibility of the educators to open for them a more acceptable road.

2. Reform of Educational Pattern

"Our place has been found in the institutions of the sick but we shall never render our full service to the community until our place is also found in the university."5/

A. Types of School Organization

It is neither practicable nor desirable to select from among vocational school graduates teachers who have had no further special preparation for the teaching profession; such a practice certainly would be considered inadmissible in every other professional field. If it is still encountered today in nursing education, it is as a relic of the past, an untidy skeleton in the cupboard of the profession which the best authorities in the educational field wish to see cleared away without further delay. A thorough overhaul of the whole system of educating nurses in Taiwan is, therefore, in order. In planning this reorganization, it will be well to keep in mind the following principles:

1. A few well-staffed and well-equipped schools strategically located to utilize the clinical and public health facilities throughout the island can educate more and better nurses than many schools having
limited facilities and being poorly staffed. Steps now being taken to open more vocational schools should be restrained until existing schools have been satisfactorily staffed; and more schools may be established only when competently educated instructional personnel has been made available.

2. At least one school must be established on the island which will provide academic and professional training, qualifying its graduates to serve as instructors in schools of nursing on the technical school level.

3. The practice of sending graduate nurses abroad for academic training to fit them for teaching positions should be continued temporarily for the purpose of supplementing the output of teachers produced in Taiwan. However, unless drastic policy changes are made in the future, it will be seen that the number of available fellowships (which on the average has been less than five a year) is too small to make much of an impression on the fundamental problem. On the other hand, greatly to increase the number of fellowships, and to depend entirely on them for a supply of teachers, would not be in the best interests of the country.

In order to deal with the shortcomings of the present educational system which have been pointed out in this and the preceding chapter, it is recommended that the following specific steps be taken:

1. Raise the three existing Vocational Schools of Nursing to Technical School level.

2. Raise entrance requirements from middle to high school graduation (i.e., average age of freshmen from 15 years of age to 18). These
two provisions will open the road of higher education to all nurses as long as they are talented enough and capable of taking advantage of it.

3. Establish one Collegiate School of Nursing in Taiwan University whose primary function for several years to come will be to educate instructors.

4. Set up more Technical Schools of Nursing at the rate at which they can be staffed by graduates from the Collegiate School in Taiwan or from foreign schools. It will be shown that, in addition to the three existing schools (all of which will require enlarging), it will be necessary and possible to set up four more schools within the next few years.

5. Keeping in mind both the goal of 10,000 nurses for the island and the limitations on the number of students imposed by available hospital and public health educational facilities, it is possible to outline an approximate quantitative estimate of the schooling programme which is necessary.

As things stand at present, and no great changes in the near future are anticipated, Taiwan can support at most seven schools of nursing utilizing available Provincial hospitals. If a hospital is not large enough for a school, it may affiliate with other hospitals close by and use public health centers or stations in the vicinity to provide additional field experience. The location of these schools is shown in the following table:
TABLE I
SUGGESTED LOCATION OF ADDITIONAL SCHOOLS OF NURSING
WITH AFFILIATED HOSPITALS AND HEALTH CENTERS

<table>
<thead>
<tr>
<th>Location of School</th>
<th>Main Teaching Hospital</th>
<th>Affiliated Hospital</th>
<th>Health Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chilung</td>
<td>Chilung Provincial</td>
<td>Yilan Province-</td>
<td>Chilung and Yilan</td>
</tr>
<tr>
<td></td>
<td>Hospital</td>
<td>cial Hospital</td>
<td></td>
</tr>
<tr>
<td>Taichung</td>
<td>Taichung Province-</td>
<td>Hsinchu Province-</td>
<td>Taichung Municipal and</td>
</tr>
<tr>
<td></td>
<td>cial Hospital</td>
<td>cial Hospital</td>
<td>County</td>
</tr>
<tr>
<td>Kaohsiung</td>
<td>Kaohsiung Province-</td>
<td>Pingtung Province-</td>
<td>Kaohsiung Municipal and</td>
</tr>
<tr>
<td></td>
<td>cial Hospital</td>
<td>cial Hospital</td>
<td>County</td>
</tr>
<tr>
<td>Hualien</td>
<td>Hualien Province-</td>
<td>Taitung Province-</td>
<td>Hualien and Taitung</td>
</tr>
<tr>
<td></td>
<td>cial Hospital</td>
<td>cial Hospital</td>
<td></td>
</tr>
</tbody>
</table>

The reasons for selecting the chosen locations of the schools were multiple. The size of the teaching hospital was a consideration, but not a primary one. It was thought more important that the site should have easy access by road and preferably by railway to neighbouring towns having other hospitals for affiliation and/or health centers for field practice. These are shown in both Table I and Figure 2. It was thought equally essential that there should be good local support for the schools and that some other schools of higher education should exist whose instructors would be available for teaching non-nursing subjects.
FIGURE 2

Map of Taiwan showing
(1) existing schools of nursing
with their field training
facilities
(2) suggested location of new
schools with available
field training facilities

Legend:
X Existing School of N.
* Suggested location of
additional schools of
nursing

Source: Annual Report, Taiwan Provincial Health Administration, 1952.
It is believed that it will be possible, though not highly desirable, for each of these seven schools to run two classes of 60 students each in parallel, each producing 120 graduate nurses annually, or a total of 840 graduates per year. This will be made easier by the reduction from three to two years of the length of schooling, which will be discussed in the latter part of this chapter.

In order to arrive at a numerical estimate of the contribution which this output can make towards the attainment of the goal of 10,000 nurses for the island, an assumption must be made as to the professional life expectancy of a Taiwan nurse. In the complete absence of actuarial data, the estimate must be based on personal experience. It is then assumed, for reasons which would lead too far afield to be discussed here, that the graduates will be twenty years old on commencement day, that they will drop out of the profession at the rate of 5 per cent annually, and that after twenty years none will remain. On this basis, it is possible to calculate the number of years which it will take for 10,000 graduate nurses to be in active service, using the following formula:

$$V_i = \frac{1 - (1 - r)^i}{r} G$$

where

- $V_i$ = final number of graduates (i.e., 10,000) reached in $i$ years;
- $G$ = annual gain of 840 graduates;
- $r$ = rate of attrition expressed as a fraction of 1, i.e., 0.05;

Substituting numbers for letters, we obtain:

$$10,000 = \frac{1 - 0.95^i}{0.05} 840$$

and solving for $i$:

$$i = \frac{\log 0.4048}{\log 0.95} = 17.6 \text{ years}$$
It would be of some interest to compare this rate of increase with the rate of growth of the population. The last available population statistics for any five-year period are those for the years 1948 to 1952, during which the average difference between birth and death rates amounted to 31.62 per thousand. From the following considerations, it is possible to compute how many people would be alive in 17.6 years if this natural rate of increase were to continue:

Let \( p \) = the \% annual population increase = 3.162\%; then

\[
q = 1 + \frac{p}{100} = 1.03162.
\]

Assume further that

\( a = \) the present population, i.e., 10,000,000
\( n = \) the number of years, i.e., 17.6 years
\( x = \) the wanted size of the population in \( n \) years; then

the following formula applies:

\[
x = a \cdot q^n = 10^6 \cdot 1.0316^{17.6}
\]

and the result is 17.2 million people. In 1972 there should, therefore, be 17,200,000 + 10,000 = 1,720 population per nurse.

