## **Self-Study Report of College of Public Health**

## TABLE OF CONTENTS

v	I
-	
1.2.b	13
1.2.c	14
1.2.d	21
1.2.e	23
INSTITUTIONAL ENVIRONMENT	24
1.3.a	24
1.3.b	25
1.3.c	27
1.3.d	28
1.3.e	28
1.3.f	28
1.3.g	28
ORGANIZATION AND ADMINISTRATION	30
1.4.a	30
1.4.b	30
1.4.c	32
1.5.a	
3	MISSION

	1.5.b
	1.5.c42
	1.5.d42
	1.5.e44
	1.5.f
1.6	FISCAL RESOURCES
	1.6.a47
	1.6.b
	1.6.c52
	1.6.d52
	1.6.e
1.7 1	FACULTY AND OTHER RESOURCES54
	1.7.a54
	1.7.b54
	1.7.c55
	1.7.d59
	1.7.e60
	1.7.f61
	1.7.g62
	1.7.h63
	1.7.i
	1.7.j64
1.8	DIVERSITY65
	1.8.a65
	1.8.b
	1.8.c
	1.8.d
	1.8.e
	1.8.f
SECTIO	N 2: INSTRUCTIONAL PROGRAMS76
2.1	DEGREE OFFERINGS
	2.1.a
	2.1.b
	2.1.c
2.2	PROGRAM LENGTH80
	2.2.a80
	2.2.b80
	2.2.c81

	2.2.d	81
2.3	PUBLIC HEALTH CORE KNOWLEDGE	
	2.3.a	82
	2.3.b	83
2.4	PRACTICAL SKILLS	84
	2.4.a	84
	2.4.b	87
	2.4.c	87
	2.4.d	87
	2.4.e	88
2.5	CULMINATING EXPERIENCE	89
	2.5.a	89
	2.5.b	89
2.6	REQUIRED COMPETENCIES	91
	2.6.a	91
	2.6.b	92
	2.6.c	99
	2.6.d	99
	2.6.e	100
	2.6.f	100
	2.6.g	101
2.7	ASSESSMENT PROCEDURES	102
	2.7.a	102
	2.7.b	103
	2.7.c	115
	2.7.d	116
	2.7.e	117
	2.7.f	119
2.8	OTHER GRADUATE PROFESSIONAL DEGREES	120
	2.8.a	120
	2.8.b	122
	2.8.c	123
2.9	BACHELORS DEGREES IN PUBLIC HEALTH	125
	2.9.a	125
	2.9.b.	125
	2.9.c	126
	2.9.d	128
	2.9.e	129

	2.10	OTHER BACHELORS DEGREES	
		2.10.a	130
		2.10.b	130
		2.10.c	130
	2.11	ACADEMIC DEGREES	131
		2.11.a	131
		2.11.b	131
		2.11.c	133
		2.11.d	134
	2.12	DOCTORAL DEGREES	
		2.12.a	135
		2.12.b	135
		2.12.c	136
		2.12.d	136
		2.12.e	141
	2.13	JOINT DEGREES	
		2.13.a	142
		2.13.b	142
		2.13.c	142
	2.14	DISTANCE EDUCATION OR EXECUTIVE DEGREE PROGRAMS	
		2.14.a	143
		2.14.b	
		2.14.c	144
		2.14.d	144
SE	CTIO	N 3: CREATION, APPLICATION AND ADVANCEMENT OF KNOWLEDGE	145
	3.1	RESEARCH	145
		3.1.a	145
		3.1.b	152
		3.1.c	153
		3.1.d	154
		3.1.e	155
		3.1.f	156
	3.2	SERVICE	158
		3.2.a	158
		3.2.b	158
		3.2.c	159
		3.2.d	159
		3.2.e	161

	3.2.f	165
3.3	WORKFORCE DEVELOPMENT	166
	3.3.a	166
	3.3.b	166
	3.3.c	171
	3.3.d	171
	3.3.e	172
	3.3.f	172
SECTIO	ON 4: FACULTY, STAFF AND STUDENTS	173
4.1	FACULTY QUALIFICATIONS	
	4.1.a	173
	4.1.b	182
	4.1.c	182
	4.1.d	
	4.1.e	183
4.2		
	4.2.a	185
	4.2.b	185
	4.2.c	187
	4.2.d	
	4.2.e	191
4.3	STUDENT RECRUITMENT AND ADMISSIONS	193
	4.3.a	193
	4.3.b	193
	4.3.c	195
	4.3.d	195
	4.3.e	197
	4.3.f	198
	4.3.g	198
4.4	ADVISING AND CAREER COUNSELING	20201
	4.4.a	201
	4.4.b	202
	4.4.c	204
	4.4.d	205
	4.4 e	208

## **Overview**

#### I. Introduction

The College of Public Health, National Taiwan University (NTUCPH, or CPH) is the first college of public health in Taiwan. Since offering its first degree program in 1959, CPH has experienced enormous growth in size and complexity, particularly after the early 1990s. Currently, CPH has 56 full-time faculty (including 7 project assistant professors) and around 700 students. Offering BS, MPH, MS, and PhD degrees, CPH has more than 3,000 alumni thus far. To provide a context for the evaluation of CPH, a brief description is summarized as follows.

## History of National Taiwan University and College of Public Health

The institutional predecessor of National Taiwan University (NTU) was Taihoku (also known as Taipei) Imperial University, founded in 1928 by the Japanese colonial government. After World War II, Taihoku Imperial University was formally transferred to Nationalist Government of the Republic of China and renamed as National Taiwan University, with six colleges, 22 departments, and about 600 students enrolled. Now, the university has 11 colleges, 54 departments, and 103 graduate institutes. The total number of students has grown to over 33,000, including over 17,000 undergraduate students and 15,000 graduate students. In the 2015 QS World University Rankings, which was published in September 15, 2015, NTU was ranked top 70.

The predecessor of CPH was the Institute of Tropical Medicine, established in 1939. In 1951, Institute of Tropical Medicine was reformed to Institute of Public Health. To strengthen the basic workforce, a BS degree was offered by the establishment of Department of Public Health in 1972. Then in 1993, CPH was found as the eighth college established in NTU. Currently, CPH has one department (Department of Public Health), five institutes (Institute of Epidemiology and Preventive Medicine, Institute of Health Policy and Management, Institute of Environmental Health, Institute of Health Behavior and Community Sciences, and Institute of Occupational Medicine and Industrial Hygiene), one degree program (Master of Public Health degree program), and several research centers.

## Governance and External Evaluation

As a public university and being overseen by the Ministry of Education, NTU still holds academic autonomy and each college functions within the framework set up by the University. Overall governance of CPH is the responsibility of the Dean, whereas the College Affairs Committee Meeting is the place for major decision making. The current procedure of selecting the dean of CPH is through a searching committee of 9 members, of which 8 members (5 from inside the college and 3 from outside the college) are voted for by all the CPH faculty members and 1 member is designated by NTU President. After forum discussion on college developments and private interview with potential candidates, the search committee then recommends two to three suitable candidates to NTU President, and the President will make the final decision. The term of the deanship is 3 years. A dean may continue his/her second term subject to a popular vote by all the faculty members, which is handled by the College Affair Committee. Once the incumbent dean gains more than half

of the votes supporting this motion, the dean can stay in the office for a second term. Each faulty member can only serve for 2 consecutive terms as the dean. In addition, student's involvement in decision making is important in NTU. Taking CPH as an example, there are seven standing committees, except for Dean & Directors Meeting and Faculty Evaluation Committee, student's representatives are regular members.

Regarding external evaluation, every educational institution in Taiwan is accredited periodically by the Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT), an independent and private foundation entrusted by the Ministry of Education to assure the quality of higher education programs. In additions, NTU has university-initiated review, which focuses on self-improvement to attain international prominence. As a top-ranking university in several ranking system, NTU has conducted the university-initiated review more than twenty years ago, marking the first university in the country to implement such a review.

#### The Functional Framework of CPH

CPH currently provides a Bachelor's degree program (one department), 6 master's degree programs (5 graduate institutes and one MPH degree program), and 4 doctoral degree programs (4 graduate institutes). The curricula of each degree program is designed based on the five core competencies of public health, including Epidemiology and Preventive Medicine, Biostatistics, Health Services Administration, Social and Behavioral Sciences, and Environmental Health Sciences. Moreover, as a whole, the education of CPH can be divided into three main disciplines: Health Policy and Management, Environmental and Occupational Health, and Epidemiology, Biostatistics, and Preventive Medicine. Starting in 2012, one more option in area of concentration for undergraduate students is Global Health, which requires students to learn second foreign language and spend at least one period of time in foreign countries either as exchange students or conducting an internship. Using this framework, appropriate curricula can be planned for each area of expertise. As illustrated in the figure below, for both undergraduate and graduate programs, their subject areas share common cores but with different depths and emphasis on specialty.



Department of Public Health (DPH)

Master of Public Health Degree Program (MPH)

the 5 Institutes

The functional relationship within CPH: interrelationship of disciplines, institutes, programs, and the department

## Student Recruitment

With a population of 23 million people, Taiwan has now over 160 universities located across the nation, with creates a fierce competition among universities.

There are two major channels for senior high school students to be admitted to universities on the basis of two kinds of examinations, i.e., the General Scholastic Ability Test and the Test on Designated Subjects. The General Scholastic Ability Test covers five basic courses (Chinese, English, Mathematics, Natural Science, and Social Science) in the first two years of high school curriculum, at the end of 5th semester and then using the sum of Percentile Rank scores, along with their academic records in high school. Each department will set the minimum criteria for this kind of self-application by requiring the Percentile Rank score of each course be above the mean of the year's examinees. A 3-fold number of the quota will be invited

to attend a face-to-face interview.

The Test on Designated Subjects also covers the five basic courses taught in all three years of high school curriculum. Different departments may designate different subjects and may apply differential weightings for certain subjects. After obtaining the test score, a student can fill in a priority list of at most 100 departments. The final decision is completely based on the test score and priority order without the need of information on academic performance in high school.

Alternatively, the Ministry of Education has set up another channel called "Stars Project" to allow the top scorers in each high school, regardless of the location or size of the schools, to have a limited quota to be admitted to a prestigious university. The quota of this channel is negotiated between each university and the Ministry of Education. There are also certain special channels designated for handicapped students (such as hearing impaired students, cerebral palsy students), aboriginal students, and overseas students, though the number is much smaller.

As for graduate students, there are two channels for admission, i.e., self-application and entrance exam (subjects are designated by each institute). Academic performance, study plan, recommendation letters of every applicant will usually be reviewed in both channels, and the eligible applicants (typically 3-fold number of the admission quota) will be invited to attend a face-to-face interview. The number of enrollment for each institute is adjusted within University, with the total number of enrollment for each university set-up by the Ministry of Education.

## II. Brief Descriptions of Meetings & Committees

## **University Level**

- University Affairs Meeting It is composed of University President, Vice President, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Dean of Research and Development, Dean of International Affairs, Dean of Financial Affairs, all of Deans of all colleges, representatives of directors of institutes/ departments, faculty representatives, staff representatives and students representatives. This meeting is in charge of reviewing and discussing issues arising within the university, including academic regulations, instruction affairs, resource allocation strategy, general affairs, and student affairs.
- NTU Administrative Meeting It is composed of University President, Vice President, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Dean of Research and Development, Dean of International Affairs, Dean of Financial Affairs, Faculty President, Head of the Department for the Promotion of Advanced Studies, Head Librarian, Chief of the Secretariat, Director of Personnel, Chief Accounting Officer of the Accounting Office, and Director of the Information and Technology Centre, and all of Deans of all colleges. The meeting is held once a week, and in charge of discussing issues across colleges within the university.
- **NTU Curriculum Committee -** It is composed of Dean of Academic Affairs, Deans of all college, directors of all institute/ departments, faculty representatives, representatives of alumni and industry. This meeting is in charge of setting the university education goals, framing the university-wide curriculum framework and strategies, cooperation/ integrated instructional affairs.
- NTU Faculty Evaluation Committee It is composed of University Vice President, Dean of Academic Affairs, Deans of all college, and faculty representatives. This committee is in charge of (1) Review of qualifications, grade, duration of employment of newly recruited teachers; (2) Review of promotion and change of appointment of teachers; (3) Review of non-renewal, suspension and dismissal of teachers; (4) Review of appointment of Honorary Professor; (5) Review of extension of service of professors and associate professors; (6) Other matters which shall be approved by this Committee according to laws.
- **Administration Quality Evaluation Committee -** It is composed of Chief of the Secretariat, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Dean of Research and Development, Director of Personnel, and representatives of faculty. The committee is in charge of university-wide accreditation, and *etc*.
- **Campus and Building Space Allocation Team -** It is composed of Dean of Academic Affairs, Dean of Student Affairs, Dean of Research and Development, Dean of Financial Affairs, and faculty representatives of colleges. It is in charge of space allocation, new building construction, and *etc*.
- **Faculty Grievances Committee -** It is composed of student representatives, education representatives, representatives of Taipei Teachers' Association, liberals. This committee is in charge of reviewing

faculty grievance affairs.

Student Guidance Committee - It is composed of University President, Vice President, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Head of the Department for the Promotion of Advanced Studies, all of Deans of all colleges, faculty representatives, Speaker of Students' Council, Chair of Graduate Student Association, all Chairs of Student Association of all colleges. This committee is in charge of reviewing the regulations of student affairs, overseeing the consultations affair of student government groups and associations, and etc.

- **Student Disciplinary Committee -** It is composed of faculty representatives, which are recommended from office of Student Affairs, office of International Affairs, and colleges. Student Association and Graduate Student Association are also having representatives to participate. This committee is in charge of student's rewards and penalties affairs
- **NTU Student Admission Committee -** It is composed of Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Deans of all college, Head of the Department for the Promotion of Advanced Studies, Director of the Information and Technology Centre, faculty representatives. This committee is in charge of (1) The administrative work for graduation admission via recommendation and examination; (2) Arranging regulations and operation details for the examination.
- General Education Curriculum Committee It is composed of Chief Director of Center for General Education, Associate Director of Center for General Education, Director of Liberal Education Division, Director of General Education Division, Director of Department of Athletics, Director of Center for Teacher Education, Director of Master Program in Statistics of NTU, representatives of college, student representatives. This meeting is in charge of setting the university general education goals, framing the general curriculum framework and strategies, cooperation/integrated instructional affairs.
- **Library Committee -** It is composed of Head Librarian, faculty representatives from colleges, and student representatives. It is in charge of suggestions of library development, regulation review, and etc.
- **Financial Committee -** It is composed of University President, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Director of Accounting Department. This committee is in charge of budget allocation, and purchase of equipment or facilities for teaching and research.
- Environmental Protection and Occupational Safety and Health Committee It is composed of University President, Dean of Academic Affairs, Dean of Student Affairs, Dean of General Affairs, Dean of Research and Development, all of Deans of all colleges, Superintendent of NTU Hospital, Chief of the Secretariat, Director of Personnel. This committee is in charge of environmental, occupational health affairs.
- **Global Change Research Center Advisory Committee -** It is composed of Deans of colleges. This committee is in charge of global change affairs.

Outstanding Advisors Selection Committee - It is composed of Dean of Student Affairs, representative teachers of each college. This committee is in charge of reviewing outstanding advisors.

- **Radioprotection Management Committee -** It is composed of Director of Environmental Protection and Occupational Safety and Health Center, Chief of Radioprotection Management Group, representatives of College of Medicine and College of Public Health, experts of radioprotection. This committee is in charge of radioprotection management affairs.
- **Toxic Chemicals Operation and Management Committee -** It is composed of Director of Environmental Protection and Occupational Safety and Health Center, Chief of Hazardous Substances and Waste Control Group, experts of toxic chemicals operation and management. This committee is in charge of toxic chemicals operation and management affairs.
- **Trademark Management Committee -** It is composed of Dean of General Affairs, Chief of the Secretariat, representatives of professor, experts. This committee is in charge of Trademark Management affairs.
- International Affairs Committee It is composed of Dean of International Affairs, Dean of Academic Affairs, Dean of Student Affairs, Dean of Research and Development, representatives of all colleges. This meeting is in charge of reviewing and discussing international issues, regulations, instruction affairs, resource allocation strategy, general affairs, and student affairs.

## **College Level**

- College Affair Meeting It is composed of Dean, Associate Deans, all of the directors of institutes, faculty representatives, administrative staff, and two representatives from student body (one undergraduate student and one graduate student). The committee meets at least two times per semester, and can be held any time if necessary. CPH has a tradition to invite all faculty members to participate in the final meeting at the end of each semester to have broad discussion and feedback on the affairs of college. This meeting is in charge of reviewing and discussing issues arising within the college and university, including academic regulations, instruction affairs, resource allocation strategy, general affairs, and student affairs.
- **Dean & Directors Meeting -** It is composed of Dean, Associate Deans, all of the Directors of institutes. The meeting is held once a month, and in charge of discussing issues across department and institutes within the college.
- **Faculty Evaluation Committee -** It is composed of Dean, Associate Deans, Department Chair, and institute directors, and faculty representatives. This committee is in charge of (1) Review of qualifications, grade, duration of employment of newly recruited teachers; (2) Review of promotion and change of appointment of teachers; (3) Review of non-renewal, suspension and dismissal of teachers; (4) Review of appointment of Honorary Professor; (5) Review of extension of service of professors and associate professors; (6) Other matters which shall be approved by this Board according to laws.

Curriculum Committee - Within CPH, there are two levels of Curriculum Committee: department/institute level and college level. The College Curriculum Committee consists of Dean, Directors and representatives of student body (one undergraduate and one graduate), with Dean as the chair of the Committee. Sometimes other students as well as alumni are invited to attend the meeting for the discussion of the courses they are directly involved or proposed by them. For the department/institute Curriculum Committee, they are either the same as the Affair Committee or a separate committee, but all include student representatives. Thus, students in CPH can not only participate in the Curriculum Committee meeting but also make proposals for discussion. Their participation is well respected. The Curriculum Committee is in charge of (1) Planning, coordination and review of offering of cross-department and campus-wide course; (2) Audit of curriculum planning of each department of the College; (3) Audit related matters of degree granting at all levels of the College. (4) Coordination of related matters of entrance examination of each department of the College. (5) Other matters related to courses and degrees.

- **Financial Committee -** It is composed of faculty representatives, chaired by Associate Dean for Research and Global Health. This committee is in charge of budget allocation, and purchase of equipment or facilities for teaching and research.
- **Space Allocation Committee -** It is composed of dean, associate deans, department chair, institute directors, and representatives of students (one undergraduate and one graduate). This committee is in charge of space allocation and other matters related to space usage
- **Student Admission Committee -** It is composed of dean, associate deans, and all of the directors of institutes. This committee is in charge of (1) The administrative work for graduation admission via recommendation and examination; (2) The administrative work for foreign students and overseas Chinese students; and (3) Arranging regulations and operation details for the examination.
- **Environmental Protection Committee -** It is composed of dean, faculty representatives, student representatives, staff representatives. This committee is in charge of environmental, occupational health affairs.

## **Department/Institute Level**

- **Department/ Institute Affair Meeting -** It is composed of faculties, student representatives, chaired by Director of each department/ institute. The committee meets once per month, and can be held any time if necessary. This meeting is in charge of reviewing and discussing issues arising within the department/institute and college, including academic regulations, instruction affairs, resource allocation strategy, general affairs, and student affairs.
- **Faculty Evaluation Committee -** It is composed of faculties, chaired by Director of each department/ institute. This committee is in charge of (1) Review of qualifications, grade, duration of employment of

newly recruited teachers; (2) Review of promotion and change of appointment of teachers; (3) Review of non-renewal, suspension and dismissal of teachers; (4) Review of appointment of Honorary Professor; (5) Review of extension of service of professors and associate professors; (6) Other matters which shall be approved by this Board according to laws.

Curriculum Committee - It is composed of faculties, student representatives, chaired by Director of each department/institute. The Curriculum Committee is in charge of (1) Planning, coordination and review of offering of department/institute course; (2) Audit of curriculum planning of department/institute; (3) Audit related matters of degree granting at all levels of the department/institute. (4) Coordination of related matters of entrance examination of department/institute. (5) Other matters related to courses and degrees.

**Student Admission Committee -** It is composed of faculties, student representatives, chaired by Director of each department/ institute. This committee is in charge of (1) The administrative work for graduation admission via recommendation and examination; (2) The administrative work for foreign students and overseas Chinese students; and (3) Arranging regulations and operation details for recruitment and admission.

## **CRITERION 1: THE SCHOOL OF PUBLIC HEALTH**

#### 1.1 MISSION

The school shall have a clearly formulated and publicly stated mission with supporting goals, objectives and values.

#### 1.1.a. A clear and concise mission statement for the school as a whole.

### **Mission Statement:**

The mission of the National Taiwan University College of Public Health (NTUCPH, or simply CPH) is to improve the health and well-being of populations worldwide by devoting to education, research and service.

## **Vision Statement:**

CPH will be a leading institution that fosters future public health professionals and leaders with sound scientific reasoning and humane caring, pursues innovation and excellence, and is dedicated to developing effective solutions to public health issues.

## 1.1.b. A statement of values that guides the school.

The core value of CPH is CITE, which stands for compassion, integrity, teamwork, and equality. We hope that all of our faculty and students will hold CITE as the core spirit while doing research and practicing works about public health.

We bring forward *compassion*, for we should serve people with empathy and care the public health issues with real warmth; *integrity*, for we should be honest and true to people, to the society, and, mostly, to ourselves; *teamwork*, for we need an organized system and interdisciplinary coordination to fulfill the public health ideas; and *equality*, for we always contribute to defend the fairness and justice in public health.

1.1.c. One or more goal statements for each major function through which the school intends to attain its mission, including at a minimum, instruction, research and service.

## **Goals for Education:**

1. To expand CPH educational program to meet the comprehensive need of domestic and global

- society.
- 2. To enhance the enrollment of a well-qualified and diverse student body.
- 3. To promote public health education within NTU.

## Goals for Research:

- 1. To create an environment that fosters faculty's interaction and cross-disciplinary collaboration.
- 2. To promote research that might lead to change of policy or practice.
- 3. To increase the academic impact of scientific research.

## **Goals for Service and Practice:**

- 1. To strengthen the community engagement.
- 2. To enhance the social and global impact of public health.
- 3. To partner with non-government sectors to benefit mutually.

## **Goals for Fiscal Resources:**

1. To increase the proportion of budget which is not from university funds.

# 1.1.d. A set of measurable objectives with quantifiable indicators related to each goal statement as provided in criterion 1.1.c. in some cases, qualitative indicators may be used as appropriate.

Table 1.1.d lists the corresponding objectives, measures, and targets that track each of the goals listed in 1.1.c.

Table 1.1.d. CPH Objectives and Measures Corresponding to Each Goal

Table 1.1.u. CI II Objectives and Measures Corresponding to Each Goal			
<b>Corresponding Objectives</b>	Measures	Targets	
Education Goal 1: To expand CPH educational program to meet the comprehensive need of domestic and			
global society.			
1.1: Broaden students' exposure to	Number of cross-cutting	At least 100 courses within	
complexity in public health issues.	courses.	college each year.	
1.2: Enrich the integration of students'	Number of constant course	At least 10 courses within	
learning in different subjects.	Number of capstone courses.	college each year.	
1.3: Provide students with opportunities for international exchanges to enrich global vision.	Number of international exchange students.	At least 5 exchange students each year.	
1.4: Increase the cooperation between CPH and government or industry.	Course hours of training courses for government agencies and private sectors.	Increasing the course hour by 10%, with ultimately 150 hours each year.	