It should hardly be necessary to caution the reader against attaching more than a merely conjectural value to such an estimate. Population forecasts on the basis of past actuarial experience are notoriously hazardous; and in view of the inherent uncertainties of our estimate of the life expectancy of a nurse as a professional worker, it is a moot question and an unprofitable one to discuss how the two theoretical growth curves will actually behave. All that can be predicted safely is that even on a per capita basis we shall have a great many more nurses in twenty years' time than we have now; provided, of course, that some such programme as has been proposed will be adopted.
6. Assuming that a minimum of one instructor for every ten students is needed in the Technical Schools of Nursing, a total of ninety instructors is required for the seven schools. Since, from limitations known to the writer, the Collegiate School of Nursing may be expected to have an output of not more than 30 graduates annually, the technical schools could theoretically be fully staffed within three or four years after the graduation of the first class. Actually, it will take longer because some of the graduates will have to be diverted to other professional pursuits. In planning the establishment of more Technical Schools, this limitation should be borne in mind. When all of them have been adequately staffed, the graduates of the Collegiate School will be free to devote themselves to administrative and supervisory functions.

B. Basic Curriculum Pattern

The idea of reducing the length of nursing education from the customary three years to two years has received attention in several of the more advanced countries. It has been studied in England, successfully experimented with in Canada, and actively investigated in the United States, in which latter country no less than six junior colleges are conducting nursing schools on this plan at the time of writing. An essential prerequisite to its successful operation is that all student activities be carefully planned and guided to the exclusion of the non-educational clinical work which is so often disguised as "practice" when in fact it is unpaid labour employed for the benefit of the teaching hospital.
Nursing schools in Taiwan have an advantage over schools in other countries in that they are controlled by the educational state authorities, rather than by service institutions, and because they are financed by the government. Nursing students are at school to receive an education and not primarily to supply service.

A well-considered reconstruction of the curriculum and instruction by a quantitatively and qualitatively adequate faculty should make it possible without any great difficulty to shorten the length of schooling and yet provide an education of the same or higher quality than is furnished at present by a three-year term. Incidentally, the resulting economy, while it should form no motive in bringing about the reform, is a highly desirable by-product in a country where the cost of equipping and operating schools presents as difficult a financial problem to the government as the cost of attendance at school presents to the students.

Without going into any great detail, the following skeleton curriculum is presented as a basic pattern which may be elaborated when circumstances permit:
### TABLE II

**SUGGESTED BASIC CURRICULUM PATTERN**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Weeks of Field Work</th>
<th>Placement Year Term</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Culture:</strong> (12.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese and English Language</td>
<td>4</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Literature</td>
<td>4</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td><strong>Social Sciences and Allied Studies:</strong> (25%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>2</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>2</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Psychology and Mental Hygiene</td>
<td>3</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Philosophy of Nursing</td>
<td>3</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>4</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Principles of Teaching and Management</td>
<td>2</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td><strong>Biological and Physical Sciences:</strong> (12.5%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>0</td>
<td>I, II</td>
<td></td>
</tr>
<tr>
<td>Anatomy and Physiology</td>
<td>4</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td>2</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Chemistry and Physics</td>
<td>2</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td><strong>Health and Nursing Sciences:</strong> (50%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health</td>
<td>1</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Human Growth and Development</td>
<td>3</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>3</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>1</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences I (Fundamental)</td>
<td>6</td>
<td>20</td>
<td>I</td>
</tr>
<tr>
<td>Nursing Sciences II (MCH)</td>
<td>6</td>
<td>20</td>
<td>I</td>
</tr>
<tr>
<td>Nursing Sciences III (Adult H.N.)</td>
<td>6</td>
<td>20</td>
<td>II</td>
</tr>
<tr>
<td>Nursing Sciences IV (N.Spec. and Comm. N.)</td>
<td>6</td>
<td>20</td>
<td>II</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>64</td>
<td>80 weeks</td>
<td>2 years</td>
</tr>
</tbody>
</table>

*Note: Nursing Science I - Fundamental Nursing*

II - Maternal and Child Health Nursing

III - Adult Health Nursing

IV - Nursing Specialties and Community Nursing
Reference


16/Joint Committee of the NLN and the American Association of the Junior Colleges, "Junior Colleges and Nursing Education," *Nursing Outlook* (September, 1954), 2:485-486.


18/__________, "Experimental Programs in Nursing Education," *Nursing Outlook* (December, 1954), 2:620-621.
CHAPTER V

ORGANIZATION OF A COLLEGIATE SCHOOL OF NURSING

WITHIN TAIWAN UNIVERSITY

1. Purpose

There are, at the moment of writing, seven institutions in Taiwan classified as Schools of Technical and Higher Education, viz., one school each of English Language, Local Administration, and Engineering on the technical level; one college each for Teachers, Agriculture, and Engineering; and a University which includes six schools, viz., the Schools of Arts, Sciences, Agriculture, Medicine, Engineering, and Law. The university also has a 500-bed hospital which provides learning experience for the medical and nursing students.

If a new road to higher education is to be sought for the nursing profession, the most natural as well as the most logical and suitable approach is within Taiwan University. The following resolution adopted during a general session of the annual conference of the (American) National Education Association is pertinent:

"BE IT RESOLVED: That institutions of higher learning recognize their responsibility for establishing programs providing for the professional and technical education of nurses."1/

A School of Nursing as a part of the University can enjoy the full benefit of its rich faculty resources and educational facilities. By establishing a collegiate school of nursing, the University in turn assumes the responsibility of developing the most urgently needed professional leadership
through free inquiry into advanced knowledge which is the primary objective of an institution of higher learning.

The purpose of the Collegiate School is to furnish a continuous supply of personnel in the higher echelons of nursing, i.e., educators, administrators, consultants, clinical experts, staff nurses in general and specialized fields. There are two chief manpower reservoirs from which students may be recruited, viz., (1) University or Teachers' College graduates holding a B.A. or B.S. degree; and (2) registered nurses. The latter group particularly are a valuable source of potential leadership because of their rich background of experience and because the forces of natural selection have been operating on them for some time to remove the unfit. Furthermore, it is of the greatest importance that this group should be given access to higher education in order to sustain their morale and offer them desirable objectives for which to strive. If they were to be excluded from such opportunity, tensions might develop between the vocationally and academically educated nurses which would tend to disrupt the whole profession.

2. Structure

A. Administration

It has been suggested that the Collegiate School of Nursing might be set up under the Medical School of Taiwan University on a level with the Departments of Dentistry and Pharmacy. This is not a logical arrangement and the writer advocates, as a far more rational scheme, the organization of an Institute of Health Sciences (衛生科學研究所) under the University consisting of Schools of Medicine,
Public Health, Nursing, Pharmacy, and Dentistry. This scheme will at the same time entitle the Institute to offer postgraduate education and grant higher degrees, as prescribed in the "Educational Acts and Regulations," (quoted in Chapter II, page 14 of this paper) and it would be in close agreement with the best thinking of modern educators, as, for example, expressed by so great an authority as Esther Lucile Brown:

"We recommend that schools created in the future within institutions of higher learning be made autonomous units vested with the same status as the other professional schools...."

The following charts will illustrate the existing structure and the changes recommended by the writer.
Figure 3
Taiwan University School of Medicine Organization Chart (Existing)

President NTU

Dean S.Arts  Dean S.Agr.  Dean S.Engin.  Dean S.Law  Dean S.Scien.  Dean S.Med.  Dean Ed.Affairs  Dean Students Services  Chairman Library  Secretary Gen. & Staff Sec.  Manager Business Affairs  Chief Accounting Office  Chief Personnel Office

Superint. U.Hosp.  Chairmen, Departments of Anatomy, Bacteriology, Biochemistry, Parasitology, Pathology, Pharmacology, Physiology, Public Health  Chairman Institute of P.H.  Chairman Division Dentistry  Chairman Division Pharmacy  Chairman Division Administ. Nursing Offices  (Projected)

Note: Medicine is one among the fields of Health Sciences on a level with Dentistry, Pharmacy, Public Health, and Nursing. To be logical, a larger structure such as an Institute of Health or Health Sciences should be designed to accommodate all allied disciplines.
### Figure 4