<b>Corresponding Objectives</b>	Measures	Targets		
Education Goal 2: To enhance the enrollment of a well-qualified and diverse student body.				
2.1: Increase the proportion of high school	Proportion of enrollment by			
student enrolled through self-application	self-application and	600/ hafana 2010		
channel and school-recommendation	school-recommendation	60% before 2018.		
channel (so-called "Star Plan").	channel.			
	The male : female ratio of	Maintain the current sex rate		
	students and faculty	(students in 40%: 60% and		
	members.	faculty in 60 % : 40%).		
2.2: Recruit and retain a diverse student	Proportion of enrollment in	Increase by 50/ coch year		
	MPH with non-public-health	Increase by 5% each year,		
body from broad background.	background.	with ultimately 50%.		
	Number and portion of	Increase ultimately to 10%		
	international students and	each year.		
	overseas Chinese students.	each year.		
Education Goal 3: To promote public health	education within NTU.			
3.1: Increase the number of general courses	Number of general courses in	At least 5 courses each year.		
in public health for undergraduate students.	public health.	At least 3 courses each year.		
	Number of applications for	At least 30 applications each		
3.2: Increase the number of undergraduate	minoring public health.	year before 2018.		
students minoring in public health.	Number of acceptance for	At least 10 acceptances each		
	minoring public health.	year before 2018.		
Research Goal 1: To create an environment t	Research Goal 1: To create an environment that foster faculty's interaction and cross-disciplinary			
collaboration.				
1.1: Hold joint seminars within each	Number of seminars.	At least twice in each		
institute, at least once a semester.	rumber of seminars.	institute per semester.		
1.2: Hold cross-talk symposiums across	Number of cross-talk			
institutes within CPH, at least once a	symposiums.	At least twice per semester.		
semester.	symposiums.			
1.3: Create the space for faculty for leisure	Number of faculty	At least 6 activities each		
time and increase the frequency of faculty	(recreational) activities.	year.		
activities.	(recreational) activities.	year.		
	Number of integrated	50 projects per year before		
1.4: Encourage to join in integrated	research projects.	2018.		
research projects.	Proportion of faculty who			
research projects.	carry out integrated research	40% per year before 2018.		
	projects.			
1.5: Increase the participation in	Number of internationally	More than 25 projects before		

<b>Corresponding Objectives</b>	Measures	Targets	
internationally collaborated projects.	collaborated projects.	2018.	
	Proportion of faculty who		
	carry out internationally	25% before 2018.	
	collaborated projects.		
Research Goal 2: To promote research that n	night lead to change of policy or	· practice.	
	Number of related research	More than 30 projects before	
2.1: Increase the number of faculty's	projects.	2018.	
research that has engagement in policy	Proportion of faculty who		
debate or reform options.	carry out related research	More than 25% before 2018.	
	projects.		
	Number of interventional	More than 15 applications	
2.2. In any or the manufacture of intermediate of	grant applications.	before 2018.	
2.2: Increase the number of interventional	Proportion of faculty who		
grant applications.	submit interventional grant	More than 10% before 2018.	
	applications.		
Research Goal 3: To increase the academic i	impact of scientific research.		
	Number of research papers	100 massauch mamana hafana	
	published in journals ranking	100 research papers before	
21. In any of the manufacture of the second control of the second c	in top 15%.	2018.	
3.1: Increase the number of research papers	Proportion of faculty who		
published in high-ranking journals.	have research papers	50% before 2018.	
	published in journals ranking	30% before 2018.	
	in top 15%.		
Service and Practice Goal 1: To strengthen t	he community engagement.		
	Number of community-based	80 service activities before	
1.1. In arrange for out to 2 in year years and in	services.	2018.	
1.1: Increase faculty's involvement in	Proportion of faculty who		
community-based service.	join in community-based	60% before 2018.	
	services.		
	Number of	200 service activities before	
1.2. Ingranga faculty's involvement in	organization-based services.	2018.	
1.2: Increase faculty's involvement in	Proportion of faculty who		
organization-based service.	join in organization-based	60% before 2018.	
	services.		
	Number of community-based	At least 6 against a share a	
1.3: Increase community-based courses.	courses.	At least 6 courses each year	
	Proportion of faculty who	40% before 2018.	

<b>Corresponding Objectives</b>	Measures	Targets	
	offer community-based		
	courses.		
	Number of	30 courses per year before	
	organization-based courses.	2018.	
1.4: Increase organization-based courses.	Proportion of faculty who		
	offer organization-based	50% before 2018.	
	courses.		
Service and Practice Goal 2: To enhance the	social and global impact of pub	lic health.	
2.1: Increase the number of faculty's	Number of research articles	20 antialas man vacan hafana	
research articles mentioned in media report	mentioned in media report	30 articles per year before 2018.	
and press release.	and press release.	2018.	
	Proportion of faculty		
	participating in international		
	activities as organizer,	More than 25% before 2018.	
	keynote speaker, and		
2.2: Increase faculty's participation in	committee member.		
global health related activities.	Number of the total		
	participation in international	More than 25 per year before	
	activities as organizer,	2018.	
	keynote speaker, and	2016.	
	committee member.		
Service and Practice Goal 3: To partner with	non-government sectors to bene	efit mutually.	
3.1: Encourage faculty to join in the study	Proportion of faculty ining		
sections, advisory groups, or leadership of	Proportion of faculty joining	More than 50% before 2018.	
non-government sectors.	in related organizations.		
Fiscal Resources Goal 1: To increase the proportion of budget which is not from university funds.			
1.1: Maintain a sufficient number of			
research grants to garner the overheads that	Number of was and mainte	Above 100 projects each	
can help support the infrastructure of the	Number of research projects.	year.	
College.			
1.2: Increase the sum from private	Sum of private funds	Two million NT dollars per	
fundraising.	Sum of private funds.	year.	

1.1.e. Description of the manner through which the mission, values, goals and objectives were developed, including a description of how various specific stakeholder groups were involved in their development.

The mission, vision, and values are developed in 1970s, when the Department of Public Health (DPH) was established. During the decades, the developments of DPH and related public health works were all based on the mission, vision, and values. As a result, they were still adopted when the College of Public Health (CPH) was established in 1993.

The goals and objectives were developed in accordance with NTU's "Mid-Term Development Plan." (The strategic plan can be referred to Resource File 1.1.e.) Under that system, CPH's goals and objectives are routinely reviewed and revised every five years. The latest Mid-Term Development Plan, with the goals and objectives described in detail in criteria 1.1.a - 1.1.d, began in 2014.

CPH has held three rounds of strategic planning meetings to discuss the goals and their corresponding objectives, followed by some measurable targets. The first round was a retreat meeting held in February 2013, attended by all the faculty and staff of CPH. The previous goals and objectives were reviewed, and recommendations for new goals and objectives were made after the discussions. Recommendations both from the first round meeting and from CEPH consultation visit (made by Ms. Mollie Mulvanity in March 2013) were adopted to the draft of the new goals and objectives.

The second round was the meetings of CEPH Accreditation Working Committee, which is led by the Dean. The draft was discussed in depth for several times among working committee members before the revised version was developed. The third round discussion was the CPH Consensus Meeting, held in May 2014, in which the faculty and staff were invited. The revised version of goals and objectives were accepted with some further revision.

The opinions of students and alumni have been referred, collected and adopted. Students can reflect their opinions through the regular committees. An Alumni and Students Consulting Meeting was also held by CPH on Nov. 19, 2014, focusing on CPH's policies and procedures to achieve the goals and objectives. Six alumnus representatives and eight student representatives joined the discussions with CPH heads.

The final version of the goals, objectives and measures was officially released after approved separately in the Dean and Directors' Meeting, Department Affair Meeting, Institution Affair Meetings, and College Affair Committee.

1.1.f. Description of how the mission, values, goals and objectives are made available to the school's constituent groups, including the general public, and how they are routinely reviewed and revised to ensure relevance.

Since faculty and staffs are invited to join the discussions of strategic plan, as mentioned in 1.1.e, they are quite accessible to the process in which the mission, values, goals and objectives were developed. After the approval by faculty and staffs, the mission, values, goals and objectives are

posted on the CPH website as well as stated in the CPH Year Book, which is published annually, so that all the constituent groups in CPH, including the community people, may receive the complete information. Besides, CPH also proclaims and explains the mission, values, goals and objectives in orientations for new-enrolled undergraduate and graduate students. In that way, every CPH student will know the College's mission, values, goals and objectives in the beginning of their study.

As the goals and objectives are in accordance with "Mid-Term Development Plan," which runs for five years, the goals and objectives are revised every five years. At the end of every year, the Dean calls for a retreat meeting and invites all the faculty members to reassess the achievements of the goals and objectives and to make suggestions for revision. After evaluating those suggestions and reaching a consensus of modification in the Dean & Directors Meeting, the modified goals and objectives will then be acknowledged in College Affair Meeting.

1.1.g. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

- 1. We have a concise mission statement, well described values, and a set of goals with measureable objectives that were developed through repeated discussions with input and support from faculty, students, staffs and alumni.
- 2. Our goals are consistent with those of National Taiwan University as a research-oriented university.
- 3. The strategies to achieve the goals are derived for broad discussion.
- 4. The statement has been widely disseminated to internal and external audience.

## **Challenges:**

Our inputs from alumni were less systematic in the early phase. We now have implemented functional alumni associations, with regular meetings twice a year.

#### **Plans:**

We have been promoting CPH via ASPPH website and newsletter since 2014 to attract international students to submit their applications. Faculty also have been discussing about setting up booths at regional conferences.

## The criterion is met.

### 1.2 EVALUATION

The school shall have an explicit process for monitoring and evaluating its overall efforts against its mission, goals and objectives; for assessing the school's effectiveness in serving its various constituencies; and for using evaluation results in ongoing planning and decision making to achieve its mission. As part of the evaluation process, the school must conduct an analytical self-study that analyzes performance against the accreditation criteria defined in this document.

1.2.a. Description of the evaluation processes used to monitor progress against objectives defined in criterion 1.1d, including identification of the data systems and responsible parties associated with each objective and with the evaluation process as a whole. If these are common across all objectives, they need be described only once. If systems and responsible parties vary by objective or topic area, sufficient information must be provided to identify the systems and responsible party for each.

Evaluation is integral to the way CPH and its constituent department, institutes, and centers operate. CPH conducts, or is the subject of, a number of internal and external processes to monitor and evaluate its performance in teaching, research, and service.

#### **Internal Evaluation**

There are three kinds of internal evaluation. First, there are a variety of committees consisting of faculty members that help evaluate various aspects of CPH's performance. These kinds of internal evaluations are conducted every year, based on the performance in teaching, research, service, as well as financial resources and student admissions. Since the CPH operations are managed by a variety of committees, as described in Criteria 1.5, the progress against objectives is basically monitored and evaluated by these committees.

The following table shows the committees and the items they monitored.

Table 1.2.a.(1). CPH Committees and the Items They Monitored

Committee	Items Monitored
Faculty Evaluation Committee	Research, service, faculty resource
Curriculum Committee	Program, curriculum and course
Student Admission Committee	Recruitment and admission (including diversity)
Financial Committee	Fiscal resource
Space Committee	Resources other than fiscal resource

Second, there are periodic evaluations for each faculty member. Each newly appointed Assistant Professor is required to be evaluated within three-year's service. The faculty has two years

to improve if the initial evaluation fail to meet the criteria set by CPH, and the contract will be discontinued if the faculty fails the re-evaluation again. For the faculty members at the rank of Associate Professor and Professor, they will be evaluated for very five years until they meet the criteria of free-of-evaluation. In the past five years, there were four instances of failure to pass the periodic evaluation and one faculty member (an Associate Professor) was eventually discontinued for the contract.

Third, NTU also conducts a college-leveled "Mid-Term Development Plan Evaluation" to every NTU college, according to the goals and objectives in its strategic plan. In every October, CPH should supply an overall report based on strategic plan, especially on goals and objectives, to NTU Evaluation Committee, in which the members come from NTU authority and deans of other colleges. Result and comments from this evaluation will be important for CPH's development next year.

#### **External Evaluation**

CPH and the department and institutes belonging to it are under two external evaluation systems: the national review, conducted by Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT), and university-initiated review. Both of these evaluations are conducted every five years. The detailed description of the two systems is in 1.3.a.

The external evaluations focus on self-proposed goals and self-improvement. The government (Ministry of Education) and NTU assess the overall status and achievements by these evaluations. For programs which fail in HEEACT review, there would be a penalty in the quota of student enrollment.

The following table is the years of latest evaluations for CPH and the department and institutes belonging to it.

Table 1.2.a.(2). The Latest Evaluations of CPH and Its Department and Institutes

Current Academic Units	Previous Academic Units (if it had been changed)	Year of Latest HEEACT Review	Year of Latest NTU Review
College of Public Health (CPH)		N/A <sup>1</sup>	2013
Department of Public Health (DPH)		2009	2015
Master of Public Health Program (MPH)		2009	2013
Institute of Occupational Medicine and Industrial Hygiene (OMIH)		2009	2015
Institute of Epidemiology and Preventive	Institute of Epidemiology	2009	2013
Medicine (EPM) <sup>2</sup>	Institute of Preventive Medicine	2009	2013
Institute of Environmental Health (EH)		2009	2015

Current Academic Units	Previous Academic Units (if it had been changed)	Year of Latest HEEACT Review	Year of Latest NTU Review
Institute of Health Policy and	Institute of Health Policy and Management	2009	2012
Management (HPM) <sup>3</sup>	Institute of Health Care Organization and Administration	2009	2013
Institute of Health Behavior and Community Sciences (HBCS) <sup>4</sup>			

<sup>&</sup>lt;sup>1</sup>HEEACT review is conducted only on the basis of department and institute.

## **Data Collection**

The department, institutes and centers are responsible to collect most of the data since they are directly accessible to the information about students, faculty members, and curricula. Data from each department/institute should be reported to different college-level committees (such as College Affair Meeting, Admission Committee, Curriculum Committee, and Financial Committee) per year to be reviewed across the entire college.

As for the fiscal resource, since the finance in CPH is managed as a whole, CPH Office is in charge of collecting the relative information.

Table 1.2.a.(3). The Outcome Measure, Method of Collection and Responsible Party

Measures	<b>Method of Collection</b>	Responsible party						
Education Goal 1: To expand CPH educational program to meet the comprehensive need of domestic and								
global society.								
1.1: Number of cross-cutting courses.	Course syllabi	Department/institutes offices						
1.2: Number of capstone courses.	Course syllabi	Department/institutes offices						
1.3: Number of international exchange students.	Student applications	Global Health Center						
1.4: Course hours of training courses for	Salf raport	Department/institutes offices						
government agencies and private sectors.	Self-report	and research centers						
Education Goal 2: To enhance the enrollment of a	a well-qualified and diverse	student body.						
2.1: Proportion of undergraduate enrollment by								
self-application and school-recommendation	Student applications	Department of Public Health						
channel.								

<sup>&</sup>lt;sup>2</sup>EPM was founded in 2010 by the combination of Institute of Epidemiology and Institute of Preventive Medicine.

<sup>&</sup>lt;sup>3</sup>HPM was founded in 2010 by the combination of the previous Institute of Health Policy and Management and the Institute of Health Care Organization.

<sup>&</sup>lt;sup>4</sup>HBCS was newly founded in 2015.

Measures	<b>Method of Collection</b>	Responsible party	
2.2 (1). The male female ratio of students and		Admission Committee;	
2.2 (1): The male : female ratio of students and	Self-report	Faculty Evaluation	
of faculty members		Committee	
2.2 (2): Proportion of enrollment in MPH with non-public-health background.	Student applications	MPH Office	
2.2 (3): Number and portion of international	Ctudent annliestions	Global Health Center; Office	
students and overseas Chinese students	Student applications	of International Affairs, NTU	
Education Goal 3: To promote public health educ	cation within NTU.		
3.1: Number of general courses in public health for NTU undergraduate students	Course syllabi	Department of Public Health	
3.2 (1): Number of applications for minoring	Minor Program	D	
public health	Application System	Department of Public Health	
3.2 (2): Number of acceptance for minoring public health.	Self-report	Department of Public Health	
Research Goal 1: To create an environment that j	foster faculty's interaction a	nd cross-disciplinary	
collaboration.			
1.1: Number of joint seminars within each	G 10	Y	
institute.	Self-report	Institutes offices	
1.2: Hold cross-talk symposiums across	Calf war aut	Department/Institutes offices	
institutes within CPH.	Self-report	and Dean's Office	
1.3: Number of faculty (recreational) activities	Self-report	CPH secretary	
in CPH.	Sen-report	CITI secretary	
1.4 (1): Number of integrated research projects	Self-report	Department/institutes offices	
1.4 (2): Proportion of faculty who carry out	Self-report	Department/institutes offices	
integrated research projects.	Sen-report	Department institutes offices	
1.5 (1): Number of internationally collaborated	Self-report; Project List	Department/institutes offices	
projects	System	Department institutes offices	
1.5 (2): Proportion of faculty who carry out	Self-report; Project List	Department/institutes offices	
internationally collaborated projects.	System	Department institutes offices	
Research Goal 2: To promote research that migh	t lead to change of policy or	practice.	
2.1 (1): Number of research projects engaged in	Self-report	Department/institutes offices	
policy debate or reform options.	- The report	2 Spartitions institutes offices	
2.1 (2): Proportion of faculty who carry out			
research projects engaged in policy debate or	Self-report	Department/institutes offices	
reform options.			
2.2 (1): Number of interventional grant	Self-report	Department/institutes offices	
applications	<b>.</b>	1	

Measures	<b>Method of Collection</b>	Responsible party	
2.2 (2): Proportion of faculty who submit	Calf war and	Deportment/institutes offices	
interventional grant applications.	Self-report	Department/institutes offices	
Research Goal 3: To increase the academic impact	ct of scientific research.		
3.1 (1): Number of research papers published in	NTU Library Data	Dean's Office	
journals ranking in top 15%.	System	Dean's Office	
3.1 (2): Proportion of faculty who have research	NTU Library Data	Dean's Office	
papers published in journals ranking in top 15%.	System	Dean's Office	
Service and Practice Goal 1: To strengthen the co	ommunity engagement.		
1.1 (1): Number of community-based services.	Self-report	Department/institutes offices	
1.1 (2): Proportion of faculty who join in	Self-report	Department/institutes offices	
community-based services.	Sen-report	Department/filstitutes offices	
1.2 (1): Number of organization-based services.	Self-report	Department/institutes offices	
1.2 (2): Proportion of faculty who join in	Self-report	Department/institutes offices	
organization-based services.	Sen-report	Department institutes offices	
1.3 (1): Number of community-based courses.	Self-report	Department/institutes offices	
1.3 (2): Proportion of faculty who offer	Self-report	Department/institutes offices	
community-based courses.	Sen-report	Department institutes offices	
1.4 (1): Number of organization-based courses.	Self-report	Department/institutes offices	
1.4 (2): Proportion of faculty who offer	Self-report	Department/institutes offices	
organization-based courses.	Sen-report	Department/institutes offices	
Service and Practice Goal 2: To enhance the social	al and global impact of pub	lic health.	
2.1: Number of research articles mentioned in	Self-report	Department/institutes offices	
media report and press release.	Sen report	Bepartment institutes offices	
2.2 (1): Proportion of faculty participating in			
international activities as organizer, keynote	Self-report	Department/institutes offices	
speaker, and committee member.			
2.2 (2): Number of the total participation in			
international activities as organizer, keynote	Self-report	Department/institutes offices	
speaker, and committee member.			
Service and Practice Goal 3: To partner with non	-government sectors to bend	efit mutually.	
3.1: Proportion of faculty joining in the study			
sections, advisory groups, or leadership of	Self-report	Department/institutes offices	
non-government sectors.			
Fiscal Resources Goal 1: To increase the proport	ion of budget which is not f	1	
1.1: Number of research projects.	Project List System	CPH financial affairs staff	
1.2: Sum of private funds.	Self-report	CPH financial affairs staff	

1.2.b. Description of how the results of the evaluation processes described in criterion 1.2.a are monitored, analyzed, communicated and regularly used by managers responsible for enhancing the quality of programs and activities.

#### **Internal Evaluation**

As mentioned in 1.2.a, the routine evaluation within CPH is conducted by a variety of committees. In every August and September, all the data under evaluation are collected by the responsible party (please refer to Table 1.2.a.(3)) and reported to CPH Office. It will be summarized by CPH Office and then proposed, monitored and communicated in different committees, according to Table 1.2.a.(2). All the committee meeting minutes would be sent to offices of department, institutes and centers so that the resolutions and comments from committees for each unit would be shared with unit directors. Concerns are then discussed at the appropriate level (usually in department and institutes) for effecting a change. During the progress, Dean will also discuss with directors if it is necessary. For example, self-application and entrance exam (please see the descriptions of these channels in 4.3.b) are the two main admission channels to CPH. After evaluating the performance of students admitted by these two channels, the Admission Committee increased the quota of self-application students because their performances were generally outstanding.

The response to evaluation is monitored by College Affair Meeting. Offices of department, institutes and centers should report their response, including the necessary changes, in the meeting and get the approval. The composition of College Affair Meeting can be found in 1.5.a.

NTU Evaluation Committee is the highest responsible authority for the college-level evaluation. After NTU Evaluation Committee passes the review to CPH Office, the different committees and unit offices of CPH are responsible to respond the review as stated in the previous two paragraphs; likewise, the response approved by College Affair Meeting should be reported to NTU Evaluation Committee.

#### **External Evaluation**

Review from external evaluation is under the same procedure as internal evaluation within CPH. Review from external evaluation committee would be sent to CPH Office, and committees and units should take charge of it according to Table 1.2.a.(1) and Table 1.2.a.(2). The external evaluation was generally helpful for restructuring organizations. For example, the Institute of Epidemiology and Preventive Medicine was founded in 2010 by the combination of Institute of Epidemiology and Institute of Preventive Medicine, and Institute of Health Policy and Management was founded in 2010 by the combination of the previous Institute of Health Policy and Management and the Institute of Health Care Organization, both according to the reviewers' suggestions in 2009 HEEACT Review.

Since both HEEACT and university-initiated review are conducted under NTU's monitoring,

all the process of evaluation, including the response, should also be reported to NTU Evaluation Committee.

1.2.c. Data regarding the school's performance on each measurable objective described in criterion 1.1.d must be provided for each of the last three years. To the extent that these data duplicate those required under other criteria (eg, 1.6, 1.7, 1.8, 2.7, 3.1, 3.2, 3.3, 4.1 and 4.3), the school should parenthetically identify the criteria where the data also appear.

The data for each outcome in the strategic plan may be found in Table 1.2.c.