**Recommended Structure of Taiwan University in Relation to the School of Nursing**

```
- President NTU
- Chairman, Institute of Graduate Studies
  - Deans, Schools for Undergraduate Education
- Chairman, Institute of Health Sciences
  - Deans, Schools of
- Administrative Dean, Chiefs
  - Educational Affairs, Students' Services, Secretariat, Business Affairs, Accounting, Personnel

- Arts, Agriculture, Engineering, Law, Sciences

- SUPERINTENDENT
  - University Hospital
- DEAN
  - School of Medicine
  - School of Public Health
  - School of Nursing
  - School of Pharmacy
  - School of Dentistry
  - Administrative Offices

- DEAN
  - Division of Technical Education
  - Division of Professional Education
  - Division of Graduate-nurse Education

Note: The pattern of grouping allied Professional Schools under Health Sciences is quoted in Program A of the "Description of Eight Collegiate Basic Programs in Nursing," reported by NLN Inc. in 1952.4/4
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B. Education

As illustrated in Figure 4, the School of Nursing is to have three divisions whose relationship to each other will be set forth briefly before discussing the structure and purpose of each.

The Technical Division is primarily to educate technically competent unspecialized nurses. During the two-year course, it is hoped that contact with the students in the more advanced programmes will inspire some of the participants to seek further education on higher levels. It is expected that eventually this will become the normal approach to academic degrees for nurses.

The Graduate Nurse Division is meant to be a long-range programme and a gate to higher education permanently open to all registered nurses.

The Division of Professional Education as now envisaged is meant primarily to provide rapid relief of the present shortage of teachers in nursing education. Once this particular need has been satisfied, the programme as such may be discontinued and the division may devote itself to the advanced education of nurse specialists, rather than providing a course of basic education.

The writer holds that all branches of nursing should be built on a common foundation. When the present crisis in the nursing profession in Taiwan has been overcome, nursing education should begin for all at the technical level and proceed, for those who are prepared to undergo it, through the Graduate Nurse Division (B.S. level) to the Professional Division for advanced specialized studies (master's level and higher).
1. Division of Technical Education

This actually is a continuation of the vocational school of nursing of Taiwan University Hospital described in Chapter II, section 2 of this paper. It will have to be raised to the Technical School level as proposed in Chapter IV, section 2 and, although the operation of such a school is not really the business of a University, it must be continued so that the exceptionally good educational facilities of the hospital shall not lie waste, and also in order to furnish a practice field in teaching for the students on the master's level in the other two divisions. The need for more nurses is so pressing, and training facilities so few and far between on Taiwan, that the discontinuation of this school cannot possibly be justified.

Requirements for admission to this division shall be the same as those for freshman students of the University. Applications for entrance are to be filed with the University, and upon successful completion of the entrance examinations, students shall be admitted to the division.

At the beginning stage it is desirable that the annual enrollment be limited to a maximum of 60, to be gradually increased as the growth of the faculty makes it possible.

The proposed curriculum for this Division shall be a modification of the basic pattern suggested in Chapter IV, section B.
TECHNICAL DIVISION CURRICULUM

First Year Programme -- 40 Weeks

<table>
<thead>
<tr>
<th>Subject</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese Literature</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>English: Language &amp; Literature</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Sociology</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Psychology &amp; Mental Health</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Community Health</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Human Biology (including lab.)</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Microbiology (including lab.)</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Human Growth &amp; Development</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition (including lab.)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Physical Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nursing Sciences I (fundamentals of nursing)</td>
<td>6 (theoretical 4, lab. 2)</td>
<td>-</td>
</tr>
<tr>
<td>Field Experience in N. Sc. I</td>
<td>4 (16 hr. x 20 w)</td>
<td>-</td>
</tr>
<tr>
<td>Nursing Sciences II (Maternal &amp; Child Health nursing)</td>
<td>-</td>
<td>6 (16 hrs x 20w)</td>
</tr>
<tr>
<td>Field Experience in N. Sc. II</td>
<td>-</td>
<td>4 (16 hrs x 20w)</td>
</tr>
</tbody>
</table>

Total 24 24

Second Year Programme -- 40 Weeks

<table>
<thead>
<tr>
<th>Subject</th>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Literature</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Government &amp; Civics</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Economics</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fundamentals of Human Behavior</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Pathology</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Philosophy of Nursing (history, trends, adjustments)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Introduction to Nursing Education and Administration</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Nursing Sciences III (Nursing in Adult Health)</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Field Experience in N.Sc. III</td>
<td>6 (24 hr. x 20 w)</td>
<td>-</td>
</tr>
<tr>
<td>Nursing Sciences IV (Nursing Specialties &amp; Community Nursing)</td>
<td>6</td>
<td>(24 hr. x 20w)</td>
</tr>
<tr>
<td>Field Experience in N.Sc. IV</td>
<td>6 (24 hr. x 20w)</td>
<td>0</td>
</tr>
<tr>
<td>Physical Education</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total 21 21
Outline of Field Experience in Nursing Sciences:

Nursing Sciences I Visits to health and rehabilitation agencies, experience in O.P.D. and Fundamental Nursing.
Nursing Sciences II Maternity, 10 weeks; Children, 10 weeks.
Nursing Sciences III Medicine, 10 weeks; Surgery, 10 weeks.
Nursing Sciences IV Community Nursing, 8 weeks; Psychiatric Nursing, 4 weeks; Night Nursing, 4 weeks; Elective field, 4 weeks.

Upon completion of the programme, graduates shall be assigned for one year's internship to institutions where competent supervisory staff is available.

2. Division of Graduate-Nurse Education

This Division is open to all registered nurses. Applicants who are graduates of middle schools and of vocational schools of nursing will be offered courses leading to certification which will qualify them as head nurses and for higher positions. Graduates of Technical Schools of Nursing, or vocational graduates having University entrance qualifications may study either for the certificate or elect courses leading to the bachelor's and, if desired, to the master's degree. Special efforts will have to be made to acquaint first-level nurses on active service throughout the island with the educational possibilities being opened to them, with the matriculation requirements, and with the means by which they may attain the latter. On both the certificate and the degree levels, students may concentrate on clinical or public health nursing specialties, or they may major in administration or teaching.

Annual enrollment and curriculum for this Division, though subject to later adjustment, shall be determined by the following
factors: specific needs at the time, availability of teaching staff, previous preparation and needs of the students, and perhaps the availability of special funds with which to run Refresher courses. With so many factors uncertain, and with no access to the type and contents of courses offered at various schools in the University, it is futile at this moment even to attempt to formulate a curriculum for this Division. It will require much negotiation and experiment to establish a concrete and workable scheme. At any rate, the number of students in a class or course should not exceed 15, so that both faculty and students shall not be in difficulty during the experimental stage of the operation.

3. Division of Professional Education

The main purposes of this Division are: (1) to provide for the education of nurses qualified to render professional nursing care; (2) to furnish effective relief of the urgent need for instructors which exists now and which will be aggravated as soon as the proposed additional seven Technical Schools of Nursing have been established; (3) to create an educational laboratory which may stimulate inquiry into the advanced knowledge of nursing and so contribute towards a more scientific application of modern nursing methods to the needs of the community.