**Table 1.2.c. Outcomes of CPH Objectives Evaluation** 

<b>Corresponding Objectives</b>	Measures	Targets			Outcomes			
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16	
Education Goal 1: To expand	l CPH educational program	to meet the comprehensiv	ve need of domesti	c and global societ	ty.			
1.1: Broaden students' exposure to complexity in public health issues.	Number of cross-cutting courses <sup>1</sup> .	At least 100 courses within college each year.	105	107	114	103	101	
1.2: Enrich the integration of students' learning in different subjects.	Number of capstone courses <sup>1</sup> .	At least 10 courses within college each year.	11	11	11	11	12	
1.3: Provide students with				Una	lergraduate (bache	elor)		
opportunities for	Number of international	At least 5 exchange	2	4	3	2	2	
international exchanges to	exchange students <sup>1</sup>	students each year.		Gradi	uate (master and d	loctor)		
enrich global vision.			0	2	1	5	0	
1.4: Increase the cooperation between CPH and government or industry.	Course hours of training courses for government agencies and private sectors <sup>2</sup>	Increasing the course hour by 10%, with ultimately 150 hours each year.	28	58	95	211	95	
Education Goal 2: To enhance	ce the enrollment of a well-qu	ualified and diverse stude	ent body.				1	
2.1: Increase the proportion				(Self-App	olication : Star Pla	n : Exam)		
of high school student enrolled through self-application channel and school-recommendation channel (so-called "Star Plan").	Proportion of enrollment by self-application and school-recommendation channel.	60% before 2018	40% : 11% : 49%	33% : 11% : 57%	41% : 13% : 46%	36% : 11% : 53%	42% : 11% : 47%	
2.2: Recruit and retain a	The male: female ratio of	Maintain the current			Students			

<b>Corresponding Objectives</b>	Measures	Targets			Outcomes		
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16
diverse student body from	students and faculty	sex rate (students in	42%:58%	41% : 56%	40%:60%	40%:60%	38% : 62%
broad background.	members.	40%:60% and faculty			Faculty		
		in 60%:40%).	64%:36%	58%: 42%	59%:41%	65% : 35%	57% :43%
	Proportion of enrollment	Increasing by 5%					
	in MPH with	each year, with	10.0%	22.0%	23.5%	28.6%	29.4%
	non-public-health	ultimately 50%.	10.070	22.070	23.370	28.070	29.470
	background.	unmatery 30%.					
	Number and portion of						
	international students and	Increasing ultimately	7 (3.3%)	3 (1.3%)	10 (4.9%)	6 (2.7%)	8 (3.8%)
	overseas Chinese	to 10% each year.	7 (3.370)	3 (1.370)			
	students <sup>1</sup>						
Education Goal 3: To promo	te public health education wi	thin NTU.				1	
3.1: Increase the number of							
general courses in public	Number of general	At least 5 courses	5	5	4	4	5
health for undergraduate	courses in public health <sup>1</sup>	each year.	3	3			3
students.							
	Number of applications	At least 30					
3.2: Increase the number of	for minoring public	applications each	19	20	11	21	23
undergraduate students	health <sup>1</sup>	year before 2018					
minoring in public health.	Number of acceptance for	At least 10					
manoring in paorio nomini	minoring public health <sup>1</sup>	acceptance each year	7	7	7	7	7
	minoring puone neural	before 2018					
Research Goal 1: To create a	n environment that foster fac	culty's interaction and cr	oss-disciplinary c	ollaboration.		1	
1.1: Hold joint seminars		At least twice in each				3	5
within each institute, at	Number of seminars.	institute per year	1	2	1		
least once a semester.		montate per jeur					

<b>Corresponding Objectives</b>	Measures	Targets	Outcomes				
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16
1.2: Hold cross-talk symposiums across institutes within CPH, at least once a semester.	Number of cross-talk symposiums <sup>1</sup>	At least twice per year	4	4	2	5	8
1.3: Create the space for faculty for leisure time and increase the frequency of faculty activities.	Number of faculty (recreational) activities.	At least 6 activities each year	7	7	6	10	13
1.4. Farmer Article in	Number of integrated research projects <sup>1</sup>	50 projects per year before 2018.	43	48	51	30	pending
1.4: Encourage to join in integrated research projects.	Proportion of faculty who carry out integrated research projects.	40% before 2018.	21 (37.5%)	21 (37.5%)	22 (39.3%)	20 (36.4%)	pending
1.5: Increase the	Number of internationally collaborated projects <sup>1</sup>	More than 25 projects before 2018.	21	30	27	12	pending
participation in internationally collaborated projects.	Proportion of faculty who carry out internationally collaborated projects.	25% before 2018.	12 (21.4%)	13 (23.2%)	12 (21.4%)	7 (12.7%)	pending
Research Goal 2: To promote	research that might lead to	change of policy or prac	ctice.				
2.1: Increase the number of	Number of related research projects.	More than 30 before 2018.	24	25	25	24	pending
faculty's research that has engagement in policy debate or reform options.	Proportion of faculty who carry out related research projects.	More than 25% before 2018.	13 (23.2%)	14 (25%)	13 (23.2%)	8 (14.5%)	pending
2.2: Increase the number of interventional grant	Number of interventional grant applications <sup>1</sup>	More than 15 applications before	10	10	11	7	pending

<b>Corresponding Objectives</b>	Measures	Targets	Outcomes				
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16
applications.		2018.					
	Proportion of faculty who submit interventional grant applications.	More than 10% before 2018.	6 (10.7%)	5 (8.9%)	5 (9.1%)	3 (5.5%)	pending
Research Goal 3: To increase	e the academic impact of scie	entific research.					
Number of research papers published in journals ranking in top 15%.  15%.  Proportion of faculty who have research papers published in journals	papers published in journals ranking in top	100 research papers before 2018.	69	92	68	82	65
	• •	50% before 2018.	19 (33.9%)	22 (39.3%)	20 (35.7%)	28 (50.9%)	22 (40%)
Service and Practice Goal 1:	To strengthen the communit	y engagement.					
1.1: Increase faculty's	Number of community-based services.	80 service activities before 2018.	61	70	76	61	55
involvement in community-based service.	Proportion of faculty who join in community-based services.	60% before 2018.	20 (35.7%)	23 (41.1%)	22 (39.3%)	30 (54.5%)	26 (46.4%)
1.2: Increase faculty's involvement in organization-based service.	Number of organization-based services.	200 service activities before 2018.	146	167	161	187	120
	Proportion of faculty who join in organization-based services.	60% before 2018.	23 (41.1%)	24 (42.9%)	27 (48.2%)	29 (52.7%)	37 (66.1%)

<b>Corresponding Objectives</b>	Measures	Targets	Outcomes				
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16
1.3: Increase	Number of community-based courses <sup>1</sup>	At least 6 courses each year	5	4	7	6	6
community-based courses.	Proportion of faculty who offer community-based courses	40% before 2018.	22 (39.2%)	21 (37.5%)	22 (39.2%)	19 (34.5%)	20 (35.7%)
1.4: Increase	Number of organization-based courses <sup>1</sup>	30 courses per year before 2018.	18	25	22	26	25
organization-based courses.	Proportion of faculty who offer organization-based courses <sup>1</sup>	50% before 2018.	25 (44.6%)	31 (55.4%)	27 (48.2%)	24 (43.6%)	28 (50%)
Service and Practice Goal 2:	To enhance the social and g	lobal impact of public he	ealth.				
2.1: Increase the number of faculty's research articles mentioned in media report and press release.	Number of research articles mentioned in media report and press release <sup>1</sup>	30 articles per year before 2018.	8	7	13	31	35
2.2: Increase faculty's participation in global health related activities.	Proportion of faculty participating in international activities as organizer, keynote speaker, and committee member.	More than 25% before 2018.	8 (14.3%)	12 (21.4%)	13 (23.2%)	8 (14.5%)	18 (32.1%)
	Number of the total participation in international activities as	More than 25 per year before 2018.	20	36	33	22	38

<b>Corresponding Objectives</b>	Measures	Targets	Outcomes				
	Academic Year		2011-12	2012-13	2013-14	2014-15	2015-16
	organizer, keynote speaker, and committee member.						
Service and Practice Goal 3:	To partner with non-govern	nent sectors to benefit m	utually.				
3.1: Encourage faculty to join in the study sections, advisory groups, or leadership of non-government sectors.	Proportion of faculty joining in related organizations.	More than 50% before 2018.	22 (39.3%)	23 (41.1%)	25 (44.6%)	27 (49.1%)	22 (40%)

Fiscal Year			2011	2012	2013	2014	2015			
Fiscal Resources Goal 1: To	Fiscal Resources Goal 1: To increase the proportion of budget which is not from university funds.									
1.1: Maintain a sufficient					Number of project					
number of research grants			106	119	129	112	120			
to garner the overheads that	Number of research	Above 100 projects	Sum of grant (NT dollar)							
can help support the	projects.	each year.								
infrastructure of the			180,583,469	156,267,344	192,913,077	165,819,663	176,240,560			
College.										
1.2: Increase the sum from	Sum of private funds <sup>1</sup>	Two million NT	2.015.674	5,064,349	064,349 607,375	2,334,000	1,154,700			
private fundraising.		dollars per year.	2,015,674			2,334,000	1,134,700			

<sup>&</sup>lt;sup>1</sup>Support materials of these items can be found in Resource File 1.2.c.

<sup>&</sup>lt;sup>2</sup>List of these courses can be referred to 3.3.a.

1.2.d. Description of the manner in which the self-study document was developed, including effective opportunities for input by important school constituents, including institutional officers, administrative staff, faculty, students, alumni and representatives of the public health community.

## The Mechanism of Opinions Integration within CPH

CEPH Accreditation Working Committee was set up for promoting the CEPH accreditation process as CPH's application for accreditation had been accepted by CEPH in September 2013. Officially announced in College Affair Meeting on January 10, 2014, the committee member included faculty representatives from all the three academic disciplines of CPH, as well as staff representatives from all the academic unit offices. The first committee meeting was held on January 14, 2014.

The member of CEPH Accreditation Working Committee:

## Chair:

Prof. Wei J. Chen (陳為堅, Dean of CPH)

## Associate Chair:

Prof. Kuo-Piao Chung (鍾國彪, Associate Dean of CPH)

## Administrative Coordinator:

Project Asst. Prof. Tsung-Hsien Yu (游宗憲)

## Administrative Assistant:

Yun-Hsin Liu (劉筠馨)

## Faculty Representatives:

Prof. Chang Chuan Chan (詹長權), Prof. Yaw-Huei Hwang (黃耀輝), Prof. Chang-Fu Wu (吳章甫), Assoc. Prof. Yen-Ching Karen Chen (程蘊菁), Prof. Chi-Tai Fang (方啟泰), Assoc. Prof. Hung Hung (洪弘), Assoc. Prof. Yung-Ling Leo Lee (李永凌), Assoc. Prof. Ming-Chin Yang (楊銘欽), Assoc. Prof. Jiun-Hau Huang (黃俊豪), Asst. Prof. Nien-Chen Kuo (郭年真), Asst. Prof. Chen-Yu Liu (劉貞佑), Asst. Prof. Ching-Yu Lin (林靖愉), Asst. Prof. Jia-Kun Chen (陳佳堃)

## Staff Representatives:

Chi-Hsiu Wu (吳霽修), Shih-Chin Lin (林詩琴), Shu-Chuan Lin (林淑娟), Yi-Chia Chuang (莊怡嘉), Yi-Chiang Lu (呂依嬙), Ya-Ting Chan (詹雅婷), Yi-Chia Huang (黃奕嘉), Yu-Chun Hsu (徐瑜君)

## Proof Reading:

Prof. Chuhsing Hsiao (蕭朱杏), Prof. Ya Mei Chen (陳雅美), Prof. Kuen-Yuh Wu (吳焜裕), Prof. Yu-Kang Tu (杜裕康), Ray-E Chang (張睿詒), Tsun-Jen Cheng (鄭尊仁)

The CEPH Accreditation Working Committee generally had meeting once a month, discussing the development and evaluation of policies, as well as the system of data collection and self-study report. All the meeting minutes can be found in Resource File 1.2.d.

Students' and alumni's comments were referred to during the development of the self-study document. Students had much participation in CPH governance and policy developments (more details about students' participation are described in 1.5.e.). In order to make the public aware of CPH's preparation of CEPH accreditation, a special area was created on CPH Official Website, and the information about CEPH accreditation was posted on it regularly.

CPH also held an Alumni and Students Consulting Meeting on Nov. 19, 2014, in which six representatives of alumni (those alumni representatives worked in different areas, such as education, government, and industry) and eight representatives of students were invited to discuss with CPH heads. This meeting focused on two main issues. One was CPH's policies to achieve the goals and objectives. The attendees gave a plenty of useful feedback in terms of curricula development and practicum format. The other issue was the process of developing self-study report. There were also helpful suggestions such as how to gather survey data from alumni and employers.

For getting the whole CPH member involved in the report writing and reaching consensus in the final stage, a college-level discussion meeting was held in September 3, 2015, when the preliminary self-study report was nearly ready. Thirty faculty members, five administrative staffs, and nine students attended this meeting. The comments and suggestions were then incorporated in the revised preliminary self-study report.

## **Consultation from outside CPH**

CPH is also looking for consultation from external scholars. For example, during the visit in CPH from College of Public Health and Human Sciences, OSU, in November 2014, Dean Tammy Bray and Associate Dean Mark Hoffman had an informal meeting with CPH dean and associate deans, sharing OSU's experience of CEPH Accreditation Evaluation and offering recommendations for CPH's preparation of it.

In March 2015, Department of Public Health, Institute of Environmental Health, and Institute of Occupational Medicine and Industrial Hygiene were under university-initiated review. Considering the review as somewhat a rehearsal for CEPH Accreditation Evaluation, these three units wrote their self-study report for university-initiated review according to CEPH Accreditation Criteria. Moreover, CPH invited several deans and professors of public health schools around the world as review committee members, such as Dr. Tammy Bray, Dr. Ken Seng Chia, Dr. Shunichi Fukuhara, Dr. Shane Que Hee, Dr. Joseph K. Kwan, Dr. Yue-Chune Lee, Dr. John O'Neil, and Dr. Doo Yong Park, etc. Aside from the university-initiated review, those scholars also have some informal discussions with CPH faculty and gave very precious recommendations for preparing the CEPH Accreditation Evaluation.

# 1.2.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

There has been strong support in CPH for developing and implementing an evaluation plan. CPH departments have been regularly collecting most of the needed data as part of their normal operations.

# **Challenges:**

Systems and processes for departmental data collection require continuous refinement and expansion as new programs come online.

## Plans:

To set up an IT system to collect data and produce reports automatically and periodically to reduce labor intensity, and also facilitate the efficiency of college management.

## The criterion is met.

#### 1.3 INSTITUTIONAL ENVIRONMENT

The school shall be an integral part of an accredited institution of higher education and shall have the same level of independence and status accorded to professional schools in that institution.

1.3.a. A brief description of the institution in which the school is located, and the names of accrediting bodies (other than CEPH) to which the institution responds.

The institutional predecessor of National Taiwan University (NTU) was Taihoku (aka. Taipei) Imperial University, founded in 1928 by the Japanese colonial government. In 1945, in which year the Republic of China (ROC) won the war of resistance against Japan, Taihoku Imperial University was formally transferred to the Nationalist government and renamed as National Taiwan University.

The university had five divisions during the Japanese occupation, including Literature and Politics, Science, Agriculture, Medicine and Engineering, with an enrollment of about 400 students. After restructuring in accordance with the ROC academic system in 1945, academic departments were established as well as the former divisions were renamed Colleges. Initially, there were six colleges, 22 departments, and about 600 student enrollment.

The departments and colleges kept expanding in faculty and hardware in step with growing budgets and rising social expectations. Now, the university has 13 administration organizations and 11 colleges, 54 departments and 103 graduate institutes, plus four university-level research centers: Population and Gender Studies Center, Center for Condensed Matter Sciences, Center for Biotechnology, and Bio-diversity Research Center. The total number of students has grown to over 33,000, in which there are over 17,000 university students and 15,000 graduate students. The number of graduate students at NTU almost equals the number of university students, indicating that NTU has successfully been transformed into a research university.

## **Accreditation System in Taiwan**

In Taiwan, there are two external review systems for educational institutions: the national review and the university-initiated review.

In December 2005, the Ministry of Education entrusted Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT) to review the higher education system in Taiwan. HHEACT is an independent and private foundation, with all universities and colleges in Taiwan asked to make funding contribution to facilitate the establishment of it. The first wave of evaluation was conducted in 2006. Focusing on self-proposed goals, the review is conducted every five years and is mandatory for all educational institutions belong to the higher education system in Taiwan. For programs which fail in this review, there would be a penalty in the quota of student enrollment. The latest review of CPH by HEEACT was conducted in 2009.

NTU, as began to conduct its self-initiated reviews to evaluate colleges more than ten years

ago, is the first university in Taiwan which conducts the university-initiated review. This review is conducted every five years and focuses on self-improvement and consists of four parts: background evaluation, input evaluation, process evaluation, and outcome evaluation. Background evaluation includes the mission, organization structure, and governance. Input evaluation includes personnel, physical environment, and financial support. Process evaluation includes teaching, research and service. Outcome evaluation includes publication, and student performance. From 2013, in order to improve the quality and independence of the universities, institutions which pass the university-initiated review will be waived from the HEEACT Review.

CPH has lately past the university-initiated review on March, 2013. The Assessment Committee included: John R. Finnegan, Jr. (Dean of School of Public Health, University of Minnesota), Martin Philbert (Dean of School of Public Health, University of Michigan), Ayman El-Mohandes (Dean of College of Public Health, University of Nebraska Medical Center), Soonman Kwon (Dean of Graduate School of Public Health, Seoul National University), Thomas T. H. Wan (Associate Dean for Research, College of Health and Public Affairs, University of Central Florida), and Masamine Jimba (Department of International Community Health, Graduate School of Medicine, University of Tokyo).

The 2013 Summary Review on CPH can be referred to Resource File 1.3.a.

Other NTU colleges also respond to specialized or professional accreditors. For example, College of Engineering encourages its departments and institutes to apply for accreditation from the Institute of Engineering Education Taiwan (IEET) since 2005. College of Management passed the accreditation from the Association to Advance Collegiate Schools of Business (AACSB) in 2009 and renewed the status in 2015.

# 1.3.b. One or more organizational charts of the university indicating the school's relationship to the other components of the institution, including reporting lines.

CPH is one of the 11 colleges in NTU. The relationship between CPH and the other components in NTU, as well as its reporting line, is shown in Figure 1.3.b. (An independent image can be referred to Resource File 1.3.b.) CPH reports to the President of NTU directly. Within the Medical Campus, there are Division offices of Academic Affairs, Student Affairs, and General Affairs which will provide administrative support for CPH so that CPH can minimize the number of administration personnel.

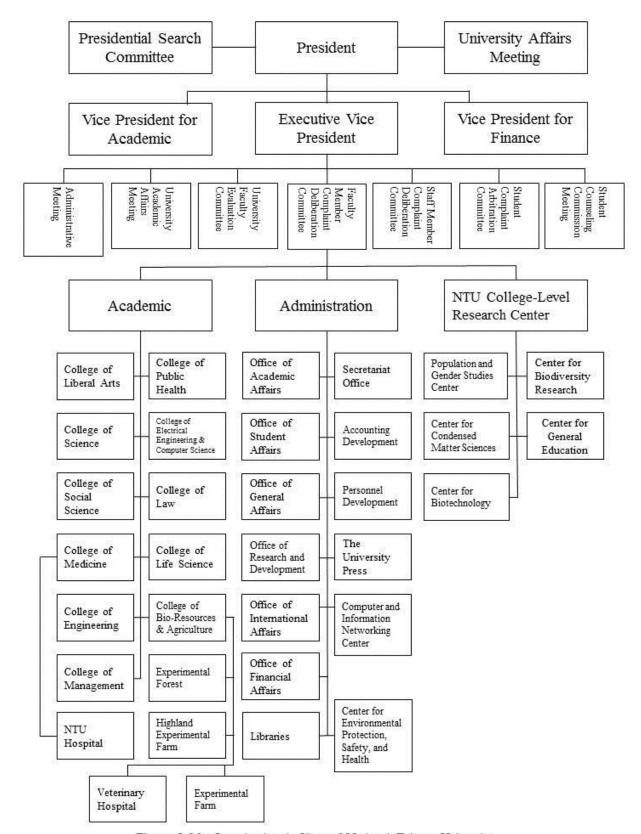


Figure 1.3.b. Organizational Chart of National Taiwan University

# 1.3.c. Description of the school's level of autonomy and authority regarding the following:

- Budgetary authority and decisions relating to resource allocation
- Lines of accountability, including access to higher level university officials
- Personnel recruitment, selection and advancement, including faculty and staff
- Academic standards and policies, including establishment and oversight of curricula

The dean holds the power and duties of decision making regarding the development and proposal of the annual operating budget, allocating resources, procuring financial contributions, titles, creating programs or units, and recruitment much like the deans of other schools and colleges. This authority is protected by University Council bylaws that ensure schools remain autonomous in the procedure and decision making of the following processes:

# Budgetary authority and decisions relating to resource allocation

The CPH Financial Committee decides the rules and allocates the budgets from the university and overhead from research projects. The composition of College Financial Committee includes 15 members: 1) Associate Dean, department chair, and institute directors; 2) three representatives elected among faculty members, with a discipline division having one member represented.

# Lines of accountability, including access to higher level university officials

The dean acts as the chief executive officer of the independent and self-governed CPH. Like all deans, the dean participates in direct interactions with the president on some issues and university-level strategic planning. The dean is also responsible for all faculty and student activities, academic business, and resource allocation decisions under CPH.

## Personnel recruitment, selection and advancement, including faculty and staff

Based on the general regulation of the University, Faculty Evaluation Committee at the College and DPH level are fully engaged in the process of faculty recruitment and advancement.

The composition of College Faculty Evaluation Committee includes 15 members: 1) dean, associate deans, department chair, and institute directors; 2) elected among faculty members, with a discipline division having at least two members represented. In this way, the broad disciplines of public health are sufficiently represented in the final College Faculty Evaluation Committee. For DPH Faculty Evaluation Committee, it is composed of 7 members, including Department Chair and two elected representatives from each discipline division.

Staff recruitment is being handled by each component of CPH. There will be an ad hoc recruit committee composed of three to four faculty members reviewing the CV/s and interview the candidates. Based on the opinion from the ad hoc committee, the Dean or chairperson/director will make the final decision.

# Academic standards and policies, including establishment and oversight of curricula

In addition to the minimum academic standards and requirements set by the university, CPH has the prerogative to develop college-specific policies that reflect our goals and missions. For instance, the university standards require completion of minimum course credits set for each degree, English proficiency requirement, as well as a thesis or dissertation for graduate and Ph.D degrees to be qualified for graduation. Like other schools, each institute and department under CPH can further raise the standards by adding in additional requirements. Additional requirements may include a requirement for practicum experience, a higher academic score, or independent studies. Departments and institutes can raise the requirement that exceeds the minimum standards, but never lower or remove the minimum standards set by the university.

The courses offered by each department and institute must receive approval from the CPH curriculum committee. Addition and dropping of any degree program, on the other hand, must receive approval by the university's curriculum committee, university council, followed by the president.

1.3.d. Identification of any of the above processes that are different for the school of public health than for other professional schools, with an explanation.

The university practices described in 1.3.c apply to all schools within NTU, including CPH.

1.3.e. If a collaborative school, descriptions of all participating institutions and delineation of their relationships to the school.

CPH is not a collaborative school. This category does not apply here.

1.3.f. If a collaborative school, a copy of the formal written agreement that establishes the rights and obligations of the participating universities in regard to the school's operation.

CPH is not a collaborative school. This category does not apply here.

1.3.g. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

- 1. CPH is anchored in a mature and well-respected accredited institution of higher education.
- 2. CPH has the needed level of independence and status necessary for operation and accreditation.
- 3. The administration and personnel management system are well established and functioning.

# **Challenges:**

Number of staff is limited at both the level of CPH and DPH/Institute. Some of the business is supported by the administrative division at medical campus, but still there are many administrative routines to be handled.

### **Plans:**

- 1. Involve part time student assistants in supporting some of the administrative business.
- 2. Enhance information system to handle paper works and communicate among faculty/staff members.

## The criterion is met.

### 1.4 ORGANIZATION AND ADMINISTRATION

The school shall provide an organizational setting conducive to teaching and learning, research and service. The organizational setting shall facilitate interdisciplinary communication, cooperation and collaboration that contribute to achieving the school's public health mission. The organizational structure shall effectively support the work of the school's constituents.

1.4.a. One or more organizational charts showing the administrative organization of the school, indicating relationships among its component offices, departments, divisions or other administrative units.

The organizational structure of CPH, including the relationships among its component offices, departments, divisions or other administrative unit, is shown in Figure 1.4.a.

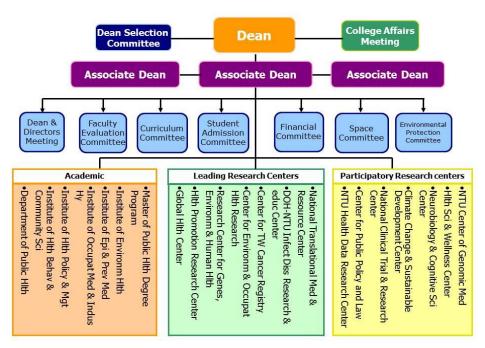


Figure 1.4.a. The organization chart of College of Public Health, NTU

### 1.4.b. Description of roles and responsibilities of major units in the organizational chart.

## The Leadership of CPH

Overall governance of CPH is the responsibility of the Dean. Three associate deans are designated by the Dean: 1) Associate Deans for Academic Affairs: assist the business planning, instructional and administrational operation of Department of Public Health (DPH), also serve as the head; 2) Associate Dean for Finance, Research and Global Health: assist the running of Financial Committee and the business planning, instructional and administrational operation of Global Health

Center, also serve as its Director; 3) Associate Dean for Practice: assist the business planning, instructional and administrational operation of MPH program, also serve as the head.

Under the college policies, the Dean can delegate responsibilities to other staff members and consult with the whole faculty. The office of academic affairs, student affairs, and general affairs also have division offices in the Medical Campus, which will assist CPH to process related issues so that CPH can minimize its number of administration personnel.

For the academic, CPH currently has five institutes, one MPH program, and one undergraduate department (Department of Public Health). The consolidation of Institute of Occupational Medicine and Industrial Hygiene and Institute of Environmental Health is also initiated. The chairpersons of these units are all professors and are responsible for carrying out the policies decided by the university or the CPH. Specific roles of these Chairpersons include initiating the recruitment process of faculty members, assisting junior faculty members, planning and executing student recruitment activities, increasing the number of applications, ensuring courses are organized and taught according to predetermined standards, and understanding the need of students and providing assistance.

CPH also has seven leading research centers, including: 1) Health Promotion Research Center; 2) Center for Environmental and Occupational Health Research; 3) Research Center for Genes, Environment and Human Health; 4) Global Health Center; 5) Center for Taiwan Cancer Registry; 6) DOH-NTU Infectious Diseases Research and Education Center; and 7) National Translational Medicine Resource Center. Established in response to indigenous health needs, these centers are engaged in activities of research and services provision that focus on specific issues in Taiwan. As for the participatory research centers, they are organized by academic institutes outside of CPH, each of which having at least one CPH faculty members participating in as researchers.

Table 1.4.b. Academic Units and the Degrees Offered

Academic Units	Degrees Offered
Department of Public Health	BS
Master of Public Health Program	MPH
Institute of Epidemiology and Preventive Medicine	MS, PhD
Institute of Environmental Health	MS, PhD
Institute of Occupational Medicine and Industrial Hygiene	MS, PhD
Institute of Health Policy and Management	MS, PhD
Institute of Health Behaviors and Community Sciences	MS

## The Election and Term of the Dean

The current procedure of selecting the dean of CPH is through a searching committee of 9 members, of which 8 members (5 from inside the college and 3 from outside the college) are voted for by all the CPH faculty members and 1 member is designated by NTU President. After forum

discussion on college developments and private interview with potential candidates, the search committee then recommends two to three suitable candidates to NTU President, and the President will make the final decision. The term of the deanship is 3 years. A dean may continue his/her second term subject to a popular vote by all the faculty members, which is handled by the College Affair Committee. Once the incumbent dean gains more than half of the votes supporting this motion, the dean can stay in the office for a second term. Each faulty member can only serve for 2 consecutive terms as the dean.

Since the developmental needs of the college have been discussed in the forum during the search process, the chosen dean usually is aware of these opinions. In general, this mechanism works quite well for us in terms of meeting the developmental needs of the college.

# 1.4.c. Description of the manner in which interdisciplinary coordination, cooperation and collaboration occur and support public health learning, research and service.

Interdisciplinary cooperation and collaboration in different respects are generally promoted and supported by CPH. Twice a year (usually in February and September), CPH holds retreats for all the faculty members and staffs, who can in the retreats have deeply discussions about CPH development, experience about instruction, and cooperation in research and service.

To support public health learning, all the curricula and corresponding core competencies for degree programs are overseen by a college-wide Curriculum Committee, in which the members are from all the CPH department and institutes. And there are courses, such as Public Health: Perspective and Prospect (MPH7009) and Introduction to Public Health (PH1008), instructed by interdisciplinary faculty groups to offer students more comprehensive knowledge of public health. Besides, CPH has nearly 70 adjunct and joint appointment faculty. They also provide profound perspectives from various academic areas and community-based practice.

To support public health research, CPH has seven leading research centers to provide opportunities for interdisciplinary cooperation. The centers, with which CPH faculty members are integrally involved, are: (1) Global Health Center, (2) Center for Health Promotion, (3) Research Center of Genes, Environment, and Human Health, (4) Center of Environmental and Occupational Health, (5) Center of Taiwan Cancer Registry, (6) DOH-NTU Infectious Diseases Research and Education Center, and (7) Taiwan Clinical Trail Bioinformatics and Statistical Center, Training Center, and Pharmacogenomics Laboratory (also shown in Figure 1.4.a). One of the main tasks for these centers is the promotion of collaborated or integrated research and projects and cooperated service activities. Dean's office also organizes luncheon inviting faculty members from different institutes to have dialogue over the lunch and perhaps provide opportunities to have collaborations. In order for faculty members to share their latest findings, CPH provides two kinds of platforms. To share the information to the public to draw their attention, CPH will provide press conference

inviting news media to cover the story. To share the information to other professionals, CPH will invite faculty members to share their latest findings or research ideas to professors and students in the Global Hall and encourage discussions.

To support public health services, CPH encourages and supports the Public Health Service Team organized by undergraduate students during summer time. Each year, students will identify a location to practice epidemiology survey, environmental survey, health education and behavioral changing and data analyses. Not only faculty members from different disciplines will participate in the planning and execution of the activity, but also local health authority will collaborate by providing basic health statistics and suggesting major areas of health problems that should be monitored and analyzed. The final report will be presented to the local health authority for further interventions. In addition, Professor Hsiu-Hsi Chen, faculty of the Institute of Epidemiology and Preventive Medicine, has been assisting various local health authorities to establish Community Integrated Screening for many years. Under the cost-effective approach, many residents with early symptoms/signs of disease were identified and referred to hospitals for appropriate treatment.

Aside from the interdisciplinary coordination within CPH described above, CPH also cooperates in instruction, research and service with other colleges (mostly with College of Medicine) in NTU. For instruction, institutes have adjunct professors with other colleges or provided courses jointly taught with professors from other colleges. For example, Professor Chien-Chan Wu of College of Medicine offers the course of Medical Ethics. Faculty from Institute of Epidemiology and Preventive Medicine also provide courses in Master Program in Statistics and Infectious Disease Program. As an integrated program, the Master Program in Statistics is administered by NTU and offers master degree. The Infectious Disease Program is a non-degree program offering courses to current NTU undergraduate and graduate students, designed and managed by DOH-NTU Infectious Diseases Research and Education Center, CPH. Both of the two programs are supported by CPH with College of Medicine, College of Life Science, and College of Bioresources and Agriculture, etc.

Some CPH faculty members also participate in research or service projects with faculty and scholars of other NTU colleges. In addition, Prof. Ping-Chen Hsiung at Chinese University of Hong Kong offers "the Historical and Cultural Context of Health Behavior" every year since 2013. Because the course received excellent respond from students, CPH signed a MOU with CUHK in 2016 to establish tighter collaboration.

1.4.d. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

- 1. CPH is able to draw on well-established systems within the university.
- 2. CPH participates in, initiates, encourages, and promotes a wide range of interdisciplinary

- curricular, research, and service activities with partners from the wider University community, within the college and the local and regional community.
- 3. CPH houses or participates in over 14 research centers. These research centers provide environments that promote cutting-edge, interdisciplinary, and inter-institutional efforts to create and disseminate new knowledge.

# **Challenges:**

Interdisciplinary curricular, research, and service activities often involve a struggle to develop the stable infrastructure and financial support which are required to be succeeded over the long term.

#### Plans:

- 1. The Institute of Health Behavior and Community Sciences were just established recently. Recruiting new faculty continuously will be a high priority. The merging of the current Institute of Occupational Medicine and Industrial Hygiene and Institute of Environmental Health is under planning. There is a continuous discussion on increasing the faculty size to expand the research fields.
- 2. CPH will continue to integrate more closely between different institutes into its interdisciplinary strategies. Administrative systems also will be enhanced to facilitate the information exchange across various programs.

The criterion is met.

#### 1.5 GOVERNANCE

The school administration and faculty shall have clearly defined rights and responsibilities concerning school governance and academic policies. Students shall, where appropriate, have participatory roles in conduct of school and program evaluation procedures, policy setting and decision making.

1.5.a. A list of school standing and important ad hoc committees, with a statement of charge, composition and current membership for each.

The CPH operations are managed by a variety of committees, which are usually chaired by the Dean except Financial Committee. The organizational structure of CPH involves wide faculty representation in different committees to address administrative issues such as resources, recruitment, retention and tenure of staff, professional development, and student services, and more importantly the strategy for the institute to achieve world-class status in terms of research and teaching. This task is carried out by standing committees as follows: 1) Dean & Directors Meeting; 2) Faculty Evaluation Committee; 3) Curriculum Committee; 4) Financial Committee; 5) Space Committee; 6) Environmental Protection Committee; and 7) Student Admission Committee. All the committee members serve for one year and the current organizational structure works quite well. The qualification and experience for the new positions must be approved by the task force. The office of academic affairs, student affairs, and general affairs also have division offices in the Medical Campus, which will assist CPH to process related issues so that CPH can minimize its number of administration personnel. In principle, all the committees that have non-director members are renewed in each academic year, mostly by anonymous vote.

# The Election and Term of the Dean

The current procedure of selecting the dean of CPH is through a searching committee of 9 members, of which 8 members (5 from inside the college and 3 from outside the college) are voted for by all the CPH faculty members and 1 member is designated by NTU President. After forum discussion on college developments and private interview with potential candidates, the search committee then recommends two to three suitable candidates to NTU President, and the President will make the final decision. The term of the deanship is 3 years. A dean may continue his/her second term subject to a popular vote by all the faculty members, which is handled by the College Affair Committee. Once the incumbent dean gains more than half of the votes supporting this motion, the dean can stay in the office for a second term. Each faulty member can only serve for 2 consecutive terms as the dean.

Since the developmental needs of the college have been discussed in the forum during the search process, the chosen dean usually is aware of these opinions. In general, this mechanism works quite well for us in terms of meeting the developmental needs of the college.

# **College Affair Meeting**

## Charge:

Review and discuss issues arising within the college and university, including academic regulations, instruction affairs, resource allocation strategy, general affairs, and student affairs. Amendments to administrative regulations for faculty, staff, and students must be reviewed and approved by College Affair Meeting.

# Frequency of Meeting:

The College Affair Meeting is held every three months. Minutes of College Affair Meeting can be referred to 1.5.a.(1).

## Composition:

Dean, Associate Deans, all of the Directors of institutes, elected faculty representatives, administrative staff, and two representatives from student body (one undergraduate student and one graduate student). The committee meets at least two times per semester, and can be held any time if necessary. CPH has a tradition to invite all faculty members to participate in the final meeting at the end of each semester to have broad discussion and feedback on the affairs of college.

## Current Membership:

Dean Wei J. Chen, Assoc. Dean Yaw-Huei Hwang, Assoc. Dean Chang-Chuan Chan, Assoc. Dean Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen, Prof. Gen-Shuh Wang, Prof. Chi-Tai Fang, Prof. Wei-Chu Chie, Prof. Tsun-Jen Cheng, Prof. Chuhsing Kate Hsiao, Prof. Yawen Cheng, Assoc. Prof. Hsien-Ho Lin, Prof. Yu-Kang Tu, Assoc. Prof. Jiun-Hau Huang, Assoc. Prof. Yu-Chi Tung, Miss Shan-Yann Pai (teaching assistant), and two student representatives (named by the two student associations).

# **Dean & Directors Meeting**

### Charge:

Discuss issues across department and institutes within the college. Develop strategies for the college to achieve world-class status in terms of research and teaching. Set the short-term and the long-term goals.

# **Composition:**

Dean, Associate Deans, and Directors of institutes.

## Frequency of Meeting:

The meeting is held once a month. Minutes of Dean & Directors Meeting can be referred to 1.5.a.(2).

# <u>Current Members of Dean & Directors Meeting:</u>

Dean Wei J. Chen, Assoc. Dean Yaw-Huei Hwang, Assoc. Dean Chang-Chuan Chan, Assoc. Dean Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen.

## **Faculty Evaluation Committee**

## Charge:

Issues about faculty recruitment and appointment, faculty promotion evaluation, as well as faculty code of conduct and disciplinary procedure.

# **Composition:**

1) Dean, associate deans, department chair, and institute directors; 2) Elected among faculty members, with a discipline division having at least two members represented. In this way, the broad disciplines of public health are sufficiently represented in the final College Faculty Evaluation Committee.

# Frequency of Meeting:

The Faculty Evaluation Committee is held on a yearly schedule for faculty promotion evaluation, with seven meeting sessions.

# **Current Membership:**

Dean Wei J. Chen, Assoc. Dean Yaw-Huei Hwang, Assoc. Dean Chang-Chuan Chan, Assoc. Dean Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen, Prof. Ming-Whei Yu, Prof. Ray-E Chang, Prof. Ching-Wen Chang, Prof. Tsun-Jen Cheng, Prof. Chuhsing Kate Hsiao, Prof. Yawen Cheng.

# **Curriculum Committee**

## Charge:

Design required and elective courses. Periodically review syllabi, as well as review and approve changes to courses.

# Composition:

Within CPH, there are two levels of Curriculum Committee: department/institute level and college level. The College Curriculum Committee consists of Dean, Directors and representatives of student body (one undergraduate and one graduate), with Dean as the chair of the Committee. Sometimes other students as well as alumni are invited to attend the meeting for the discussion of the courses they are directly involved or proposed by them. For the department/institute Curriculum Committee, they are either the same as the Affair Committee or a separate committee, but all include student representatives. Thus, students in CPH can not only participate in the Curriculum Committee meeting but also make proposals for discussion. Their participation is well respected.

## Frequency of Meeting:

The Curriculum Committee is held every three months. Minutes of Curriculum Committee Meeting can be referred to 1.5.a.(3).

# **Current Membership:**

Dean Wei J. Chen, Assoc. Dean/Director Yaw-Huei Hwang, Assoc. Dean/Director Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen, Ya-Ling Hsu (the chairperson of CPH Graduate Student Association), Tzu-Yan Su (the chairperson CPH Student Association).

#### **Financial Committee**

# Charge:

Review and approve budget of CPH. Allocate budget for purchasing teaching equipment or facilities.

# **Composition:**

Elected among faculty members, chaired by Associate Dean for Research and Global Health

## Frequency of Meeting:

The Financial Committee is held every three months.

# **Current Membership:**

Assoc. Dean Chang-Chuan Chan, Assoc. Dean Yaw-Huei Hwang, Assoc. Dean Ming-Chin Yang, Director Pau-Chung Chen, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Kuo-Liong Chien, Prof. Ray-E Chang, Assist. Prof. Jia-Kun Chen, Assist. Prof. Raymond N. Kuo, Assist. Prof. Wan-Yu Lin.

# **Space Committee**

#### Charge:

Allocate space, and develop strategies for optimizing space utilization.

## **Composition:**

Dean, Associate Deans, Department Chair, Institute Directors, and representatives of student body (one undergraduate and one graduate).

## Frequency of Meeting:

The Space Committee is held every three months.

# **Current Membership:**

Dean Wei J. Chen, Assoc. Dean/Director Chang-Chuan Chan, Assoc. Dean/Director Yaw-Huei Hwang, Assoc. Dean/Director Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsai, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen,

Ya-Ling Hsu (the chairperson of CPH Graduate Student Association), Tzu-Yan Su (the chairperson of CPH Student Association).

#### **Student Admission Committee**

## Charge:

(1) The administrative work for graduation admission via recommendation and examination; (2) The administrative work for foreign students and overseas Chinese students; (3) Arranging regulations and operation details for the examination; and (4) Develop strategies for recruit talented students.

# **Composition:**

Dean, Associate Deans, and Directors. A common rule to avoid conflict of interest is that if a third-degree or closer relative of any member of the Committee is applying for a program, that member should excuse himself or herself from attending the meeting of the Student Admission Committee of the program.

# Frequency of Meeting:

The Student Admission Committee is held every four months. Minutes of Student Admission Committee can be referred to 1.5.a.(4).

# **Current Membership:**

Dean Wei J. Chen, Director Yaw-Huei Hwang, Director Ming-Chin Yang, Director Kuo-Piao Chung, Director Shih-Wei Tsa, Director Pau-Chung Chen, Director Kuo-Liong Chien, Director Duan-Rung Chen.

# 1.5.b. Description of the school's governance and committee structure's roles and responsibilities relating to the following:

- General school policy development
- Planning and evaluation
- Budget and resource allocation
- Student recruitment, admission and award of degrees
- Faculty recruitment, retention, promotion and tenure
- Academic standards and policies, including curriculum development
- Research and service expectations and policies

# **CPH Policy Development**

CPH operates within the legal and administrative framework of NTU College-wide policies are first proposed and discussed during the College Affair Meeting. After approval, these policies are passed to the Dean & Director Committee to further consult with the director of each institute to

develop the policy. Depending on the subject of the policy, relevant committees may hold meetings on their own to express their opinions on the subject. The final developed policy would still require approval from the College Affair Meeting.

# **Planning and Evaluation**

Similar to policy development described above, issues on planning and evaluation undergo several discussions from both the College Affair Meeting and the Dean & Director Committee. Each committee is also in charge of planning and evaluation on subjects that they are responsible of.

# **Budget and Resource Allocation**

The Financial Committee of college level is responsible of planning and allocating the resource and budgets within CPH on the basis of some criteria such as the nature of collaboration, the funding sum of the project, and teaching loading. Each institute reports directly to the financial committee regarding the budget usage as well as any request of the purchasing of equipment, additional resource, or maintenance.

More detailed description of budget allocation can be referred to 1.6.a.

# Student Recruitment, Admission and Award of Degrees

Within CPH, there are two levels of admission committee: department/institute level and college level. The committee follows the schedule and details designated by the Office of Academic Affairs of NTU. For DPH and individual institutes, their Student Admission Committee is usually composed of a certain number of faculty members elected by the faculty of the unit, and is chaired by the unit director, as specified in their Organization Guidelines of the Student Admission Committee. The composition and operation of the committee are guided by Organization Guidelines of DPH/Institute Student Admission Committee. For the composition of College Student Admission Committee, it can be referred to 1.5.a.

Award of degrees is based on requirements established by the department and the institutes, as well as the university. The requirements are published on the websites and student handbooks each academic year to guide the successful degree completion of enrolling students. Degrees are formally granted by CPH and the university based on recommendations from the department and the institutes.

## Faculty Recruitment, Retention, Promotion and Tenure

According to the requirements of NTU, CPH set criteria for recruiting new faculty, and two level of DPH/College Faculty Evaluation Committee members are fully engaged in the process of faculty recruitment and appointment. The composition of the College Faculty Evaluation Committee can be referred to 1.5.a. The committee managed to include members elected among faculty members, with a discipline division having at least two members represented, so that the broad

disciplines of public health are sufficiently represented in the final College Faculty Evaluation Committee. For DPH Faculty Evaluation Committee, it is composed of dean, associate deans, department director, institute directors, and seven elected faculty representatives.

Since CPH adopts a dual-affiliation system. Each faculty is simultaneously appointed to DPH (undergraduate education) and one of the graduate institutes/programs (i.e. MPH, OMIH, EPM, EH, HPM, and HBCS). Therefore, the recruitment of new faculty needs a very close interaction among different teaching units. Briefly, the processes can be summarized as follows:

- 1) The opening position is announced worldwide via newspapers (domestic and overseas) and various web sites.
- 2) The applicants are evaluated based on the criteria set by the faculty evaluation committee of recruiting institute, including their teaching ability and research potentials.
- 3) The promising top candidates (at least three) are invited to the campus for interviews and a formal talk. All of the faculty members of the recruiting institute and the college's Faculty Evaluation Committee members are invited to attend the talk. A Recruiting Committee will make a recommendation order and subject it to the Faculty Evaluation Committee of DPH.
- 4) The Faculty Evaluation Committee of DPH will vote on the final list and select some of the best for outside review.
- 5) The vote number and outside experts' comments will be sent to the College Faculty Evaluation Committee. The College Faculty Evaluation Committee will seek further outside experts' review and then make the final decision by voting. A new recruit has to get the majority vote of the Committee.
- 6) A final step will be determined in University Faculty Evaluation Committee, which tends to be procedural inspection. Only after passing this committee, the recruitment becomes final.

Once recruited, the faculty reviews will guide the retention process (every 3 years for the assistant professor level, and every 5 years for the associate and full professor levels). Promotion process is overseen by CPH's Promotion Committee in accordance with bylaws, discipline-specific criteria and university guidelines. Please refer to Resource File 1.5.c, Resource File 4.2.a, as well as Criteria 4.2.b and 4.2.c for the bylaws and other policy documents.

## **Academic Standards and Policies**

As described in 1.5.a, the design of both required and elective courses provided by CPH is under the supervision of Curriculum Committee. There are two-way interactions between department/institute Curriculum Committee and college Curriculum Committee. On one hand, the department/institute Curriculum Committee reviews first any proposed courses, and then send them for further reviewing to College Curriculum Committee, which will make sure the proposed courses meet the educational goals and features of the college. On the other hand, College Curriculum Committee can set up certain directions in curriculum design and ask department/institute-level

Curriculum Committee to come up with the requested courses.

Whether the required and elective courses meet the educational goals of CPH is reviewed continuously by the Curriculum Committee on the basis of students' scoring in teaching evaluation as well as alumni's feedback. As CPH set new goals, relevant courses will be designed. Four institutes will provide six specific courses taught in English, using research findings by Taiwanese researchers as course examples. The objectives of these courses are to promote international collaboration, particularly in the Asian Pacific Region.

# Research and Service Expectations and Policies

Faculty evaluation committee sets desired performance criteria in addition to the minimum requirements set by the university standards. The measured outcomes of research and service results are reviewed by the committee to evaluate current policy and progress.

# 1.5.c. A copy of the school's bylaws or other policy documents that determine the rights and obligations of administrators, faculty and students in governance of the school.