The above purposes may best be served by conducting a two-year course in nursing on the basis of the curriculum proposed below. Applicants, for the most part, will be graduates of Taiwan University or Taiwan Teachers' College possessing a B.A. or B.S. degree and, preferably, having had several years of experience in high
school teaching. Completion of the course will lead to the Master of Science degree. It is recommended that graduates from this Division be given opportunity to serve one year's residency. The annual enrollment shall not exceed 30 students. The provision of a basic nursing education for college graduates on a master's level is undertaken in the conviction that in no other way can a sufficient number of qualified teachers be educated within a reasonably brief period of time and at a minimum of expense. Because it builds on a foundation of four years of general education, it loses no time on subjects not concerned with nursing, and enables graduates to be sent out with the least possible delay. Its graduates meet the academic standards required of instructors in Technical Schools (see Appendix A), while the graduates of other programmes do not. It does not deplete other branches of the profession of the leadership which they require and which it is better at this time not to divert into teaching positions.

The bachelor's programme, on the other hand, gets off to a slow start and takes four years to complete. Yet it does not offer any more nursing education than the master's, since half of the students' time must be devoted to general education. Graduates will have to serve four years before they can qualify for appointments as instructors.

As to graduate nurses, few of them are high school graduates, and it would take them many years to obtain an academic degree. The best of them might be expected to enrol in the Graduate Nurse Education Division, but their number will not be large because few
of them will be able to afford a long absence from work; nor will their employers be willing to release them. Part-time study is no solution to the problem because it increases the length of their supplementary education beyond practicable limits.

Unless, therefore, entirely new solutions of the problem are suggested, the conclusion seems inescapable that the only practical approach to it is through a master's programme.

The curriculum has been constructed on the basis of the following philosophy: (1) The responsibility of the School, as an institution of higher education in the community, is to advance knowledge in the field of Nursing through scientific inquiry, continuous research, and academic fellowship for the benefit of human welfare. (2) Any addition to human knowledge, in order to be constructive and lasting, needs a scientific foundation. (3) Full development of individual potentialities and freedom of inquiry are the essential factors which advance knowledge. (4) The aim of a school is not the manufacture of a finished product, but to equip individuals with a sound background in the accumulated knowledge of our day, with the ability to reason and to perform, and with courage and inspiration to create. (5) Individual and community, mind and body, health and illness, science and arts, philosophy and life, nature and mankind are coordinated influences shaping the life of individual nurses as well as of the nursing profession; it is through this channel of integrated study that learning takes place, a sound understanding of the human situation is gained, and future contributions have the best chance of maturing.
PROFESSIONAL DIVISION CURRICULUM

First Year Programme -- 40 Weeks

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester (16 weeks)</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences I (fundamentals in N. care)</td>
<td>6 (theory 4, lab. 2)</td>
</tr>
<tr>
<td>Field work in N. Sc. I</td>
<td>2 (8 hours x 16 weeks)</td>
</tr>
<tr>
<td>Human Biology</td>
<td>5 (theory 4, lab. 1)</td>
</tr>
<tr>
<td>Microbiology</td>
<td></td>
</tr>
<tr>
<td>Community Health</td>
<td>2.5 (theory 2, lab. 0.5)</td>
</tr>
<tr>
<td>Human Relations</td>
<td>2</td>
</tr>
<tr>
<td><strong>Second Semester (16 weeks)</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences II (Community and Mental aspects of Nursing Care)</td>
<td>7 (theory 6, lab. 1)</td>
</tr>
<tr>
<td>Field work in N. Sc. II</td>
<td>4 (16 hr. x 16 week)</td>
</tr>
<tr>
<td>Nutrition</td>
<td>2.5 (theory 2, lab. 0.5)</td>
</tr>
<tr>
<td>Pathology</td>
<td>2.5 (theory 2, lab. 0.5)</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>2.5 (theory 2, lab. 0.5)</td>
</tr>
<tr>
<td>Psychology in Nursing</td>
<td>2</td>
</tr>
<tr>
<td><strong>Summer Session (8 weeks)</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences IIIa or IIIb (MCH Nursing)</td>
<td>3.5 (theory 3, lab. 0.5)</td>
</tr>
<tr>
<td>Field work in N. Sc. IIIa or IIIb</td>
<td>3.5 (28 hr. x 8 wk.)</td>
</tr>
<tr>
<td>Research in Nursing (Concepts &amp; Methods)</td>
<td>1</td>
</tr>
</tbody>
</table>

Second Year Programme -- 40 Weeks

<table>
<thead>
<tr>
<th>Subject</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester (16 weeks)</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences IV (Nursing in Adult Health)</td>
<td>10 (theory 8, lab. 2)</td>
</tr>
<tr>
<td>Field work in N. Sc. IV</td>
<td>6 (24 hr. x 16 wk.)</td>
</tr>
<tr>
<td>Administration in Nursing</td>
<td>2</td>
</tr>
<tr>
<td>Education in Nursing</td>
<td>2</td>
</tr>
<tr>
<td><strong>Second Semester (16 weeks)</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing Sciences IIIa or IIIb</td>
<td>3.5 (theory 3, lab. 0.5)</td>
</tr>
<tr>
<td>Field work in N. Sc. IIIa or IIIb</td>
<td>3.5 (28 hr. x 8 wk.)</td>
</tr>
<tr>
<td>Research in Nursing II (selected studies)</td>
<td>2</td>
</tr>
<tr>
<td>Field work in N. Sc. IV (continued)</td>
<td>2 (32 hr. x 4 wk.)</td>
</tr>
<tr>
<td>Seminar on Elective Field of Specialization</td>
<td>2</td>
</tr>
<tr>
<td>Field work on Elective Field of Specialization</td>
<td>2 (32 hr. x 4 wk.)</td>
</tr>
<tr>
<td>Philosophy of Nursing I (Nursing: Past, Present, and Future)</td>
<td>2</td>
</tr>
</tbody>
</table>
PROFESSIONAL DIVISION CURRICULUM (cont'd)

Subject                                    Units

Summer Session (8 weeks)

Philosophy of Nursing II (Nursing in the World Situation)   1
Seminar in Nursing (Evaluation of and adjustments to Nursing Situations)   2
Field work in Senior Nursing   4 (32 hr. x 8 wk.)

Total   92  80 weeks

Outline of Field Work in Nursing

Nursing Sciences I (16 weeks) includes Orientation to Health, Rehabilitation Services and Introduction to Nursing Care

Nursing Sciences II (16 weeks) includes:

Community Nursing   6 weeks
Psychiatric Nursing   6 "
Nursery School   4 "

Nursing Sciences III (16 weeks) includes:

Maternity and Delivery Room...IIIa...   8 "
Nursery and Children..........IIIb...   8 "

Nursing Sciences IV (20 weeks) includes:

Medicine and Communicable Diseases   8 "
Surgery and Operating Room   12 "

Senior Nursing (8 weeks) includes:

Night Nursing   4 "
Ward Management and Teaching   4 "

Elective Field of Specialization   4 "
3. Faculty

The selection, appointment, and privileges of the faculty members of the School of Nursing shall be in accordance with government regulations and university policies. While it may not be possible to secure enough instructors who can fully meet the required standards during the pioneering years, special consideration should be given to this new profession so that its growth shall not be hampered.

At the same time, every effort should be made to develop as rapidly as possible enough potential educators with full qualifications to enable emergency measures to be dispensed with, so that the School can stand on an equal footing with all other schools, not only in terms of students but of faculty qualification as well.

As qualified successors become available, those already in service should be given an opportunity to acquire advanced standing.

A. Full-time Faculty

At least at the time of opening the School, aside from the W H O Nursing Education Team members who will serve in the School, the following positions should be created;

2 Professors - One Dean
   One Educational Director and Chairman of Professional Division

2 Associate Professors -
   One Chairman of Graduate-Nurse Division; also in charge of one Nursing Science Department
   One Chairman of Technical Division; also in charge of one Nursing Science Department

4 Instructors - One each for each Nursing Science Department

4 Assistants - Same as above
The number of faculty members, excluding the Dean, will thus provide a ratio of one instructor to about nine students as of September, 1955. This is on the assumption that all faculty positions are filled and that enrollment will be as follows:

20 Professional Students
15 Graduate-Nurse Students
60 Technical Students