Most of the CPH policies are made and carried out by different college-level committees. In these committees, faculty and student representatives are standing members, aside from the directors.

The bylaws and other policy documents are included in the Resource File 1.5.c. The following is the list of those documents:

- 1.5.c.(1) The Dean Election Rules
- 1.5.c.(2) Curriculum Committee Establishment Guidelines
- 1.5.c.(3) Faculty Board Meeting Organization Rules
- 1.5.c.(4) Faculty Evaluation Committee Establishment Rules
- 1.5.c.(5) Newly Recruited Teacher Appointment Operation Guidelines
- 1.5.c.(6) Teacher Evaluation Rules
- 1.5.c.(7) Teacher Appointment and Promotion Review Rules
- 1.5.c.(8) Teachers Promotion Research Project Review Criteria
- 1.5.c.(9) Teacher Post Allocation Rules
- 1.5.c.(10) Building Management Committee Establishment Rules

# 1.5.d. Identification of school faculty who hold membership on university committees, through which faculty contribute to the activities of the university.

The faculty members have been involved in a variety of college and university running, either

via voting or being appointed by the Chair/directors or Dean. Faculty usually is appointed based on their profession or position in the unit which can meet the requirements of college-level or university-level committees and task force. Besides, as CPH and College of Medicine are located nearby and both are outside the main campus of NTU, some joint committees are established to run affairs for both colleges. Therefore, comparing with other colleges in NTU, the loading of CPH faculty serving nonacademic affairs might be relatively higher than that of other colleges' faculty.

Table 1.5.d lists CPH faculty members as membership on university meetings and committees during 2015-2016 academic year. The term for every membership varies according to the provisions of each meeting or committee.

1.5.d. List of CPH Faculty as Membership in University-Level Meetings/Committees, updated in 2016

University-Level Meetings/Committees	<b>CPH Faculty as Membership</b>			
	Prof. Yaw-Huei Hwang			
NTU Administrative Meeting	Prof. Kuo-Liong Chien			
校務會議	Prof. Chang-Chuan Chan			
	Prof. Yawen Cheng			
NTU Curriculum Committee	Dock Warre Hand Harring			
課程委員會	Prof. Yaw-Huei Hwang			
NTU Faculty Evaluation Committee	Due f Due a Due a Chan			
校教評會	Prof. Duan-Rung Chen			
Administration Quality Evaluation Committee	Assas Duef Mine Chin Vene			
行政品質評鑑委員會	Assoc. Prof. Ming-Chin Yang			
Campus and Building Space Allocation Team	Duef Chine Was Chang			
校園校舍空間分配小組	Prof. Ching-Wen Chang			
Faculty Grievances Committee	Dust Chie Vens Chan			
教師申訴評議委員會	Prof. Chia-Yang Chen			
Student Guidance Committee	Assoc. Prof. Po-Hsio Kuo			
學生輔導委員會	Assoc. Prof. Po-Hsio Kuo			
Student Disciplinary Committee	Assa Dust China V. Lin			
學生獎懲委員會	Assoc. Prof. Ching-Yu Lin			
NTU Student Admission Committee	Prof. Yaw-Huei Hwang			
招生委員會	Prof. Shih-Wei Tsai			
Outstanding Collegians Selection Committee	And Doof Was Valle			
優秀青年遴選委員會	Asst. Prof. Wan-Yu Lin			
General Education Curriculum Committee	Deaf Von Herring			
共同教育中心課程委員會	Prof. Yaw-Huei Hwang			
Library Committee	A Deef Here Here			
圖書委員會	Assoc. Prof. Hung Hung			

University-Level Meetings/Committees	CPH Faculty as Membership		
Environmental Protection and Occupational Safety and Health Committee	D C CI E W		
環境保護暨職業安全衛生委員會	Prof. Chang-Fu Wu		
Global Change Research Center Advisory Committee	D C C CL 1 W		
全球變遷研究中心諮詢委員會	Prof. Gen-Shuh Wang		
Outstanding Advisors Selection Committee	Acces Deef Mine Chin Vene		
優良導師評選委員會	Assoc. Prof. Ming-Chin Yang		
NTU Newsletter Editorial Committee	Durf Dan E Chang		
NTU Newsletter 編輯委員	Prof. Ray-E Chang		
Radioprotection Management Committee	Due f. Change for Wes		
輻射防護管理委員會	Prof. Chang-fu Wu		
Toxic Chemicals Operation and Management Committee	Acces Deef Chine Verlin		
毒化物運作管理委員會	Assoc. Prof. Ching-Yu Lin		
Trademark Management Committee	Draf Vya Diag Chung		
商標使用管理委員會	Prof. Kuo-Piao Chung		
"The Hope Project of Studying" Assistantships Review Committee	Assoc Buof Mina Chin Vona		
希望助學金審查委員會	Assoc. Prof. Ming-Chin Yang		
Graduate Scholarships and Assistantships Review Committee	Drof Chay Hais Chang		
研究生獎助金審查委員	Prof. Shou-Hsia Cheng		
International Affairs Committee	Duet Chang Chang Chan		
國際事務委員會	Prof. Chang-Chuan Chan		
Recruitment Policy Development Team	Doof Von Huel Huge		
招生策略研究小組	Prof. Yaw-Huei Hwang		
Outstanding Service Award Selection Committee	Prof. Wei J. Chen		
傑出服務獎遴選委員會	rioi. Wei J. Chen		
Service Course Review Committee	Assoc Duef China Varia		
服務課審查委員	Assoc. Prof. Ching-Yu Lin		

# 1.5.e. Description of student roles in governance, including any formal student organizations.

# **Students' Involvement in CPH Committees**

CPH actively invites students to participate in its governance. For instance, some major committee groups in CPH, such as the College Affair Meeting, Curriculum Committee and Space Committee are required to have at least two student representatives (one for graduate students and the other for undergraduate students) present at each meeting to ensure their voices are heard. The student representatives are recommended through student societies such as CPH Graduate Student Association and CPH Student Association. The names of student representatives in committees are

listed in 1.5.a.

Oct. 2016

Furthermore, committees of department and institutes are also required to have at least one student representative present at the meetings under CPH policy.

## **CPH Graduate Student Association**

CPH Graduate Student Association represents graduate students across all the disciplines in college, composed of representatives from master's and doctoral students of the graduate programs in CPH, including Institute of Epidemiology and Preventive Medicine (MS, PhD), Institute of Health Policy & Management (MS, PhD), Institute of Health Behavior and Community Sciences (MS), Institute of Environmental Health (MS, PhD), Institute of Occupational Medicine and Industrial Hygiene (MS, PhD) and Master Program of Public Health (MPH).

This association provides a means for graduate students to be involved in determining CPH's future planning, improving the quality of graduate student life, encouraging the highest quality of graduate instruction, and otherwise enhancing the graduate student experience. Association members are chosen by a vote of students in their respective academic program and serve for a one-year term. Representatives serve as liaisons between their academic programs and the Association as a whole. Through regular meetings (about once every two months), open discussion, and committee work, the Association assesses issues of concern to the students they represent and brings forward recommendations to college administrators, Associate Deans, and the Dean.

#### **CPH Student Association**

CPH Student Association represents undergraduate students (namely, DPH students) and provides a means for undergraduate students to advocate for student interests to CPH and DPH administration, encourage higher quality of undergraduate instruction and student engagement opportunities, and otherwise enhance undergraduate student experience in college and in the community.

The associate members are chosen by a vote of DPH students and serve for one year. Representatives serve as liaisons between DPH and the Association as a whole. Through regular meetings (about once every two months), open discussion, and committee work, the Association assesses issues of concern to DPH students and brings forward recommendations to college administrators, Associate Deans, and the Dean.

Sample minutes of CPH Student Association General Meeting and CPH Student Association Personnel Meeting can be referred to Resource File 1.5.e.(1) and 1.5.e.(2).

## **Examples of Student Input in Governance**

Compared with long-established graduate institutes such as OMIH, EH, etc., MPH is a relatively new graduate program in CPH, and therefore, is allocated with much limited space. MPH students noticed that they lack self-study rooms, and made a formal request to CPH. Their request

was granted. Space was soon allocated for MPH students.

# 1.5.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

CPH has an effective administrative structure. Faculty play important roles in the development and refinement of policies and procedures. Students are involved in governance at all levels.

# **Challenges:**

- 1. The promotion of faculty was restricted by NTU annual "Quota", which emphasizes personal performance and aims to increase the competitiveness of faculty. However, quota system cultivates inter-personal conflict between faculty, and discourages cooperative teamwork.
- 2. The faculty numbers is not sufficient. A high proportion of our faculty members are needed to serve on multiple college and university committees which is a burden for some. However, numbers of CPH faculty are regulated by NTU.

#### Plans:

- The quota system for CPH faculty promotion is now abolished by NTU, effective since 2016.
   CPH has completed the development of a set of objective criteria for faculty promotion that is consistent with the core values of CPH in 2015. The Year 2016 faculty promotion evaluation is now based on the new criteria.
- 2. NTU now approved five new faculty positions to CPH for a new institute (Institute of Behavior and Social Science) since autumn, 2015.

#### The criterion is met.

#### 1.6 FISCAL RESOURCES

The school shall have financial resources adequate to fulfill its stated mission and goals, and its instructional, research and service objectives.

1.6.a. Description of the budgetary and allocation processes, including all sources of funding supportive of the instruction, research and service activities. This description should include, as appropriate, discussion about legislative appropriations, formula for funds distribution, tuition generation and retention, gifts, grants and contracts, indirect cost recovery, taxes or levies imposed by the university or other entity within the university, and other policies that impact the fiscal resources available to the school.

The annual budget for CPH comes from two sources: budget allocated from university and budget from research grants.

## **Budget Allocated from University**

The university funding mainly comes from government and student tuition. Since NTU, as a public university, is central-government-funded to maintain a low tuition, the government is currently the major source of funding. The government funds are allocated to universities every year by the Ministry of Education, under the review and supervision of the Legislative Yuan (the congress of Taiwan).

All the university funding, including government funds and student tuition, is collected, kept and allocated by the University. There is also a budget coming from grants overhead. Research grants will provide facility & administrative cost (F&A cost), shared between university and colleges by a pre-specified ratio. The principle of allocation and the amount of budget for NTU colleges are discussed and decided in NTU Affairs Meeting. There are two major categories of funding allocated from the university, namely "Academic funds" and "Aim for Top University Project."

## (1) Academic funds:

This is a regular budget allocated to each college by the University on the basis of college size, including number of students and of academic units. The funds include two types of expenditures:

- Recurrent expenditure: for hiring personnel, teaching expense, and stipend for students.
- Capital expenditure: for purchasing equipment and books for instruction.

The allocation of capital expenditure is also based on numbers of students and faculty, which are regulated by the University, in response to the perceived need of society and trend in development. College can make a request for more faculty members if there is an increase in student size or some revision on education and research objectives. The University makes the final decision after taking all factors into consideration.

## (2) Aim for Top University Project:

This is a 5-year (first phase: 2006-2011; second phase: 2011-2016; second phase extension: 2017) special project funded by Ministry of Education to help recipient universities to improve their world ranking to the range of prestigious ones (e.g., within the Top 100).

The University allocates the funds according to proposals put forward by colleges. At the end of every year, Office of Research and Development, NTU, reviews the achievement reports of that year as well as the proposals of the following year, and decides the amount of budget for allocation.

# **Budget from Research Grants**

The faculty send proposals to grants bodies to obtain grants. The research grants provide facility & administrative cost (F&A cost), shared between college and university by a pre-specified ratio. Overseen by CPH Financial Committee, this source of fund can be used to pay the daily operation, maintenance, and equipment purchase. It also supports the expense of hiring research assistants and of having academic visits abroad. The Financial Committee allocates the budget on the basis of some criteria such as the nature of collaboration, the funding sum of the project, and teaching loading.

The main source of funding is Ministry of Science and Technology (MOST, formerly known as National Science Council). Funding except from MOST include central and local governments, such as the Ministry of Education, the Ministry of Health and welfare, the National Health Research Institutes, the Council of Labor Affairs, the Environmental Protection Administration, departments of public health and of environmental protection belonging to cities and counties, as well as private institutions and enterprises.

CPH also encourages and promotes the donation from alumni and private enterprise in recent years, under the Fiscal Resources Objective 1.2. The donated funds are usually identified by donors to some specific use, such as scholarship grants, certain research projects, or certain academic and service activities. However, the amount of donation is quite limited and most of them are on a one-time donation basis. Therefore, the amount of donation is not included in this report.

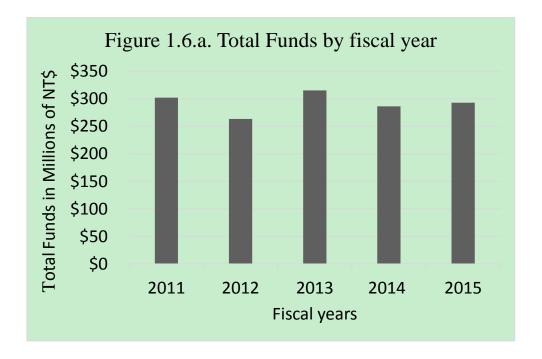
1.6.b. A clearly formulated school budget statement, showing sources of all available funds and expenditure by major categories, since the last accreditation visit or for the last five years whichever is longer. This information must be presented in a table format as appropriate to the school. See CEPH data template 1.6.1.

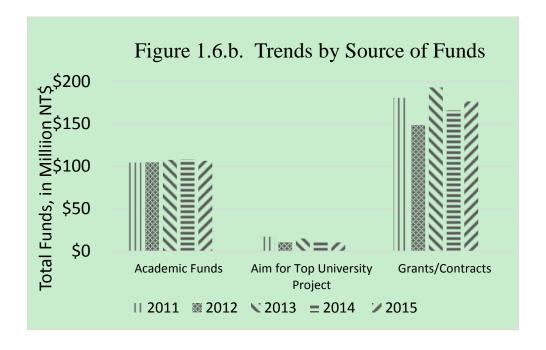
The CPH budget information from 2011 to 2015 can be referred to Table 1.6.b.(1) to Table 1.6.b.(3) and Figures 1.6.b.(1) and 1.6.b.(2).

As shown in Table 1.6.b.(1), the Academic funds ranged from about 104 million NT dollars to

108 million NT dollars in the five years, with the major fluctuation due to whether some pieces of expensive equipment were granted by the university. The general trend of university-allocated budget is relatively stable. However, the budget from "Aim for Top University Project" showed a decreasing trend. (Figure 1.6.b.(2))

The second part of the annual budget for CPH is the budget from research grants. The total amount ranges from 148 to 192 million NT dollars, with some fluctuation across years (Figure 1.6.b.(2)). However, the number of research projects awarded to the faculty of CPH increased steadily from 106 in 2011 to 120 in 2015 (Table 1.6.b.(2) and Table 1.6.b.(3)).





# 2011-2015 College Budgets Inventory

Table 1.6.b.(1): University Allocated Budget (NT dollar)

Revenues	2011	2012	2013	2014	2015
Academic Funds	\$104,349,847	\$104,449,665	\$107,491,000	\$108,218,000	\$106,443,000
Aim for Top University Project	\$17,241,738	\$10,481,175	\$14,940,947	\$12,399,860	\$10,266,864
Grants/Contracts	\$180,583,469	\$148,550,869	\$192,913,077	\$165,819,663	\$176,240,560
Total	\$302,175,054	\$263,481,709	\$315,345,024	\$286,437,523	\$292,950,424
Expenditures					
Salaries and Benefits	\$82,389,372	\$88,112,961	\$90,886,595	\$90,728,896	\$87,940,254
Operations	\$29,874,885	\$18,350,405	\$20,379,336	\$17,934,964	\$17,682,610
Travel	\$1,687,328	\$1,186,690	\$1,072,016	\$1,190,000	\$1,176,000
Students Support	\$7,640,000	\$7,280,784	\$10,094,000	\$10,764,000	\$9,911,000
Grant and Contract Subcontracts	\$180,583,469	\$148,550,869	\$192,913,077	\$165,819,663	\$176,240,560
Total	\$302,175,054	\$263,481,709	\$315,345,024	\$286,437,523	\$292,950,424

## Notes:

<sup>1.</sup> Table excludes F&A funds.

<sup>2.</sup> The source of funds only includes the funds that were expended. It is not a full accounting of the revenue for a fiscal year.

Table 1.6.b.(2): The Budget from Research Projects or Special Grants by Department/Institutes (NT dollar)

Fiscal Year	2	<u>2011</u>	<u>2012</u>		<u>2013</u>		<u>2</u>	<u>014</u>	<u>2015</u>	
	Research		Research		Research		Research		Research	
Department/	Project		Project		Project		Project		Project	
Research Unit	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds
DPH	16	17,825,476	13	17,417,838	14	15,774,851	5	3,253,129	5	5,436,189
EPM	35	71,013,870	39	55,762,810	42	74,032,155	43	83,238,854	44	72,183,146
HPM	15	17,149,248	21	17,668,349	24	21,946,790	22	22,990,853	13	17,318,530
HBCS <sup>1</sup>									7	7,308,726
OMIH	28	62,379,825	28	46,818,995	25	55,296,621	26	36,987,827	33	54,888,277
EH	11	11,115,050	18	18,599,352	23	25,108,660	16	19,349,000	17	18,605,692
MPH	1	1,100,000	0	0	1	754,000	0	0	1	500,000
TOTAL	106	180,583,469	119	156,267,344	129	192,913,077	112	165,819,663	120	176,240,560

<sup>&</sup>lt;sup>1</sup>HBCS was independent from HPM in 2015.

Table 1.6.b.(3): The Source of Funds for Research Projects or Special Grants (NT dollar)

Fiscal Year	2	<u>2011</u>	<u>2012</u>		2	2013	20	014	<u>2015</u>		
	Research		Research		Research		Research		Research		
	Project		Project		Project		Project		Project		
Source of Funds	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds	Quantity	Total Funds	
MOST <sup>1</sup>	54	57,078,000	58	63,850,450	65	83,560,371	63	81,275,000	64	82,826,000	
other	52	123,505,469	61	92,416,894	64	109,352,706	49	84,544,663	56	93,414,560	
TOTAL	106	180,583,469	119	156,267,344	129	192,913,077	112	165,819,663	120	176,240,560	

<sup>&</sup>lt;sup>1</sup>MOST: Ministry of Science and Technology

1.6.c. If the school is a collaborative one sponsored by two or more universities, the budget statement must make clear the financial contributions of each sponsoring university to the overall school budget. This should be accompanied by a description of how tuition and other income is shared, including indirect cost returns for research generated by school of public health faculty who may have their primary appointment elsewhere.

CPH is not a collaborative school. This category does not apply here.

1.6.d. Identification of measurable objectives by which the school assesses the adequacy of its fiscal resources, along with data regarding the school's performance against those measures for each of the last three years.

Because the budget from research grants is the major and only resource that CPH can strive for, therefore, CPH identified the number and the amount of research grants as the objectives for assessing the adequacy of its fiscal resources, the data are below:

Table 1.6.d. Summary of the Measurements for Fiscal Resources

Objectives	Target	2013	2014	2015		
Maintain a sufficient number of		Number of pro	ject			
research grants to garner the	Above 100 projects	129	112	120		
overheads that can help support	each year.	Sum of grant (NT dollar)				
the infrastructure of the College.		192,913,077	165,819,663	176,240,560		
Increase the sum from private	Two million NT	607.275	2 224 000	1 154 700		
fundraising.	dollars per year.	607,375	2,334,000	1,154,700		

<sup>\*</sup>Due to the slowdown of Taiwan economy in 2013, the National Science Council (now Ministry of Science and Technology, MOST) research funding budget decreased in 2014, from 34.2 billion NT dollars (2013) to 32.7 billion NT dollars (2014). The improved economy in 2014 allowed the national research budget increased in 2015, to 37.7 billion NT dollars (2015).

1.6.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

- 1. CPH has a budget allocation that is steadily provided by the university.
- 2. All salary lines for faculty and the majority of staff are government funded.
- 3. Research funding has remained stable during a time of significant budget reductions at the research funding agencies.

# **Challenges:**

- 1. Although the university provides budget for operating the College, the increase rate does not meet the rapidly increasing need for new equipment and international collaborations. In order to enhance our research facilities and to provide financial support to encourage students to participate in international conferences, it requires stable source of funding. However, fundraising is somewhat challenging.
- 2. Obtaining research funding has become increasingly competitive. Also, the relative newness of the CPH means the number of potential alumni donors is still small.

#### Plans:

We will continue to look for financial support from alumni and enterprises, and keep the connections with community stakeholders. CPH will set up a fundraising committee to better organize these important matters.

The criterion is met.

### 1.7 FACULTY AND OTHER RESOURCES

The school shall have personnel and other resources adequate to fulfill its stated mission and goals, and its instructional, research and service objective.

1.7.a. A concise statement or chart defining the number (headcount) of primary faculty in each of the five core public health knowledge areas employed by the school for each of the last three years. If the school is a collaborative one, sponsored by two or more institutions, the statement or chart must include the number of faculty from each of the participating institutions. See CEPH data template 1.7.1.

Table 1.7.a includes totals, by year and core area, of the primary faculty who support teaching. As shown in the table, the number of primary faculty (including full-time faculty and full-time project faculty) stayed steadily around 55 and 56 in the past three years, with their fields of expertise covering all the core areas of public health.

Table 1.7.a. Headcount of Primary Faculty in the Five Core Areas, 2013-2016

	2013-2014	2014-2015	2015-2016	Fall 2016
Biostatistics	8	8	9	9
Epidemiology and Preventive Medicine	13	13	12	12
Social and Behavioral Sciences	5	4	5	5
Health Policy and Management	12	10	10	9
Environmental Health, Occupational Medicine and Industrial Hygiene	18	20	20	21
Total	56	55	56	56

Some of faculty members may teach courses in different areas. However, when we make Table 1.7.a, each faculty member belongs to only one area and is counted just once.

1.7.b. A table delineating the number of faculty, students and SFRs, organized by department or specialty area, or other organizational unit as appropriate to the school, for each of the last three years (calendar years or academic year) prior to the site visit. data must be presented in a table format (see CEPH data template 1.7.2) and include at least the following information: a) headcount of primary faculty (primary faculty are those with primary appointment in the school of public health), b) FTE conversion of faculty based on % time appointment to the school, c) headcount of other faculty (adjunct, part-time, secondary appointments, etc.), d) FTE conversion of other faculty based on estimate of % time commitment, e) total headcount

of primary faculty plus other (non-primary) faculty, f) total FTE of primary and other (non-primary) faculty, g) headcount of students by department or program area, h) FTE conversion of students, based on definition of full-time as nine or more credits per semester, i) student FTE divided by regular faculty FTE, j) student FTE divided by total faculty FTE, including other faculty. All schools must provide data for a), b) and i) and may provide data for c), d) and j) depending on whether the school intends to include the contributions of other faculty in its FTE calculations.

The table delineating the number of faculty, students and SFRs can be referred to Table 1.7.b.

# 1.7.c. A concise statement or chart defining the headcount and FTE of non-faculty, non-student personnel (administration and staff).

Table 1.7.c shows the headcount and FTE of the staff in CPH (containing offices of CPH and its academic units), which includes:

- (1) Regular staff: This part of the personnel is the most stable one in terms of financial resource. Most of the regular staffs are in CPH Office and take charge of administrative and technical affairs.
- (2) Academic assistant: This part of personnel is depending on college funds. Since faculty members and academic assistants have the same financial resource (that is, college funds), the academic assistants are employed using the same slots as for faculty. Although NTU encourages each academic unit to use those slots to hire faculty members, every academic unit must keep at least one slot for academic assistant.
- (3) Project staff: This part of personnel supports administrative affairs and special development projects in CPH, and is completely depending on projects. The funding is mainly related to Aim for Top University Project.