B. Visiting and Courtesy Faculty Appointments

Experts sent by WHO or FOA to aid Nursing Education in the School shall receive Visiting Faculty appointments according to their academic qualifications, viz., "Visiting Professor," "Visiting Associate Professor," etc.

Courtesy appointments may be given to faculty members of other schools in the university who participate in the instruction of nursing students. Similar appointments may be given to doctors and nurses on the staff of the University Hospital or other agencies with which the School affiliates, provided that they have the necessary qualifications.

4. Facilities for Instruction

The School, as a part of the University, has the privilege of sharing all the facilities available on the main campus, as well as in the Medical School, for its instruction and research. Every effort will be made to utilize the science and biology laboratories rather than to establish new ones, unless there is a special need in nursing education which makes it inevitable. Since the School will be located within the campus of the Medical School (proposed Institute of Health Sciences), and since there
exists a plan to expand and improve its library, there should be no need to equip an independent library for the Nursing School. However, small-size reading rooms containing extra periodicals and books of special interest shall be provided to afford students a study place adequately equipped for comfortable reading.

The School must have an ample number of its own classrooms so that seminars, conferences, and refresher classes can be held without interference with regular classes.

For students' nursing experience, the University Hospital offers almost complete facilities. It is located across the road from the School building; it is a member of the American Hospital Association; it has complete inpatient and outpatient services in Medicine, Surgery, Obstetrics and Gynecology, Pediatrics, Dermatology and Urology, Otorhinolaryngology, Ophthalmology, and Neuropsychiatry. Among its 500 beds are special wards provided for the care of tuberculosis, acute communicable diseases, orthopedics, and chest surgery patients. The average bed-occupancy was 86% in 1953. Aside from the services mentioned above, there are Departments of Radiology and Dentistry in the Outpatient Department, where an average of 600 patients are cared for daily.

In the Family-Health Service created by the Nursing Department, students will gain experience in health teaching as well as follow-up nursing care of patients at home. This service is in close cooperation with the Social Service Department.

Provincial agencies such as the Tuberculosis Control Center, Urban and Rural Health Centers, or Maternal and Child Health Center may be utilized when such affiliation becomes necessary.
In order to provide adequate learning experience for Professional, Graduate-nurse and Technical Students, an overall reorganization of the Nursing Department in the teaching Hospital seems necessary. Since it is the School which is responsible for providing education, what is left to the Department of Nursing is: (1) demonstration of an efficient administration; (2) maintenance of a high quality of nursing care; (3) adequate staffing of the service with a sufficient number of well-qualified nurses, so that nursing students may have a good example to follow while they are learning; (4) creation of good morale in working situations, thus establishing a healthy atmosphere for service, teaching, and learning.

Experience during the last few years has shown that many of the senior nurses of the hospital make excellent clinical teachers both as to professional competence and ability to lead students; in addition, by the summer of 1955, we shall have a total of about 160 graduates from our own Hospital School of Nursing. Among them we are sure to find a sufficient number whose achievements will satisfy the requirements and standards for top-ranking staff nurses. It is felt, therefore, that the shortage of nursing staff has now been relieved. What is left to be done is the reorganization of the administrative pattern in such a way as to realize fully the goal which is within reach. The writer recommends that:

(1) until it may be found desirable to separate these functions, the Dean of the School of Nursing shall concurrently be the Director of Nursing at the Hospital in order to:

(a) maintain and promote the very valuable coordination that has been developed since 1950 between the educational and the service aspects of nursing;
(b) be able to ensure that the quality of nursing personnel is kept up to the desired standard;
(c) see to it that graduate nurses are motivated to participate actively in student education as well as to provide good nursing care;
(d) ensure that adjustments are made promptly whenever there is a need, so that personnel in both institutions are working towards the same goal in harmony.

(2) the Associate Director of Nursing (護理副主) shall assume the major responsibility for nursing service administration since the Director has to divide her time between two offices.

(3) the position of nursing supervisors (護理員) be abolished, as their primary function shall be taken over by nursing instructors.

(4) five positions of Assistant Directors of Nursing (護理助理主) be created and competent members be appointed to serve as administrative assistants to the Associate Director. This rank is essential due to the facts that the Service covers a vast area; that the personnel is large; and that patients require round-the-clock attention and care.

Instead of being assigned to a service division, they will be assigned to building blocks, so that the head nurses in the area can obtain help instantly in solving their problems. Two Assistant Directors shall be assigned for day duty, one each for evening, night, and relief duties.
(5) positions of head-nurses shall remain as previously approved.

(6) twenty-four positions for assistant head-nurses to be added to the organization so that in the absence of the head-nurse, or when she is occupied with administrative tasks, there will be a person ready to assume her responsibility and look after patients' care.

(7) a number of positions for staff nurses as prescribed in the "Regulations Governing the Organization of a University Hospital" be adopted provided that the number assigned to midwives be combined, thus making a total of 186 staff nurses.

(8) the 30 positions allowed by the same regulations for employment of attendants also be adopted. It is recommended that the term Attendant (助理員 ) in place of Assistant nurse (助理護士 ) be used.

(9) at present O.P.D. attendance and with the amount of clerical work that is involved in ward-management, a minimum of twenty positions for clerks is required.

(10) the present number of ward maids should continue to be employed under the jurisdiction of the Nursing Department.

(11) any increase in bed capacity should be accompanied by a proportionate increase in staff.
5. Budget

A. Capital Expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>TY</th>
<th>US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renovation of existing buildings</td>
<td>500,000</td>
<td>50,000</td>
</tr>
<tr>
<td>New construction for students' accommodation and staff quarters</td>
<td>1,500,000</td>
<td>150,000</td>
</tr>
<tr>
<td></td>
<td>2,000,000</td>
<td>200,000</td>
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<tr>
<td>Equipment</td>
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</tr>
<tr>
<td>Local purchase</td>
<td>200,000</td>
<td>20,000</td>
</tr>
<tr>
<td>To be imported</td>
<td>US$ 15,000</td>
<td>US$ 15,000</td>
</tr>
<tr>
<td>Library</td>
<td>US$ 35,000</td>
<td>US$ 35,000</td>
</tr>
</tbody>
</table>

Capital expenses are to be financed through University emergency funds or through foreign aid.

B. Salaries and Wages

<table>
<thead>
<tr>
<th>Description</th>
<th>TY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>189,780</td>
</tr>
<tr>
<td>2 Professors Class A - 3</td>
<td>29,760</td>
</tr>
<tr>
<td>2 Associate Professors Class A - 7</td>
<td>24,720</td>
</tr>
<tr>
<td>4 Instructors Class B - 4</td>
<td>37,440</td>
</tr>
<tr>
<td>4 Assistants Class B - 8</td>
<td>27,840</td>
</tr>
<tr>
<td>Staff</td>
<td></td>
</tr>
<tr>
<td>1 Administrative Secretary to the Dean Class B - 8</td>
<td>6,960</td>
</tr>
<tr>
<td>1 Counselor Class B - 8</td>
<td>6,960</td>
</tr>
<tr>
<td>3 Secretaries (1 for each Division) Class C - 3</td>
<td>15,660</td>
</tr>
<tr>
<td>2 Typists (1 Chinese, 1 English) Class C - 3</td>
<td>10,440</td>
</tr>
<tr>
<td>4 Clerks Class C - 3</td>
<td>20,880</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
<tr>
<td>4 Janitors</td>
<td>9,120</td>
</tr>
</tbody>
</table>

In the light of previous experience at the Vocational School of Nursing, a minimum of 2 typists and 4 clerks is required for typing, stenciling, and mimeographing of teaching material.
C. Operating Expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>TY</th>
</tr>
</thead>
<tbody>
<tr>
<td>General maintenance</td>
<td>36,000</td>
</tr>
<tr>
<td>Supplies</td>
<td>36,000</td>
</tr>
<tr>
<td>Instruction—students' aid, laboratory</td>
<td>115,200</td>
</tr>
<tr>
<td>supplies, travel expenses, etc.</td>
<td></td>
</tr>
<tr>
<td>(1.200 x 95 students)</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>12,800</td>
</tr>
<tr>
<td></td>
<td>200,000</td>
</tr>
</tbody>
</table>

B. (Salaries and Wages) and C. (Operating Expenses) are to be included in the annual budget of Taiwan University for the year 1955 to 1956.

The budget for the existing Vocational School of Nursing shall be made separately. As the school will discontinue admitting new students as of September, 1955, its budget shall be confined to operating expenses and some personnel expenses. The last class of this school will graduate in Summer, 1957. All equipment, supplies, teaching aids, and other property that belonged to the Vocational School shall be transferred to the Collegiate School of Nursing.

Note: The official exchange rate at the time of writing between the Taiwan Yuan (TY) and the United States dollar was TY 15.65 = US$1.00. The local currency budget is subject to revision in accordance with government regulations.
Reference


CHAPTER VI

ROLE OF INTERNATIONAL ASSISTANCE

1. Review of Past Contributions

Taiwan has been fortunate in the past in that various international organizations have shown some interest in developing its health, and especially in improving nursing education. The contributions have been made in three ways:

A. Fellowships

To promote local leadership by furthering the education of nursing personnel, a number of fellowships for study abroad have been awarded. Since 1947 until the time of writing (February, 1955), the following awards have been made:

1. World Health Organization has given thirteen fellowships, seven of them for study in Canada and the U.S.A., four in New Zealand, two in Japan.

2. Foreign Operations Administration began to send out nurses in 1952 and, so far, has awarded fourteen fellowships for study in the U.S.A. and four in Japan.

3. The Rockefeller Foundation sent one nurse to study in Canada in 1948. Of the total of thirty-two fellowships, twenty-one were awarded to native Taiwanese nurses.

Few of the awards were made purposely as a direct contribution to Nursing Education, but the need for teachers is so great on the island
that all of the nurses who have studied abroad are actively partici-
pating, or are expected to participate, in the education of nurses on
Taiwan. All those who have had the benefit of extra preparation are
absorbed immediately into the teaching profession.

B. Teaching Facilities

Generous contributions of teaching equipment have been made to
local schools by W H O, F 0 A, and A B M A C (American Bureau for
Medical Aid to China). Since the schools have scarcely any access at
all to foreign currency funds, without this help they would have neither
books nor any of the other aids to teaching which are indispensable to
them.

C. Technical Assistance

Among its Western Pacific Regional projects, W H O has included
the provision of a Nursing Education Team for Taiwan. The team began
its five-year period of service in May, 1952 and has made a very impor-
tant contribution towards the improvement of education in nursing, both
directly and by acquainting local instructors with better teaching
methods. It has been operating at the Taiwan University School of
Nursing and at the Tainan School. Other W H O projects functioning on
the island have provided a useful field of instruction for students.

2. Future Outlook

The need for foreign assistance will increase in the future as we
proceed to raise educational standards and multiply the number of
schools. While the Collegiate School is being organized, and before it
can produce graduates, fellowships for study abroad are the only source
capable of furnishing teachers; without it, the establishment of more
schools will have to be postponed.

The rate at which old schools can be rehabilitated and new ones organized is largely controlled by the rate at which instructors become available. Another factor of importance is the capital investment required in setting them up. While the government will not find it impossible to assume the burden of operating the schools, there will be difficulty in finding the funds for the repair of buildings (classrooms and dormitories); bringing the teaching hospitals up to standard as to staff, equipment, and physical plant; and in providing the necessary teaching aids (books, laboratories, audio-visual material and equipment, etc.). Conditions vary from hospital to hospital with which schools are to be associated and it is not possible to make offhand an accurate estimate of the capital expenditure required in each. For the purpose of a rough forecast, it may be assumed that the average cost will amount to a minimum of NT$ 1,000,000 per school, or US$ 64,000. Since it will hardly be possible to establish more than one school per year for a four-year period, this amount will have to be budgeted annually as soon as the necessary supply of instructors is assured. F O A may be able to set aside the required sums from its counterpart funds and perhaps A B M A C assistance may also be enlisted. W H O may be in a position to provide some help in the form of teaching aids.

International organizations could make their most vital and most urgently-needed contribution to nursing by providing assistance in enlarging the faculty of the Collegiate School, which otherwise will suffer for several years to come from a lack of qualified, specialized teaching staff. This could be done by so strengthening and expanding
the WHO Nursing Education Team as to constitute it virtually as the faculty of the School. WHO or FOA may be able to work out a project of affiliation with a university school in the United States whose faculty members may then be assigned to tours of duty in Taiwan to cover specific needs pro tempore.
CHAPTER VII
SUMMARY

1. An historical sketch is given of the development of the nursing profession in Taiwan, and of the number and qualifications of nurses now in active service. The existing vocational schools of nursing and their capacities are reviewed.

2. Government regulations affecting nursing education are extensively quoted from Chinese sources to show that no express provision is made to educate nurses except on the "Vocational School" level which bars graduates from access to higher education. It is also shown that, although they do not specifically mention it, the Educational Acts leave open the possibility of educating nurses at the "Technical School" level, which would open academic careers to them.

3. A detailed estimate is made of the total minimum number of nurses required on the island and the conclusion is reached that this minimum is 10,000 nurses. Statistics are quoted to show that an ample reservoir of high school graduates exists from which nursing students may be recruited.

4. In examining the inadequacies of the present system of nursing education, it is demonstrated that no progress can be achieved unless thorough reforms are instituted. The system is self-inhibitory because it is constitutionally incapable of producing
the teachers which it requires for its own growth.

5. A number of specific remedies are proposed which would provide for: establishment of a collegiate school of nursing to educate nursing instructors; restaffing, expansion, and raising to Technical School level the three existing vocational schools; establishment, at one-to two-year intervals, of four additional Technical-level schools having a total annual output of 840 graduate nurses; reducing the period of schooling from three to two years in all schools of nursing.

6. The legal, financial, and organizational aspects of the proposed reforms are considered in detail. Specific suggestions are made as to the type, size, number, and location of new schools. The necessary changes in entrance requirements and curricula are discussed. The role of international aid is indicated.

7. Advantages to be derived from the programme are: making academic training accessible to all nurses; increasing the supply of teachers and high-level administrators and supervisors; raising the level of the whole profession; approaching by a single step, within a foreseeable period, and for the first time in history, an adequate proportion of nurses to total population.
CHAPTER VIII
RECOMMENDATIONS FOR FURTHER INQUIRIES