In addition, there are postdoctoral fellows and research assistants in CPH. This part of manpower is completely depending on projects. Although postdoctoral fellows and research assistants are hired mainly to carry out research projects, various administrative related procedures in CPH also have to be supported by them.

Table 1.7.b. Faculty, Students and Student/Faculty Ratios, Fall 2016

	HC	FTE	HC	FTE	HC	FTE	HC	FTE	SFR by	SFR by Total
	Primary	Primary	Other	Other	Total	Total	Students	Students	Primary	Faculty FTE
	Faculty	Faculty <sup>1</sup>	Faculty	Faculty <sup>1</sup>	Faculty	Faculty			Faculty FTE	
Biostatistics	9	9.0	8	0.8	17	9.8	50	50.0	5.56	5.10
Master of Public Health							1	1.0		
Master of Science							25	25.0		
Doctor of Philosophy							24	24.0		
<b>Epidemiology and Preventive Medicine</b>	12	12.0	30	3.0	42	15.0	174	174.0	14.50	11.60
Master of Public Health							28	28.0		
Master of Science							72	72.0		
Doctor of Philosophy							74	74.0		
Social and Behavioral Sciences	5	5.0	10	1.0	15	6.0	69	69.0	13.80	11.50
Master of Public Health							28	28.0		
Master of Science							26	26.0		
Doctor of Philosophy							15	15.0		
Health Policy and Management	9	9.0	20	2.0	29	11.0	136	136.0	15.11	12.36
Master of Public Health							26	26.0		
Master of Science							70	70.0		
Doctor of Philosophy							40	40.0		
Environmental Health, Occupational Medicine and Industrial Hygiene	21	21.0	19	1.9	40	22.9	125	125.0	5.95	5.46
Master of Public Health							7	7.0		
Master of Science							85	85.0		
Doctor of Philosophy							33	33.0		
TOTAL	56	56.0	87	8.7	143	64.7	554	554.0	9.89	8.56
Undergraduate Students <sup>2</sup>							149	149.0		
TOTAL (including Undergraduate Students)	56	56.0	87	8.7	143	64.7	703	703.0	12.55	10.87

 $<sup>^{1}</sup>$ 1 full-time faculty (primary faculty) FTE = 1; 1 part-time faculty (other faculty) FTE = 0.1

<sup>&</sup>lt;sup>2</sup>As undergraduate students are not divided into the five core areas, the SFRs are counted separately excluding and including undergraduate students.

Table 1.7.c. The Headcount and FTE of Academic Assistants, Staff, Post-Doctoral Fellows, and Research Assistants in CPH and Academic Units

	Academic Assistant		Reg	ular	Project		Postdoctoral		Rese	earch
			Staff		Staff		Fellow		Assistant	
	HC	FTE	HC	FTE	HC	FTE	HC	FTE	HC	FTE
College of Public Health										
(including College Office, Dean's Office and two Associate	0	0.0	8	8.0	2	2.0	0	0.0	0	0.0
Dean' Offices)										
Institute of Epidemiology and Preventive Medicine	1	1.0	1	1.0	0	0.0	6	6.0	33	33.0
Institute of Health Policy and Management / Institute of	2	2.0	1	1.0	0	0.0	2	6.0	8	8.0
Health Behaviors and Community Sciences (joint office)	2	2.0	1	1.0	U	0.0		0.0	0	0.0
Institute of Environmental Health	1	1.0	1	1.0	0	0.0	3	6.0	7	7.0
Institute of Occupational Medicine and Industrial Hygiene	0	0.0	0	0.0	1	1.0	5	6.0	21	21.0
Master of Public Health Degree Program	0	0.0	0	0.0	2	2.0	0	0.0	0	0.0
Department of Public Health	1	1.0	1	1.0	0	0.0	0	0.0	0	0.0
TOTAL	5	5.0	12	12.0	5	5.0	16	16.0	69	69.0

# 1.7.d. Description of the space available to the school for various purposes (offices, classrooms, common space for student use, etc.), by location.

In early 2006, CPH moved into its current Public Health College Building with more commodious spaces, including faculty offices, seminar rooms and student offices, so as to optimize the teaching/learning environment. The CPH Building is managed by a Management Committee consisting of representatives from CPH, College of Medicine, and NTU Hospital. It uses fees collected from parking and academic conference held in CPH Building to do basic maintenance of the building as well as hire a group of 5 security guards. Thus, the CPH Building can keep a "24 hours a day, 7 days a week" type of full vigilance.

Briefly, CPH uses about 55% of the CPH Building, with the remaining 30% by College of Medicine and another 15% by NTU Hospital. The sharing in space use among the three does not only lower our financial burden in maintenance but also facilitate interaction among people in public health with people in clinical medicine and allied health profession.

In terms of CPH's own space, the size or number of different facilities are listed in Table 1.7.d, including 36 lab rooms, 12 classrooms, 50 faculty office rooms, 27 conference rooms, and other type of rooms (office, lounge, storage, biospeciemen-keeping refrigerators room). In principle, every full-time faculty member has a faculty office that can further accommodate two assistants. If a faculty member has research projects that need more space, he or she can apply to the CPH Space Committee, which is chaired by Dean and is responsible for the space allocation. Previously CPH had a problem with the space for students. Now this issue has been largely solved and here we briefly describe those space specifically allocated for students as follows:

First, for undergraduate students, CPH has allocated the Office for DPH Student Association, the Office for Public Health Service Team, and one office for each of the four grades of DPH students (i.e., freshman, sophomore, junior and senior). The four grade-specific student offices, located on the 6th and 7th floors, are in close proximity to faculty offices and seminar rooms in order to promote frequent interactions among faculty members and undergraduate students.

Second, for graduate students, we have large-open offices that have more than 30 desks for master's students and 6-desk rooms for doctoral students or postdoctoral fellows.

Third, there are other professional resources for students' learning, such as the Statistical Consultation Room and High-level Computer Room, which are located on the 5th floor.

The classrooms located at the 2nd floor are open to all courses offered by all the teaching units in CPH Building, including two departments of College of Medicine. There is a coordination meeting every semester for classroom assignment. In addition, each floor has its own conference rooms, which are under the management of individual institutes. We have wet labs for biological, chemical, or physical experiment and a 60-seat computer room that students can do hands-on software exercise. In general, the facilities of this building meet the needs of teaching.

Table 1.7.d. Space of CPH

Items	Number of Room	Maximum (m²)	Minimum (m²)	Average (m²)	Number of Users	Average area used per person (m²/person)	Use Efficiency
Teaching Laboratory  Research Laboratory	36	265.2	21.7	48.6			Good
Class-room	12	400	22.8	123.8	10-300		Good
<b>Faculty Office</b>	50	28.8	24.1	26	90	13	Good
Conference Room	27	124.8	6.9	33.6			Good
Library	2ª						Good
Others (Storage Room, Lounge, etc.)	48	355.3	14.4	59.6		1-	Good

Total: <u>173</u> rooms; <u>8301.6</u> m<sup>2</sup>

The whole room space of the libraries in NTU is 46,957 m<sup>2</sup>, in which NTU Library in main campus has a room space of 38,243 m<sup>2</sup>, NTU Medical Library in medical campus has a room space of 4,131 m<sup>2</sup>, and NTU Law and Social Sciences has a room space of 4,583 m<sup>2</sup>. The latter three libraries are easily accessible to students of CPH.

# 1.7.e. A concise description of the laboratory space and description of the kind, quantity and special features or special equipment.

The Public Health College Building has already been recognized with the "Green Building Certificate." The building facilities have good ventilation and lighting. Since CPH moved in the new building in 2006, the allocation of teaching and research equipment and facilities improved substantially. The annual budget for purchasing teaching equipment or facilities is determined by the Financial Committee of CPH, which is chaired by the Associate Dean for Research and Global Health. For more expensive equipment or facilities, the faculty of CPH needs to collaborate with other colleges to apply through the university R & D Office or University Excellence Research Centers. So far, we have been successful in competing for some pieces of such expensive equipment.

Currently CPH has four types of lab facilities: biological, chemical, physical, and computer labs. The former three types of "wet" labs are located in the 9th and 10th floor, while the "dry" computer labs are located in 2nd floor and 5th floor. Template 1.7.e lists all the equipment and facilities at CPH. Briefly, the main equipment in each type of lab is succinctly described as follows:

- 1) Biological lab:
  - P2 and P2-plus labs for infectious agents

- DNA sequencing: Capillary electrophoresis sequencer (ABI-3130)
- Real-Time PCR System for SNP genotyping (ABI-7900HT)
- Vector lab

#### 2) Chemical lab:

- Gas Chromatography/Mass Spectrometer (GC/MS), Two-Dimensional Gas Chromatography/Time-Of-Flight Mass Spectrometer (2-D GC/TOF MS), Gas Chromatography/Triple-Quadruple Mass Spectrometer (GC-MS/MS)
- High-Performance Liquid Chromatography (HPLC), Ultra-Performance Liquid Chromatography/Triple-Quadruple Mass Spectrometer (UPLC-MS/MS).
- 3) Physical lab:
  - Aerosol Spectrometer, Ventilation system, Radiameter-Geiger Muller Counter
  - Wind Tunnel
- 4) Computer lab:
  - 60-seated computer room
  - High-level computer room (servers)
  - Statistical consultation room

CPH has established a system to make all equipment available for all faculty members and students who need to use them. We also assign specific faculty member with the help of some staff members or research assistants to manage the labs and equipment to ensure their running well. If there is need for new equipment, a faculty member can apply to the CPH financial Committee; if the equipment is of price higher than one million NT dollars, the faculty member can apply to the committee for matching fund before applying to University R & D Office or Government funding agencies.

The inventory of laboratory equipment and facilities of CPH can be referred to the Resource File 1.7.e.

# 1.7.f. A concise statement concerning the amount, location and types of computer facilities and resources for students, faculty, administration and staff.

As described in 1.7.e, CPH has computer labs including a 60-seated computer room, a high-level computer room (servers), and a statistical consultation room.

In addition, every staff member is provided a desktop computer. Software packages routinely used in academics are available through the university and are free to all faculty and staff members as well as students. Most students use personal laptops (or tablets) and can access the NTU wireless system while on campus.

The NTU Computer and Information Networking Center provides some support for CPH

accessing to student management system. Most university services, including library, email and accounts management, are handled online. Class activities are supported through CEIBA (Collaborative Enhanced Instruction by Asynchronous Learning), which allows for electronic access, filing and distribution of curriculum and course support materials. All the classrooms in CPH are equipped with computer and LCD projector interfaces.

1.7.g. A concise description of library/information resources available for school use, including a description of library capacity to provide digital (electronic) content, access mechanisms, training opportunities and document-delivery services.

The NTU library system has several general or specialty libraries, including NTU Main Library in main campus, NTU Medical Library in medical area, and NTU Law and Social Sciences Library adjacent to medical area. The students of CPH have very easy access to any of those libraries, either physically or electronically. The NTU Library in main campus now holds more than 4,000,000 books and journals, while the NTU Medical Library in medical area holds more than 250,000 books and journals.

The NTU library system has a centralized system for purchasing books and journals, though it allows individual teaching units to have faculty representatives to make recommendations for the books or journals to buy. Among them, NTU Medical Library provides CPH with extensive resources both qualitatively and quantitatively, including collections and periodicals.

Each CPH teaching unit has a faculty member sitting in the Medical Campus Books/Journals Purchasing Committee and serve as the representative to ensure that the needs of books/journals for teaching and research of our faculty members and students are met. The number of books to be purchased is constrained by the pooled budget allocated by all the teaching units of CPH.

Table 1.7.g. Collections of NTU Libraries<sup>1</sup> from 2012 to 2015

Collections		Ye	ar	
Conections	2012	2013	2014	2015
Books	4,043,515	4,101,086	4,144,451	4,202,344
Chinese, Japanese, and Korean languages	1,718,105	1,756,804	1,786,194	1,826,437
Other languages	2,325,410	2,344,282	2,358,257	2,375,907
Microform	213,988	213,996	214,004	214,091
Microfiche	196,936	196,944	196,952	196,952
Microfilm	17,052	17,052	17,052	17,139
Audio-visual materials	167,831	173,020	176,933	180,100

Collections	Year				
Conections	2012	2013	2014	2015	
E-books	2,604,770	2,792,834	2,855,906	2,899,059	
Journals and periodicals (including e-copies)	43,364	45,373	46,059	46,544	
Chinese, Japanese, and Korean languages	17,519	18,579	18,634	18,901	
Other languages	25,845	26,794	27,425	27,643	
Others (newspapers, databases, etc)	166,503	168,500	171,147	172,425	

<sup>&</sup>lt;sup>1</sup> Including Main Library, Medical Library, and Law and Social Sciences Library.

# 1.7.h. A concise statement of any other resources not mentioned above, if applicable.

All the resources of CPH have already been described in Criteria 1.7.d-1.7.g.

# 1.7.i. Identification of measurable objectives through which the school assesses the adequacy of its resources, along with data regarding the school's performance against those measures for each of the last three years.

CPH identified four objectives for assessing the adequacy of its resources, which are: maintain appropriate student-faculty ratio, provide sufficient space for students and faculty members, hold cross-talk symposiums across institutes within CPH, and create leisure activities for faculty members.

The SFR of CPH is decreasing in these years (from 11.25 to 10.73, Table 1.7.i.) and is smaller than the overall SFR of NTU (15.4 in the school-year of 2015-2016). More faculty members are expected to be recruited in the coming years and the SFR can decrease further. It also should be noted that the SFR of CPH is 8.75 to 8.50 for graduate students.

**Table 1.7.i. Outcome Measures Adequacy of Resources** 

Objectives	Target	2013-2014	2014-2015	2015-2016
M GED	<15 students/faculty (All students)	11.25	10.98	10.73
Maintain an appropriate SFR	<10 students/faculty (Graduate students only)	8.75	8.72	8.50
Provide sufficient space for students and faculty members	>10 m <sup>2</sup> /person	10.81	11.10	12.08

Objectives	Target	2013-2014	2014-2015	2015-2016
Hold cross-talk symposiums	At least twice each year.	2	5	2
across institutes within CPH	At least twice each year.	2	J	3
Create space for faculty for	At least 6 activities each			
leisure time and increase the		6	10	13
frequency of faculty activities.	year.			

# 1.7.j. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. CPH has adequate faculty representing all core public health areas.
- 2. Appropriate student-faculty ratios allow students and faculty to have frequent contact with each other.
- 3. Resources of NTU, including libraries, computing infrastructure, and laboratories, are a major asset and resource for CPH students, faculty, and staff.

### **Challenges:**

- 1. Although the quantity and quality of journals in general meet the needs of CPH's faculty and students, a newly emerging challenge is due to the continuously growing price for electronic journals' subscription that a certain percentage of electronic journals were discontinued last year, in the face of fixed university budget for such subscription.
- 2. The number of staff will decrease after the end of Aim for Top University Project.

#### Plans:

- 1. Continue to pursue resources necessary to subscribe electronic journals. The NTU library systems also start providing interlibrary loan or document delivery services to cover articles that cannot be obtained within NTU.
- 2. The Aim for Top University project was originally scheduled to end in this year. However, the Ministry of Education announced recently that this project will be extended for one more year. It is also likely that another round of similar project will continue although the detailed content is not decided yet. During our past discussion, it was generally agreed that staff will be hired on overhead if we cannot find sufficient resources through other funding mechanisms. One recent development is that NTU will set up a new International College and CPH will participate actively. Additional resources from NTU to hire staff are expected. We will still also seeking for other funding opportunities.

### The criterion is met.

#### 1.8 DIVERSITY

The school shall demonstrate a commitment to diversity and shall evidence an ongoing practice of cultural competence in learning, research and service practices.

1.8.a. A written plan and/or policies demonstrating systematic incorporation of diversity within the school. Required elements include the following:

- i. Description of the school's under-represented populations, including a rationale for the designation.
- ii. A list of goals for achieving diversity and cultural competence within the school, and a description of how diversity-related goals are consistent with the university's mission, strategic plan and other initiatives on diversity, as applicable.
- iii. Politics that support a climate free of harassment and discrimination and that value the contributions of all forms of diversity; the school should also document its commitment to maintaining/using these policies.
- iv. Policies that support a climate for working and learning in a diverse setting.
- v. Policies and plans to develop, review and maintain curricula and other opportunities including service learning that address and build competency in diverse and cultural considerations.
- vi. Policies and plans to recruit, develop, promote and retain a diverse faculty.
- vii. Policies and plans to recruit, develop, promote and retain a diverse staff.
- viii. Policies and plans to recruit, admit, retain and graduate a diverse student body.
- ix. Regular evaluation of the effectiveness of the above-listed measures.

# 1.8.a.i. Description of the school's under-represented populations, including a rationale for the designation.

Based on the demographic statistics from the Executive Yuan in 2014, the dominant element of population in Taiwan is Han People (97%, including Holo and Hakka groups), followed by Indigenous People (2%, including 16 officially recognized indigenous groups) and immigrants from oversea (1%, about 5 hundred thousands). The diversity of population composition contributes to multiethnic and multicultural atmosphere in Taiwan.

Underrepresented populations in CPH are defined as female, disabled persons, and students from remote areas. According to the Ministry of Interior, remote areas are referring to the area with population density less than 20% of the national average population density or located more than 7.5 km away from the direct-controlled municipality or city government. With lower level of urbanization as well as industrialization in remote areas, people there have social inequality and socioeconomic disadvantages. In Taiwan, there are not such intense ethnic issues as in America. Therefore, as defining underrepresented populations, sex and area played relatively major role.

In addition, based on the Special Education Act claimed by the Ministry of Education, in the Article 3, the disabilities is defined as physiological or psychological disorders, assessed and diagnosed by professionals to be in need of special education and related services, and categorized as follows: intellectual disabilities; visual, hearing, physical, health, severe/multiple Impairments; communication disorder; cerebral palsy; severe emotional disorders; autism; developmental Delays; and learning as well as other disabilities.

Although the proportion of female students in undergraduate and master degrees is as high as 60%, it reduces to less than 50% in PhD degree. And in CPH faculty, the proportion of female is only about 40%.

CPH students come in majority from big cities, such as Taipei. However, since one of the goals of public health is to develop effective solutions to public health issues, as well as to promote healthy life in remote areas, CPH values students from around Taiwan and hopes them will contribute to their hometowns after graduation.

Disable students have equal opportunity with other students in admission; besides, CPH also recruits a certain quota of students with cerebral palsy. Those students are also CPH's under-represented populations.

For staff members, the "People with Disabilities Rights Protection Act" in Taiwan stated that "any given government department (agency/organization) of individual levels, public school, or public business agency/organization/institution... shall employ people with disabilities with capability to work and the number of employees with disabilities shall be no less than 3 percent of the total number of the employees." (Article 38). In the past three years, the average statistics ranged from 3.3% to 3.4%. We will discuss setting up the appropriate criteria to assess the diversity of the staff complement at the next College Affair Meeting.

1.8.a.ii. A list of goals for achieving diversity and cultural competence within the school, and a description of how diversity-related goals are consistent with the university's mission, strategic plan and other initiatives on diversity, as applicable.

In Mid-Term Development Plan, the spirit of diversity is adopted in Education Goal 2.

Education Goal 2: To enhance the enrollment of a well-qualified and diverse student body.

Objective 2.1: Increase the proportion of high school student enrolled through self-application channel and school-recommendation channel (so-called "Star Plan").

Objective 2.2: Recruit and retain a diverse student body from broad background.

As described in 1.8.a.i, CPH students come in majority from big cities. The "Star Plan" admission channel offers admission quota in certain percent (usually between 10% - 15%) for students living and studying not in big cities. We hope that this admission channel may recruit

students from different areas of Taiwan, especially remote areas.

1.8.a.iii. Politics that support a climate free of harassment and discrimination and that value the contributions of all forms of diversity; the school should also document its commitment to maintaining/using these policies.

As National Taiwan University is committed to providing equality of opportunity for all members of the University community, the University and CPH put in resources to support and promote an environment that is free of discrimination and harassment.

Discrimination and Harassment are defined as unwelcome conduct that unreasonably interferes with an individual's work or academic performance or creates an intimidating, hostile or abusive atmosphere or environment. Such conduct can be spoken, written, visual, and/or physical. In general, such discrimination and harassment issues will be taken care of by the Student Disciplinary Committee of National Taiwan University, which is held for school regulation and discipline to nurture diligence in studies, promote proper behavior and protect basic human rights for students. This policy of SDC covers prohibited harassment based on all protected characteristics other than sexual assault and harassment.

Gender equity is exceptionally valued. Incidences of sexual assault or harassment can result in disciplinary action up to dismissal from the university. These are the relevant provisions:

NTU Campus Sexual Assault or Sexual Harassment Prevention Act (Chinese version)

http://host.cc.ntu.edu.tw/sec/All\_Law/4/4-66.pdf

NTU Directions for Sexual Harassment Prevention (Chinese version)

http://host.cc.ntu.edu.tw/sec/All\_Law/5/5-121.pdf

NTU Directions for Dealing with Gender Discrimination Cases in Workplace (Chinese version) http://host.cc.ntu.edu.tw/sec/All\_Law/08/08-16-03.pdf

NTU has Gender Equity Education Committee in charge of the education and promotion of gender equity, as well as the investigation and disciplinary action about incidents of sexual harassment and assault.

Regulations for Establishment of NTU Gender Equity Education Committee (Chinese version)

http://host.cc.ntu.edu.tw/sec/All\_Law/F/F-09.html

Website for NTU Gender Equity Education Committee

http://homepage.ntu.edu.tw/~gender/new1/index.html

Appealing steps for sexual harassments in NTU (Chinese version)

http://homepage.ntu.edu.tw/~gender/new1/step.html

#### 1.8.a.iv. Policies that support a climate for working and learning in a diverse setting.

CPH offers equal opportunity for faculty members and students from different background. No one would be refused, disregarded, or ignored because of academic background, sex, age, race, religion, national origin, marital status, or disability. The mentally and physically challenged or other disadvantaged groups shall be given considerations and assistants for their special needs. Relevant laws and regulations need to support their rights to education and development. The principles are stated in the Article 4 of the Educational Fundamental Act by the Ministry of Education.

On the other hand, CPH provides extra resources, grants, scholarship, and assistance to people in special need, such as disable students and international students. Tutoring programs are designed for the students who have difficulties in course works through the introduction of academic advisors. Students with the needs can be paired up with good academic performers to improve learning. In addition, academic support like full scholarship, in-house-visit, and tutoring programs can be provided to talented students from underprivileged families such as financial disadvantaged families, migrant families, or overseas marriage families. Please see more details in 1.8.a.viii.

# 1.8.a.v. Policies and plans to develop, review and maintain curricula and other opportunities including service learning that address and build competency in diverse and cultural considerations.

As Taiwan is a multiethnic and multicultural society, NTU established Population and Gender Studies Center in 2009 to promote interdisciplinary researches and courses about gender and different ethnic groups in Taiwan. One of the most important projects is the NTU Population Studies Program, in which low birth rate, population aging, immigrant families, social welfare, education, labor, gender, public health, migration, geographical distribution and application of information systems are all important issues to be investigated and discussed.