When discussing the limitations to this study in an earlier chapter, it was pointed out that the study is the blueprint of a structure which, it is hoped, will be erected some day. The writer is under no illusions as to the need for alterations before execution can be taken in hand. Some of the changes that will be proposed may turn out to be improvements; others will be unavoidable concessions to hard reality. However, for better or worse, it will be to the advantage of all concerned if the changes that must be made are weighed, considered, and accepted by all before the building is begun. Any differences of opinion that may be found to exist can be reconciled by the dissemination of information, by discussion, by good will, and by compromise. The more information is available and the more widely it is discussed, the more likely it is that an understanding eventually will be reached. It is, therefore, important that the public, the nursing and allied professions, and the government authorities should organize means of communicating with each other systematically, and of gaining full access to the facts of the case. The best means of achieving this is to set up officially a council or permanent committee charged with the responsibility of conducting further studies, submitting final and binding recommendations, supervising the execution of the plan, and making such adjustments to a changing environment as may in time appear to become desirable or mandatory.
All those who have a legitimate interest in nursing education should be represented on this permanent official organ. In particular, seats should be allotted to elected delegates of the public, nursing educators, representatives of the medical, nursing, and allied professions, and of the government agencies in health and education. The Council on Nursing (or whatever else its name will be) may assume some, all of, or more than, the functions listed below.

1. Further to study nursing education needs with a view to arriving at definite and specific goals as to the number and kind of nurses to be educated within specified time limits.

2. To obtain agreement as to the location, type, size, staffing, and budgeting of the schools to be organized, as well as to the sequence in which they ought to be organized.

3. The curricula, as set up in the present study, are mere outlines which require much additional work. A subcommittee may well be organized to discharge this task.

4. Nursing is an essential part of community life and must perpetually adapt itself to social change. A design made today may not answer the demands of tomorrow. The Council must create permanent means of detecting and observing changes in custom and popular demand, in health needs, in educational method, in scientific and technical advancement, and in the ideals and objectives of the nursing profession itself.

5. To study such questions as:
   a. Is there need for nursing personnel other than registered nurses? How great is it, and how is the need to be filled?
b. Are there difficulties in maintaining a proper regional and geographical distribution of nurses? Is there an imbalance between town and village? How are they to be dealt with?

It is impossible for any competent observer to become acquainted with the overall health situation in Taiwan without realizing that the most important bottleneck in bringing health to the people is the shortage of well-qualified nurses. There are enough physicians, one for every 2,500 people; there is a great popular demand for health services and one which is bound to grow rapidly; there is a local health administration possessing the necessary knowledge and the skill to apply it; but there are no nurses to diffuse and apply the wealth of medical expertness which is available. There may be disagreement as to the most effective and economical means of terminating this shortage; there can be no disagreement as to the fact that it exists. The proposals which have been made in the above to relieve it may be questioned as to method; but there can be no question that something needs to be done about it, and soon.

The present study is the first one to have been made in the nursing field in Taiwan. If it is no more than a foundation on which a final structure may be erected by others, the writer will not judge her efforts to have been in vain.
Chapter 17 - Interim Regulations for Examining Qualifications of Teachers in Universities and Colleges. (Issued by the Ministry of Education, Republic of China, October, 1947)

Article 1: Teachers in universities and colleges are appointed in four ranks: full professor, associate professor, instructor, and assistant.

Article 2: The rank of teachers in universities and colleges is decided by the Ministry of Education upon examination of their qualifications.

Article 3: An assistant should be in possession of one of the following qualifications:

(a) graduation from university either at home or abroad with a bachelor's degree and a good scholastic record.

(b) graduation from technical school or a school of equivalent status, having done research work or served in an educational institution for more than two years with a good record.

Article 4: An instructor shall possess one of the following qualifications:

(a) graduation from a research institute or university either at home or abroad with a master's or doctor's degree or a certificate of equal academic background and a good record.

(b) service as an assistant for more than four years with a good record and technical publication(s).

(c) more than five years of teaching at high school or school of the same level with evidence of research on the subject and technical publication(s).

(d) having made special inquiry into a subject of national literature with technical publication(s).
Article 5: An associate professor shall possess one of the following qualifications:

(a) graduation from a research institute or university, either at home or abroad, with a doctor's degree or a certificate of equivalent academic background, a good record, and valuable publication(s).

(b) Service as an instructor for over three years with a good record and technical publication(s).

(c) Possession of an instructor's qualification(s), having done continued research work or engaged in a specialized profession for over four years with an excellent record and a considerable contribution to the world of learning.

Article 6: A professor should be in possession of one of the following qualifications:

(a) Service as an associate professor for more than three years with a good record and important publication(s).

(b) Possession of an associate professor's qualification(s), having done continued research or engaged in a specialized profession for more than four years with an invention or discovery which made an important contribution to the world of learning.

Article 7: Those who have made special contributions to the world of learning, yet whose qualifications are not in accordance with the provisions of Articles 5 or 6, may be appointed as professors or associate professors upon approval by three fourths of the members of the Committee on Scholastic Evaluation. The said approval is resolved by means of secret ballot.

Article 8: The university, college, or research institute, as mentioned under Articles 3 to 5, is limited to public and approved (registered) institutions and those of foreign countries recognized by the Ministry of Education.

Article 9: Examination of qualifications of teachers in universities and colleges shall be conducted by the Committee on Scholastic Evaluation upon submission of evidence by each university and college to the Ministry of Education. Individuals meeting the requirements but not holding a position may submit their own requests.
Article 10: For evaluation of qualifications, submission of the following evidence is required:

(a) curriculum vitae
(b) diploma or certificate of degree
(c) publications
(d) certificate of service
(e) other documentary proofs

Qualifications listed in the curriculum vitae, but lacking supporting evidence such as certificates or publications, shall be considered as inapplicable.

Article 11: Having favourably evaluated the qualifications of teachers in universities and colleges, the Ministry of Education shall grant to each a certificate bearing the rank thereof.

Article 12: Associate professors, instructors, and assistants, upon completion of the specified teaching period, may apply through the school for promotion as prescribed in this regulation. When approved, additional certificates shall be granted.

Article 13: To those teachers who have taught in colleges or universities prior to the issuance of these regulations, the following standards of screening shall apply:

(a) Those who are in possession of one of the items listed in Article 5 and have taught as professors for over one year may be regarded as professors.

(b) Those who are in possession of one of the items in Article 4 and have taught as associate professors for more than one year may be regarded as associate professors.

(c) Those who are in possession of one of the items in Article 3 and have taught as instructors for more than one year may be regarded as instructors.

(d) Those who have served as assistants for over a year may be regarded as assistants.
Article 14: Evaluation of qualifications for teachers in Technical Schools shall be conducted in accordance with this regulation.

Article 15: Detailed provisions of this regulation shall be stipulated separately.

Article 16: This regulation shall become effective upon approval of the Executive Yuan.
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