Website of Population and Gender Studies Center, NTU <a href="http://www.psc.ntu.edu.tw/indexeg.php">http://www.psc.ntu.edu.tw/indexeg.php</a>

With Dr. Duan-Rung Chen as one of the curriculum committee members of the NTU Population Studies Program, CPH not only encourages students to enroll in this program, but also encourages faculty members to teach courses in it.

Table 1.8.a.v.(1). CPH Faculty and Courses in NTU Population Studies Program, 2014-2016

Faculty Name	Course Name	Year(s)
Chueh Chang	Gender and Health	2014, 2015
	Gender Relations	2014, 2015
	Public Mental Health and Mental Health Promotion	2014

Tung-Liang Chiang	Introduction to Society and Health	2014, 2016
Duan-Rung Chen	Social Network and Health Behaviors	2016
Yu-Chi Tung	Introduction to Health Insurance	2016
Te-Hsiug Sun (Adjunct)	Demography	2014, 2015
Shwu-Chong Wu (Adjunct)	Population Aging and Health Care	2014, 2015, 2016

NTU also has Women's and Gender Studies Program in which students can be approached to the systematic study of women and gender issues. All levels of NTU students (bachelor, master, doctoral) can apply for the program. There are about 200 of NTU students applying for this program every year.

Table 1.8.a.v.(2). CPH Faculty and Courses in NTU Women's and Gender Studies Program, 2014-2016

Faculty Name	Course Name	Year(s)
Chueh Chang	Gender Relations	2014, 2015, 2016
Wei-Chu Chie	Maternal and Child Health	2014

In CPH, there are three practical courses for students: Practicum (for MPH students), Practicum of Health Services and Organization (for MS in Health Policy and Management students), and Field Practice in Public Health (for undergraduate students). CPH encourages students to take practicum in diverse sites (such as central and local government units, medical institutions, research institutions, non-governmental organizations, contract research organizations, media, and private corporations) by supporting them with lodging allowance or social connections with diverse institutions so that they can build and perform their competencies in diverse environment and condition.

#### 1.8.a.vi. Policies and plans to recruit, develop, promote and retain a diverse faculty.

CPH is committed to maintain a diverse faculty body. To fulfill that goal, the advertisements for new faculty openings are published both in Taiwan and abroad. Besides, CPH also offers additional award to scholars who come to CPH as a faculty member from their studying or research in other countries. Ministry of Science and Technology and Yuan T. Lee Foundation Science Education for All also provide research award for these faculty to further pursue their research. For example, faculty members such as Dr. Po-Hsiu, Kuo (from Virginia Commonwealth University, USA), Dr. Yu-Kang, Tu (From University of Leeds, UK), and Dr. Shu-Sen Chang (From University of Hong Kong) received the honor to support their research. At present, the ratio of faculty who get doctoral degree in Taiwan and in other country is about 2:3 in 2013~2014 academic year.

CPH is devoted to offer equal opportunity for male and female faculty members. For the promotion and evaluation of faculty, all faculty members have the same standards, without any difference due to their sex. If a female faculty member is pregnant during the promotion or

evaluation, her promotion or evaluation process can be extended. And a parental leave is basic right for both sexes and the faculty members can apply for parental leave allowance provided by Bureau of Labor Insurance. The benefits are stated in the Employment Insurance Act by Bureau of Labor Insurance, Ministry of Labor.

### 1.8.a.vii. Policies and plans to recruit, develop, promote and retain a diverse staff.

The staff recruitment and promotion in CPH are in accordance to the national regulations as the following:

Labor Standards Law

http://labor.hccg.gov.tw/condition/page5-b-1-2.htm

Act of Gender Equality in Employment http://labor.hccg.gov.tw/condition/page5-b-2-2.htm

People with Disabilities Rights Protection Act

file:///C:/Users/SD710/Downloads/%E8%BA%AB%E5%BF%83%E9%9A%9C%E7%A4% 99%E8%80%85%E6%AC%8A%E7%9B%8A%E4%BF%9D%E9%9A%9C%E6%B3%95%E8%8B %B1%E6%96%87%E7%89%88\_10558\_M.pdf

Aside from the equal opportunity of employment, wage and promotion for different populations, menstrual leave and parental leave are also granted for anyone in need. Based on People with Disabilities Rights Protection Act, presented by the Ministry of Health and Welfare, any given government organization of individual levels, public school, or public business whose total number of employees is more than 34 shall hire people with disabilities with capability to work and the number of employees with disabilities shall be no less than 3 percent of the whole employees. CPH follows the regulation and hires 6 people with disabilities with capability, including 4 faculty members and 2 staffs. Female employees in CPH receive three days of menstrual leave a year on top of the 30 days of half-paid sick leave and the right is protected by Act of Gender Equality in Employment by ministry of Labor.

# 1.8.a.viii. Policies and plans to recruit, admit, retain and graduate a diverse student body.

To maintain a diverse student body, CPH is committed to give equal opportunity for applicants with different backgrounds.

For undergraduate admission, CPH keeps application extra quota for students with cerebral palsy and aboriginal students as a way to encourage them to apply. For students with cerebral palsy, the quota is 1 as discussed at the Department Affair Meeting and submitted to Ministry of Education

for approval. For aboriginal students, each department is assigned to have an extra quota calculated as 2% of the number of the regularly admitted students (as required by a governmental law). For DPH, the quota is 1. Ministry of Education coordinates the application process and releases the related information to high schools for the interest groups in conjunction with the benefit of scholarship and accessibility equipment to encourage students to apply. By far, among the programs in NTU, Department of Public Health provides the largest enrollment for aboriginal students. Besides, as stated in Objective 2.1, CPH increases the proportion of enrollment through self-application and school-recommendation (e.g. Star Plan/ for students from remote areas) channels these years, since most of the students from remote areas apply for university through these two channels. For master and doctoral admission, CPH welcomes applicants both from public health and non-public health background by distributing flyers and brochures in relevant conferences, placing advertisements on campus, promoting programs through annual reports of Taiwan Public Health Association, and holding the press conferences periodically to the ones who are interested in public health. International students are especially encouraged in these two years.

Gender equity is still an important issue in student body. According to Taiwan *Gender Equity Education Act*, NTU is committed to keep a climate free of sex harassment and discrimination. The details of relative policies can be referred to 1.8.a.iii.

Gender Equity Education Act (Chinese version)

http://law.moj.gov.tw/LawClass/LawAll.aspx?PCode=H0080067

NTU also has policies and centers to support under-represented students:

Fund Scholarships for Taiwan Students:

 $\underline{http://love.ntu.edu.tw/editor\_model/u\_editor\_v1.asp?id=\{CBF496B2-4447-4412-B4C4-B3B\_EB8B6B5F5\}}$ 

Fund Scholarships for Overseas Chinese Students:

 $\underline{http://love.ntu.edu.tw/editor\_model/u\_editor\_v1.asp?id=\{D1E2E761-461B-4E44-A880-01B4\_AEAB114A\}}$ 

NTU Disability Support Services and Student Counseling Center <a href="http://rer.scc.osa.ntu.edu.tw/members/teacher.php">http://rer.scc.osa.ntu.edu.tw/members/teacher.php</a>

## 1.8.a.ix. Regular evaluation of the effectiveness of the above-listed measures.

Evaluation of diversity is the responsibility of Curriculum Committee (in charge of curricula design), Student Admission Committee (in charge of students recruitment and admission), and Faculty Evaluation Committee (in charge of faculty recruitment and evaluation).

Those committees have meetings at least once in three months, in which the achievement of diversity is routinely evaluated and discussed. The minutes and resolutions of the meetings are also represented to the dean and directors in the College Affairs Committee Meeting. The details of effectiveness and the approaches will be discussed by the committee members and student representatives. (For details information, please refer to meeting minutes of Student Admission Committee.)

1.8.b. Evidence that shows the plan or policies are being implemented. Examples may include mission/goals/objectives that reference diversity or cultural competence, syllabi and other course materials, lists of student experiences demonstrating diverse settings, records and statistics on faculty, staff and student recruitment, admission and retention.

In these years, CPH intentionally recruited faculty with diverse background, highlighting the number of faculty members with non-public health background or professional background. For examples, we have faculty with training in engineering sciences and students can benefit from their knowledge in, for examples, signal processing and fluid dynamic. We also have affiliated faculty who work in hospitals or governmental agencies. They can provide the first-hand information to students on current practices and regulations in the societies and workplaces. Furthermore, the university and CPH both strongly value equality, equal opportunities, and free of discriminations. This is demonstrated by CPH's policy on student admission, emphasizing on selection by students' competence and interests by using interviews as the main means of applicant evaluations. Under government policy, CPH also reserve admission quota for students from remote areas to increase their opportunities. In addition, CPH offers courses on gender equality and gender health to raise awareness on equality. Furthermore, CPH encourages all students, graduate and undergraduate, to take courses offered by other schools of NTU such as the aboriginal culture offered by School of Anthropology to promote ethnic and cultural equality.

Faculty shall bring the course information to students and advise them to explore different fields. The course list contains abundant details of course descriptions for students to choose from. Moreover, learning across schools is also encouraged. National Taiwan University (NTU), National Taiwan Normal University (NTNU) and National Taiwan University of Science and Technology (NTUST) are three geologically related institutes of higher education with individually distinct academic focus. The three universities established the "NTU Triangle Alliance" together for better resource integration, with a principle of equality and mutual benefit. The alliance program aims at promoting teaching, research and resource integration in and across the three universities. Starting from the academic year 2014/2015, students of NTU, NTNU and NTUST are now able to enroll in courses across the three universities and the credits are admitted.

# 1.8.c. Description of how the diversity plan or policies were developed, including an explanation of the constituent groups involved.

Since the College Affairs Committee Meeting is the place for major decision making, the development of diversity policies is led mainly by it. Some of the issues about diversity may at first be discussed in the retreat (which is held twice a year for the faculty and staffs) and then in College Affairs Committee Meeting. In addition to committee members, student representatives are also invited to contribute their experiences, concerns and suggestions. Insights and questions from alumni, community groups, members of under-represented groups are also taken into account. After the final policies are decided in the College Affairs Committee Meeting, they will be delivered to Curriculum Committee, Student Admission Committee, and Faculty Evaluation Committee.

# 1.8.d. Description of how the plan or policies are monitored, how the plan is used by the school and how often the plan is involved.

The policies are monitored by College Affairs Committee Meeting. As stated in 1.8.a.ix., the Curriculum Committee, Student Admission Committee, and Faculty Evaluation Committee routinely evaluate the policies and the outcomes in the meetings at least once in three months. All the three committees should report to College Affairs Committee Meeting, which is basically held once in two months. For details information, please refer to meeting minutes of Student Admission Committee in Resource File 1.5.a.

1.8.e. Identification of measurable objectives by which the school may evaluate its success in achieving a diverse complement of faculty, staff and students, along with data regarding the performance of the program against those measures for each of the last three years. See CEPH data template 1.8.1. At minimum, the school must include four objectives, at least two of which relate to race/ethnicity. For non-US-based institutions of higher education, matters regarding the feasibility of race/ethnicity reporting will be handled on a case-by-case basis. Measurable objectives must align with the school's definition of under-represented population in criterion 1.8.a.

**Table 1.8.e. Outcome Measures of Diversity** 

	Target	2013-2014	2014-2015	2015-2016
Ratio of undergraduate students from remote areas	>2%	3.25%	1.39%	0%
Ratio of undergraduate students graduated from school in non-north areas <sup>1</sup>	>25%	25.71%	35.9%	33%

	Target	2013-2014	2014-2015	2015-2016
Ratio of Master's students graduated from school in non-north areas <sup>1</sup>	>25%	31.25%	29.79%	33%
Ratio of Ph.D. students graduated from school in non-north areas <sup>1</sup>	>25%	33.33%	27.78%	17%
The male : female ratio of students	40%:60%	40%:60%	40%:60%	38%:62%
The male : female ratio of faculty members	60%:40%	59% : 41%	65% : 35%	57%:43%
Number of new disable students accepted (undergraduate, including cerebral palsy students)	N/A	0	2	1
Number of new disable students accepted (graduate, including cerebral palsy students)	N/A	0	1	0
Number of disable students enrolled (undergraduate, including cerebral palsy students)	N/A	5	8	5
Number of disable students enrolled (graduate, including cerebral palsy students)	N/A	2	1	1
Ratio of disable faculty members	N/A	5.4%	5.5%	5.4%
Ratio of disable staffs	>3%	3.4%	3.3%	3.4%

<sup>&</sup>lt;sup>1</sup>The north area, with Taipei as the center, is the highest developed area in Taiwan. Non-north areas, including south, east, and central areas, are relatively disadvantaged in education opportunity.

# 1.8.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. The specialties of faculty in CPH are diverse, and the gender ratio of CPH faculty is quite balanced (male : female = 40% : 60%).
- 2. For students, CEP has stable star plans for recruiting disadvantaged students and provide them equal opportunities to pursue higher education.

### **Challenges:**

- 1. The diversity of student body is not good enough, since most students of CPH are from urban areas and high socioeconomic status family.
- 2. Public health is a traditional profession, but the program enrollment is not high as expected. The low enrollment may be caused by the truth that there is no national certificate for public health yet in Taiwan, as well as the high living expenses in Taipei city and the limited dorms provided. There are more strategies needed to promote the student enrollment. It could be designing a plan for recruiting students from other counties, expending student pool, or increase student quota for

star plan, etc.

#### **Plans:**

- CPH will make efforts to offer greater opportunity of enrollment for students from remote and
  rural areas. For example, DPH will increase the enrollment through the Star Program
  (school-recommendation admission channel), which supports disadvantaged students in Taiwan.
  The number of students enrolled in DPH through the Star Program gradually increased from 2 up
  to 7 in the past years and will continue. We hope that effort will increase the diversity of our
  student body, and therefore enhance the mutual learning among students of various experiences
  and diverse culture backgrounds.
- 2. In order to increase the enrollment of the programs in CPH, more promoting approaches will be utilized such as posters, videos, and social media for better advertising effects. Furthermore, for reaching higher level of diversity for student composition, CPH plans to launch a new master program for global health and recruit more international students to bring in multicultural insights and experiences.

The criterion is met.

# **SECTION 2: INSTRUCTIONAL PROGRAMS**

#### 2.1 DEGREE OFFERINGS

The school shall offer instructional programs reflecting its stated mission and goals, leading to the master of public health (MPH) or equivalent professional master's degree in at least the five areas of knowledge basic to public health. The school may offer other degrees, professional and academic, and other areas of specialization, if consistent with its mission and resources.

The areas of knowledge basic to public health include the following:

Biostatistics – collection, storage, retrieval, analysis and interpretation of health data; design and analysis of health-related surveys and experiments; and concepts and practice of statistical data analysis;

Epidemiology – distributions and determinants of disease, disabilities and death in human populations; the characteristics and dynamics of human populations; and the natural history of disease and the biologic basis of health;

Environmental health sciences – environmental factors including biological, physical and chemical factors that affect the health of a community;

Health services administration – planning, organization, administration, management, evaluation and policy analysis of health and public health programs; and

Social and behavioral sciences – concepts and methods of social and behavioral sciences relevant to the identification and solution of public health problems.

2.1.a. An instructional matrix presenting all of the school's degree programs and areas of specialization. If multiple areas of specialization are available within departments or academic units shown on the matrix, these should be included. The matrix should distinguish between public health professional degrees, other professional degrees and academic degrees at the graduate level, and should distinguish baccalaureate public health degrees. The matrix must identify any programs that are offered in distance learning or other formats. Non-degree programs, such as certificates or continuing education, should not be included in the matrix. See CEPH Data Template 2.1.1.

CPH offers complete public health programs including bachelor, master, and doctoral degrees. The instructional matrix can be referred to Table 2.1.a.

**Table 2.1.a. Instructional Matrix** 

	Academic	Professional
Bachelor's Degree		
BS - Public Health		X
Masters of Public Health (MPH) Degree		
MPH - Public Health - Biostatistics		X
MPH - Public Health - Epidemiology and Preventive Medicine		X
MPH - Public Health - Social and Behavioral Sciences		X
MPH - Public Health - Health Services Administration		X
MPH - Public Health - Environmental Health Sciences		X
Other Master's Degree		
MS - Epidemiology and Preventive Medicine - Epidemiology	X	
MS - Epidemiology and Preventive Medicine - Biostatistics	X	
MS - Epidemiology and Preventive Medicine - Preventive Medicine	X	
MS - Health Behaviors and Community Sciences	X	
MS - Health Policy and Management	X	
MS - Environmental Health	X	
MS - Occupational Medicine and Industrial Hygiene	X	
Doctoral Degree		
PhD - Epidemiology and Preventive Medicine - Epidemiology	X	
PhD - Epidemiology and Preventive Medicine - Biostatistics	X	
PhD - Epidemiology and Preventive Medicine - Preventive Medicine	X	
PhD - Health Policy and Management - Health Behaviors and Community	X	
Sciences	Λ	
PhD - Health Policy and Management - Health Policy and Management	X	
PhD - Environmental Health	X	
PhD - Occupational Medicine and Industrial Hygiene	X	
PhD - Global Health	X	

2.1.b. The school bulletin or other official publication, which describes all degree programs identified in the instructional matrix, including a list of required courses and their course descriptions. The school bulletin or other official publication may be online, with appropriate links noted.

Information of all the degrees offered by CPH, with their curriculum maps, can be found on the CPH Official Website (http://coph.ntu.edu.tw/academics/curriculum?locale=en).

For MPH students, all of them, no matter which concentration areas they are in, should select "core courses" for at least 15 credits so that they will learn the basic knowledge of public health. More information of those core courses will be described in 2.3.a. In addition to the core courses, students are required to take disciplinary field courses according to their concentration areas for 6~7 credits. Those courses, which address the advanced knowledge of the five public health areas, are shown in Table 2.1.b. The course syllabus and course descriptions can be looked up on NTU Course Information Website (https://nol.ntu.edu.tw/nol/guest/index.php) or in Resource File 2.6.c.(3).

Table 2.1.b. Required Disciplinary Field Courses for MPH Degree Students

<b>Concentration Areas</b>	Course Number & Title	Credits
	MPH5002 - Applications of Generalized Linear Models	2
Biostatistics	EPM5046 - Applied Multivariate Quantitative Methods	3
Biostatistics	EPM7111 - Special Topics in Epidemiology OR	2
	EPM7136 - Introduction to Preventive Medicine	2
	EPM7111 - Special Topics in Epidemiology	2
Epidemiology and Preventive	EPM7136 - Introduction to Preventive Medicine	2
Medicine	MPH5002 - Applications of Generalized Linear Models OR	2
	EPM5046 - Applied Multivariate Quantitative Methods	3
	EH7033 - Fundamentals of Environmental Analysis OR	
Environmental Health Sciences	OMIH5066 - Monitoring for Health Hazard at Work I OR	2
	OMIH7025 - Environmental and Occupational Disease	
(including Occupational Medicine and Industrial	EH7017 - Environmental Health Policy OR	2
Hygiene)	OMIH5035 - Industrial Safety and Health Law	2
nygielle)	MPH7002 - Seminar on Environmental and Occupational	2
	Health	2
Haalth Dahariana and	HPM7013 - Principles in Health Behavior	2
Health Behaviors and	HPM7033 - Community Health Building	2
Community Sciences	HBCS5001 - Health Psychology	2
	HPM7007 - Principles in Health Policy OR	2
Hadd Dellar and Mana	HPM7069 - Marketing and Strategy for Health Organization	2
Health Policy and Management	HPM7005 - Topics in Health Services and Industry	2
	HPM7043 - Health Industry and Policy Development	3

Aside from the required core courses and disciplinary field courses, students should take elective courses at least for 7~9 credits. A list of recommended elective courses, which offer advanced and integrated knowledge and skills in different areas of public health, will be provided by the MPH office (please see Resource File 2.1.b). However, elective courses are not confined by the recommended list. Students can elect courses offered within CPH or even NTU according to their

interests, without any process to approve those elective courses.

Before graduation, every MPH student should submit a thesis related to the practicum achievement as the culminating experience. The thesis writing has a standard conversion of 6 credits.

2.1.c. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. CPH offers a variety of degree programs at the baccalaureate, master's and doctoral levels. All the graduate programs (including MPH, MS, and PhD) cover five basic areas.
- 2. CPH has a mature bachelor's degree program that provide a complete and strong foundation in public health.

#### **Challenges:**

Students are not very clear about the differences between our MS and MPH as two different degree programs with very different philosophies and goals. There are needs to be addressed with more serious effort to market the two degree programs differently to prospective students.

#### Plans:

The MPH degree program will offer more practice-oriented courses for MPH students with a need to strengthen their practical skills in the field and in the workplace as well. Such developments would also help to differentiate the MPH from the MS degree programs.

#### The criterion is met.

#### 2.2 PROGRAM LENGTH

An MPH degree program or equivalent professional public health masters degree must be at least 42 semester-credit units in length.

# 2.2.a. Definition of a credit with regard to classroom/contact hours.

At NTU, one classroom hour per week equals one credit. A weekly lecture that lasts three hours is translated into three credits. Because there are 18 weeks in a semester in Taiwan, a one credit class includes 18 classroom hours.

An universal exception across all master and doctoral degree programs in Taiwan are "Thesis Writing," which, instead of translating from hours, has a standard conversion of 6 credits, and "Dissertation Writing" of 12 credits.

2.2.b. Information about the minimum degree requirements for all professional public health masters degree curricula shown in the instructional matrix. If the school or university uses a unit of academic credit or an academic term different from the standard semester or quarter, this difference should be explained and an equivalency presented in a table or narrative.

Before 2014 academic year (from August 2014 to July 2015), the MPH students are required to take a minimum of 42 credits in graduate courses, including core courses, disciplinary field courses, elective courses, practicum, and thesis.

One semester credit unit regularly corresponds to 18 hours in Taiwan, whereas one semester credit hour in the US is typically equal to 15 hours of in-class time. In order to adjust the required credits of MPH degree so that the program will fit Taiwan students more, CPH decided to reduce the required credits from 42 to 36, according to the ratio 18:15. This decision was admitted in the CPH Curriculum Committee in July 2014. As a result, since 2014 academic year, which began in August 2014, the minimum required credits for MPH students are 36 credits.

Core courses include an overview of the five core competencies of public health. These core courses set the foundation of knowledge and techniques that enable students to adequately prepare for future practice in public health. Students must take all of these courses regardless of their concentration areas. Descriptions about the core courses can be referred to 2.3.a.

Students are also required to take disciplinary field courses according to their concentration areas. These courses provide students with advanced trainings and in-depth knowledge of a specific area, such as advance statistical analysis, various epidemiological studies, laws on occupational safety and hygiene, history and trend of national health insurance, and the theory and practice of social behavioral sciences. Descriptions about the disciplinary field courses can be referred to 2.1.b.

Besides required courses (core courses and disciplinary field courses), students are allowed to

take elective courses according to their interests. We hope the elective courses may help students to broaden their visions. Descriptions about the elective courses can also be referred to 2.1.b.

After core courses, students have to complete a 200-hours practicum and the thesis based on the practicum has to be submitted for graduation. MPH Practicum emphasizes community-based public health or community recovery plans.

2.2.c. Information about the number of professional public health masters degrees awarded for fewer than 42 semester credit units, or equivalent, over each of the last three years. A summary of the reasons should be included.

As described in 2.2.b, students who enrolled *before* 2014 academic year are required to fulfill 42 credit hours before graduation, while students who enrolled *after* 2014 academic year are required for 36 credit hours. Till July 2016 (the end of academic year), there were 124 students graduated with MPH degree, including 116 students with 42 credit hours and 8 students with 36 credit hours. None of them was with fewer than the credit hours they had been required.

2.2.d. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

CPH meets the requirements of the Council on Education for Public Health for program length.

## **Challenges:**

No challenge is identified.

#### **Plans:**

None.

The criterion is met.

#### 2.3 PUBLIC HEALTH CORE KNOWLEDGE

All graduate professional degree public health students must complete sufficient coursework to attain depth and breadth in the five core areas of the public health knowledge.

2.3.a. Identification of the means by which the school assures that all graduate professional degree students have fundamental competence in the areas of knowledge basic to public health. If this means is common across the school, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each program. See CEPH Data Template 2.3.1.

All MPH students, no matter their concentration areas, should select "core courses" for 15-16 credits so that they will learn the basic knowledge of public health. Among these core courses, there are five courses (total 11 credits) addressing the five public health core knowledge areas, which are shown in Table 2.3.a.

Table 2.3.a. Required Courses Addressing Public Health Core Knowledge Areas for MPH Degree

Core Knowledge Area	Course Number & Title	Credits
Biostatistics	EPM5030 - Applied Biostatistics	3
Epidemiology	EPM7112 - Principles of Epidemiology	2
Environmental Health Sciences	MPH5010 - Risk Analysis in Environmental and	2
	Occupational Health	
Health Behavior and Community	HPM7037 - Health Social Sciences	2
Sciences		
Health Policy and Management	HPM7010 - Health Organization and Management	2

The other 4 credits are met by courses that introduce students to the breadth of public health. The courses include Research Methods in Public Health (MPH7001; 2 credits), Public Health Ethics (HPM7002; 1 credit), Public Health: Perspective and Prospect (MPH7009; 2 credits), and Seminar in Public Health Practicum (MPH7004; 1 credit). Moreover, MPH also offers Introductory Biostatistical Methods (MPH5003; 2 credits) during summer vacation as a prerequisite course for new students without public health and biostatistics background.

Among the courses mentioned above, "Public Health: Perspective and Prospect (MPH7009)" is designed especially for the integration of public health ideas and knowledge. Every CPH student, no matter what program he or she is studying, is required to take this course. CPH faculty members and public health specialists outside CPH from different fields are invited to give lectures every week. During the semester, students are divided into groups and required to complete group reports as their studying achievements. Those reports are published in a poster exhibition held in the end of the semester. Since each group consists of students from different degree levels and concentration

areas, the reports are usually cross-area and integral.

# 2.3.b. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

- 1. All MPH students have well-defined requirements to assure fundamental competence in the areas of knowledge basic to public health.
- 2. CPH Curriculum Committee is responsible for overseeing the MPH programs and ensuring that all programs adequately address the areas of knowledge basic to public health.

# **Challenges:**

No challenge is identified.

#### **Plans:**

None.

The criterion is met.

#### 2.4 PRACTICAL SKILLS

All graduate professional public health degree students must develop skills in basic public health concepts and demonstrate the application of these concepts through a practice experience that is relevant to students' areas of specialization.

# 2.4.a. Description of the school's policies and procedures regarding practice experiences, including the following:

- selection of sites
- methods for approving preceptors
- opportunities for orientation and support for preceptors
- approaches for faculty supervision of students
- means of evaluating student performance
- means of evaluating practice placement sites and preceptor qualifications
- criteria for waiving, altering or reducing the experience, if applicable

All the teaching units of CPH have tried enormously to strike a balance between theory and practice. As we consider practice experience as a necessary training for all MPH students, a 200-hour practicum is an important and indispensable part in MPH curriculum.

Students can submit the application of practicum after they complete half of the credits of required core courses, which provide basic knowledge and skills for practicum. In the past years, most of the MPH students submitted the application for the practicum at the end of the first year, or at the end of the first semester in the second year. As a result, almost all students had already completed all of the credits for core courses before they actually submitted the application.

The application procedure for students is described below:

- **Step 1:** Decide the topic of practicum project and the advisor within college.
- **Step 2:** Select the practice site as well as the preceptor in practice site.
- **Step 3:** Submit the application form of practicum.
- **Step 4:** Submit a practicum project plan and make an oral presentation of that plan in the Practice Project Presentation Meeting. This meeting, which is open to all the faculty and students in CPH, is held at the end of every semester.
- **Step 5:** Begin the practicum.

The practicum handbook for students is included in MPH Student Handbook. Please refer it to in Resource File 2.4.a.

#### **Selection of sites**

Selection of practice sites is rather flexible and with regard to the topics of the projects that

students are interested. MPH office doesn't give many restrictions on the site selection, with the only request that the practice site must be chosen from government agencies, private companies, non-government organizations, and non-profit organizations.

Before selecting the sites, students would consult and discuss with their advisors about the topics and plans of their practicum, as well as the site choices. MPH also offers some practicum sites in handbook for students to look at (see Resource File 2.4.a, p.49).

# Methods for approving preceptors

MPH office doesn't appoint preceptors for students. Students find their preceptors in their intended practice site, and MPH office would accept preceptors' qualification according to the features mentioned below. The qualification for preceptors is he or she must be a current employee at the practice site, with either one of the following feature:

- 1. Having at least a master's degree as well as working experience in relative fields.
- 2. Possessing special skill or technique in relative fields, recognized by MPH program committee.

### Opportunities for orientation and support for preceptors

The preceptors are fully recognized and trusted for their ability to instruct and inspire students. No orientation will be officially given but preceptors will receive the practicum handbook (same as the one included in MPH Student Handbook, please see Resource File 2.4.a) that explicates their responsibility, practice flowchart, and format of the student interim report and final achievement report they will instruct.

If a preceptor has any problem with instructing the student, though not taking place ever, he or she may contact MPH office for further measure.

#### **Approaches for faculty supervision of students**

Before students submit the application form to MPH office, they have to discuss their ideas about practicum with their advisors. Advisors will sign the permission of practicum application if their students' ideas show significance and feasibility. Students are asked to submit their practicum project plans with the permission one month before the Practice Project Presentation Meeting. These plans will be read and re-approved according to significance and feasibility by a review group composed of MPH Director and Deputy Directors. Only students whose project plans are approved are allowed to make a presentation in the Practice Project Presentation Meeting. In the Meeting, students' advisors and preceptors will give comments and help students prepare fully for their practicum.

During the 200-hour practicum, students are supervised by three mechanisms: the on-site preceptors, the advisors, and the MPH office.

The on-site preceptors are the closest persons with students during their practicum terms, since students are working in the same physical locations as the preceptors. The on-site preceptors supervise students' performances on practice sites, and give them instructions and consultations. They also evaluate students' performance and accomplishment after the practicum is finished.

Advisors, though not meeting with students every day, supervise students via regular on-site visits, telephone conferences, e-mails or meetings in person to provide instructions. Besides these, each member of the faculty may have his or her method of supervising students that may vary from one to another.

Students are also required to hand in monthly journals and interim reports to MPH office. The monthly journals should be written in the end of every month. Aside from content and self-review of the practice, students should address to concerns and suggestions from their advisors and site preceptors on the journal.

The interim reports should be submitted in half way through the practicum (100 hours). These reports must be read, commented, and signed by the on-site preceptors before submitting to MPH office. The main purpose of this report is to keep students' practice projects on track. The content should include the resources currently provided by the agency, the task carried out during the practicum, the progress, difficulty, and correction about the research report, and how to continue conducting research as well as other matters if necessary.

MPH office keeps up with students' progress of their practicum through these reports.

#### Means of evaluating student performance

As MPH office only requires that students should complete at least 200 hours of practice in total, students don't have a minimal working hours per week. The time point for completing practicum really depends on their project topics and the challenges they confront during the practicum, although most of the students complete their practicum within a semester. Students are required to submit an interim reports when they finished 100 hours of practicum. When they complete the 200 hours, they have to submit a written final report (thesis) and give an oral presentation to the advisor committee (for more details please refer to 2.5.a).

Preceptors are responsible to evaluate students' on-site performances in accordance with the following scoring ratio: Performance at site 10%, learning attitude 25%, team work 25%, and project result 40%. From 2016~2017 academic year (begins in August 2016), MPH will provide preceptors another evaluation sheet of grading rubric in terms of competencies to evaluate students' practice experience and culminating experience. The sample of evaluation sheets is included in MPH Student Handbook (Resource File 2.4.a, pp. 65~66).

Students' practicum performances (including the final report, oral presentation, and on-site performance) are closely related to their culminating experience. The details will be described in 2.5.a.

#### Means of evaluating practice placement sites and preceptor qualifications

The responsibility of evaluating practice placement sites is of the advisors. Advisors will determine the relevancy between the student's topic and the nature of the practice site, evaluate the capability of the practice site to provide needed and critical information for the project, and assess the qualification of the preceptor according to the measure mentioned above.

### Criteria for waiving, altering or reducing the experience

Practicum is crucially important for MPH students, so students may not be granted waiving, altering or reducing the experience under any circumstances.

# 2.4.b. Identification of agencies and preceptors used for practice experiences for students, by program area, for the last two academic years.

Please refer to Resource File 2.4.b for the table in which the agencies and preceptors for practice experiences are listed in alphabetic order. We may see that research and clinical sites are in a large proportion. As our MPH program is more like an Executive-MPH program and nearly all of our students have their full-time job during their studies in MPH program, most students choose to take their practicum in agencies which they are working in. Since most of our students are doctors, nurses, or government officials, research and clinical sites are usually chosen as the practicum sites.

In order to keep students from their daily job in the practicum, MPH office and project plan review group will make certain that the practicum is undertaken in departments different from students' original job sites. Moreover, even practicing in research and clinical sites, students are guided to undertake community-based practicum projects.

# 2.4.c. Data on the number of students receiving a waiver of the practice experiences for each of the last three years.

MPH does not grant waivers to students. We consider practice experience a necessary training for all MPH students, and do not give waivers under any circumstance. As our MPH program matures over time (established in 2008), we hope to design the practice courses more flexibly to suit the nature of each discipline and area, instead of offering an general practice course.

2.4.d. Data on the number of preventive medicine, occupational medicine, aerospace medicines and general preventive medicine and public health residents completing the academic program for each of the last three years, along with information on their practicum rotations.

CPH doesn't have students in accordance with the above descriptions.

# 2.4.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. CPH requires every MPH student to complete 200 hours of practicum, which are more than what other colleges require their MPH students to do.
- 2. A wide variety of practicum experiences are pursued by MPH students
- 3. CPH has agreements with more than 100 community-based agencies, including local, state, and international agencies, for student practicum and research activities. (Students are also free to find additional sites for extramural academic pursuits.)

### **Challenges:**

- 1. Most MPH students have their full-time jobs, and therefore, 200 hours of practicum is a challenging requirement for them.
- 2. Research and clinical sites are in a relatively large proportion for MPH student practicum.
- 3. Although faculty members evaluate students' practice experience and culminating experience based on the competencies, it is not presented in a written form that how the faculty use the competencies to evaluate them.

#### **Plans:**

- 1. In the future, MPH students may be allowed to do their practicum in several different sections so that they don't have to complete their 200 hours in a row.
- 2. Engagement in some types of course activities may also count for required practicum hours. The details are to be discussed further.
- 3. CPH will collaborate more actively with local governments or community-based organizations in order to create more community-based practicum opportunity for students. Taipei City Government may be one of CPH's first collaborative partners.

#### The criterion is met.

#### 2.5 CULMINATING EXPERIENCE

All graduate professional degree programs, both professional public health and other professional degree programs, identified in the instructional matrix shall assure that each student demonstrates skills and integration of knowledge through a culminating experience.

2.5.a. Identification of the culminating experience required for each professional public health and other professional degree program. If this is common across the school's professional degree programs, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each.

The culminating experience for MPH students includes the written report (thesis), oral presentation, and the practicum performance evaluation. The written report and oral presentation account for 70% of the culminating experience score, and the practicum performance evaluated by the preceptor accounts for 30% of the culminating experience score.

Completed by the student under supervision of the advisor, the written report aims to present the practicum achievements, including the introduction of the whole project, the methods used in the practicum, results, and discussions. The structure of the report is similar to that of an MS thesis, but the report contains an additional chapter to describe the characteristics of the practicum site. Students have to employ the scientific knowledge and research methods learned in the courses, as well as use professional skills and practical experience attained in their practicum site, in order to complete their final report.

The oral presentation should be held with a committee of three to five experts, including the advisor. During the oral presentation, the student is required to present the practicum results and address the questions raised by the Oral Presentation Committee members in a satisfactory fashion. The Oral Presentation Committee members would give the student a final grade on the basis of the achievement of the written report, the performance in oral presentation, as well as the attainment of competencies, with a culminating experience evaluation form. (Sample of the experience evaluation form can be referred to Resource File 2.5.a.)

The practicum performance evaluation is done by the site preceptor, on the basis of the student's on-site performance. Details of the practicum performance score is described in 2.4.a.

2.5.b. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

1. The MPH practicum is designed with a clear focus to provide students with opportunities to have hands-on experience, to deal with real-world issues, and to solve the problems by applying the

- knowledge and skills learned in the program.
- 2. All MPH students are required to complete the rigorous culminating experience that challenges students to integrate the skills and knowledge they have obtained during the program.

### **Challenges:**

- 1. Incoming MPH students are relatively unfamiliar with the backgrounds of CPH faculty members, and thus may not be able to identify suitable advisors when they first enter the program.
- 2. MPH students may change advisors when starting their practicum, which may make it more difficult for them to complete the culminating experience on time.

#### Plans:

- 1. In the first week of each new semester, organize an MPH student orientation to help incoming MPH students familiarize themselves with the backgrounds of CPH faculty members before selecting their advisors.
- 2. At the beginning and the end of each semester, plan an MPH-wide faculty-student dinner gathering to facilitate dialogues and identification of common research interests between the faculty and students and to help students identify suitable advisors.

#### The criterion is met.

#### 2.6 REQUIRED COMPETENCIES

For each degree program and area of specialization within each program identified in the instructional matrix, there shall be clearly stated competencies that guide the development of degree programs. The school must identify competencies that guide the development of degree programs. The school must identify competencies for graduate professional health public, other professional and academic degree programs and specializations at all levels (bachelors, masters and doctoral).

2.6.a. Identification of a set of competencies that all graduate professional public health degree students and baccalaureate public health degree students, regardless of concentration, major or specialty area, must attain. There should be one set for each graduate professional public health degree and baccalaureate public health degree offered by the school (eg, one set each for BSPH, MPH and DrPH).

The sets of generic competencies for bachelor's and MPH students are listed below. CPH also has sets of generic competencies for MS and PhD students, which can be referred to 2.6.b.

## Generic Competencies for All Bachelor's Students

- 1. Describe the key concepts of public health.
- 2. Recognize the basic principles and methods of biostatistics and their applications to public health practice.
- 3. Recognize the basic principles and methods of epidemiology and their applications to public health practice.
- 4. Recognize basic concepts of health policy and explain effective public health strategies for promoting health for all.
- 5. Recognize the basic concepts and theories of human behavior and social science and how they are used in achieving health promotion for all.
- 6. Identify approaches to assess, control and prevent environmental and occupational hazards that are risks to human health.
- 7. Explain public health issues with the global health perspective.
- 8. Apply public health knowledge and skills in practical settings.

### **Generic Competencies for All MPH Students**

- 1. Select and use proper methods of design, analysis and synthesis to address the health problems based on population.
- 2. Identify the basic theories, concepts and models from a range of societies, behaviors and policies that are used in research and practice of public health.
- 3. State the key components and issues of history, organization, financing and delivery of public

health.

4. Employ scientific knowledge, law and ethics to critical evaluation and decision-making in public health.

2.6.b. Identification of a set of competencies for each concentration, major or specialization (depending on the terminology used by the school) identified in the instructional matrix. The school must identify competencies for all degrees, including graduate public health professional degrees, graduate academic degrees, graduate other professional degrees, as well as baccalaureate public health degrees and other bachelors degrees.

As there are sets of generic competencies for bachelor's and MPH students, CPH also sets generic competencies for MS and PhD students.

# **Generic Competencies for All MS Students**

- 1. Review the scientific literature and demonstrate disciplinary knowledge.
- 2. Formulate hypotheses or research questions and design a study to address them.
- 3. Collect, analyze, and interpret empirical data.
- 4. Prepare technical reports and give oral presentations.
- 5. Demonstrate professional and ethical behaviors in their field of study.

### **Generic Competencies for All PhD Students**

- 1. Critically review and synthesize the scientific literature.
- 2. Demonstrate a comprehensive understanding of the key theories and methodologies in their field of study.
- 3. Identify public health problems, develop hypotheses or research questions, and design and conduct independent research.
- 4. Apply appropriate analytic techniques, interpret data, and make evidence-based recommendations.
- 5. Communicate empirical findings effectively through written reports and oral presentations.
- 6. Exhibit professional and ethical behaviors in their discipline.

The sets of concentration-specific competencies for all academic degrees, including BS, MPH, MS, and PhD, are listed below, by program, major, and concentration area.

#### BS - Public Health - major in Epidemiology & Preventive Medicine

1. Describe the primary pathological characters of important diseases such as infectious disease, cancer, cardiovascular disease and cranial nerve disease.

- 2. Recognize the application of biochemistry in interpreting human life, health and disease.
- 3. Describe the primary human health problem and its risk factors.
- 4. Describe the primary infectious disease control and promotion policy in Taiwan.
- 5. Describe the epidemiological characteristic and the prevention policy of the chronic disease.

### BS - Public Health - major in Biostatistics

- 1. Have the ability to generate appropriate descriptive statistics or inferential statistics to summarize data.
- 2. Recognize the appropriate inference method of each research design.
- 3. Collect and decode statistical data, and analyze and interpret statistical results.
- 4. Recognize the procedure of biostatistics methodological research.
- 5. Program a formula and carry out high-level statistics software.

# BS - Public Health - major in Health Policy & Management and Health Behaviors & Community Sciences

- 1. Recognize the application of theories of economics, sociology, psychology, and management in public health.
- 2. Recognize the organization and management problem of the health care system.
- 3. Recognize the National Health Insurance and the primary health policy in Taiwan.
- 4. Apply the behavioral science theory to analyze population health-related behaviors.
- 5. Collect data and analyze health care-related issues.

#### BS - Public Health - major in Environmental Health

- 1. Recognize the application of the fundamental theory of physics, chemistry and biological sciences on environmental health.
- 2. Recognize the role of environmental health in the whole public health system.
- 3. Recognize the solution to environmental hazard to human health through environmental control.
- 4. Recognize the environmental hazard to human health through the environmental survey and the hazard assessment.
- 5. Recognize the decision making process of the environmental health policy.

# BS - Public Health - major in Occupational Health

- 1. Recognize the application of the fundamental theory of physics, chemistry and biological sciences on occupational health.
- 2. Recognize the role of occupational health in the whole public health system.
- 3. Recognize the solution to occupational hazard to human health through occupational control.
- 4. Recognize the occupational hazard to human health through the workplace survey and the hazard assessment.

5. Recognize the decision making process of the occupational health policy.

# BS - Public Health - major in Global Health

- 1. Collaborate with a diverse range of stakeholders to advance research, practice goals, and to foster open dialogue and effective communication.
- 2. Build culture awareness and work effectively within diverse cultural settings across local and international landscapes.
- 3. Organize and communicate in leadership and to create a shared vision and solutions in a changing future of public health.

#### MPH - Public Health - Biostatistics

- 1. Read, understand, and reproduce the results in statistical literature, and to find and correct common mistakes when performing statistical analyses.
- 2. Use graphic and tables for data representation, and to understand, describe, and conduct different statistical procedures.
- 3. Accomplish research design regarding a research topic, to appropriately conduct statistical analyses, to do oral presentation, and to communicate the analysis results with experts in other fields and general public.
- 4. Explain the logic of causal inference and interpret the results of statistical hypothesis tests and confidence intervals.
- 5. Apply statistical skills in public health practice.

#### MPH - Public Health - Epidemiology and Preventive Medicine

- 1. Understand the principles of casual inference.
- 2. Describe a public health problem in terms of magnitude, person, time, and place.
- 3. Draw appropriate inference from epidemiologic data.
- 4. Equip with the research ability (design and conduct a study, data analysis, preventive method and outcome evaluation).
- 5. Establish the concept of preventive medicine (levels of preventive measures) and utilize biostatistics epidemiology, disease prevention and various public health knowledge for research design and decision analysis.

# MPH - Public Health - Social and Behavioral Sciences

- 1. Identify the key socio-behavioral and community factors that affect the health of individuals and populations.
- 2. Describe and understand the key concepts and theories of social and behavioral sciences that are relevant to public health issues.
- 3. Identify individual, organizational, and community concerns and resources for multiple targets

- and levels of intervention for social and behavioral science programs.
- 4. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
- 5. Analyze domestic and international issues about health and environment from a socio-behavioral perspective.

### MPH - Public Health - Health Services Administration

- 1. Describe the key concepts and theories of health care organization and management.
- 2. Describe the legal and ethical bases for health services administration.
- 3. Apply research and statistical methods to address issues in health service management.
- 4. Analyze the key issues in health care systems from the perspective of multiple disciplines.

### MPH - Public Health - Environmental Health Sciences

- 1. Demonstrate knowledge of the core disciplines about environmental health sciences and skills of environmental sampling and analysis.
- 2. Evaluate the information of environment and health sciences.
- 3. Apply the knowledge and skills to assess, design, and conduct studies related to environmental health sciences.
- 4. Interpret the topics of environmental health sciences to the public health practices.
- 5. Communicate with expert and non-expert for knowledge of environmental health sciences.

# MS - Epidemiology and Preventive Medicine - Epidemiology

- 1. Understand the principles of causal inference.
- 2. Apply the basic terminology and definition of epidemiology.
- 3. Calculate basic epidemiologic measures.
- 4. Describe a public health problem in terms of magnitude, person, time, and place.
- 5. Evaluate the strength and limitations of epidemiologic reports.
- 6. Draw appropriate inference from epidemiologic data.

# MS - Epidemiology and Preventive Medicine - Biostatistics

- 1. Accomplish research design and data collection regarding a research topic, and to appropriately conduct statistical analyses.
- 2. Use graphics for data representation, and to understand, describe, and conduct different inference procedures, such as estimation and hypothesis.
- 3. Implement existing statistical methods to analyze big data.
- 4. Communicate the analysis results with non-statistical people, and to write formal statistical reports.
- 5. Read, understand, and repeat the results of the statistical literatures.

6. Conduct simulation studies to compare the performances of different statistical methods.

# MS - Epidemiology and Preventive Medicine - Preventive Medicine

- 1. Equip with the research ability (design and conduct a study, data analysis, preventive method and outcome evaluation).
- 2. Establish the concept of preventive medicine (levels of preventive measures) and utilize biostatistics, epidemiology, disease prevention, and various public health knowledge for research design and decision analysis.
- 3. Understand the role and contents of various disciplines in preventive medicine.
- 4. Develop evidence-based preventive medicine (include screening and health promotion) to evaluate and promote community health care.
- 5. Understand human right and ethical issues related to preventive medicine strategies and research.

# MS - Health Behaviors and Community Sciences

- 1. Identify the key socio-behavioral and community factors that affect the health of individuals and populations.
- 2. Describe the basic theories, concepts, and models from a range of social and behavioral disciplines that are used in public health research and practice.
- 3. Identify individual, organizational, and community concerns and resources for multiple targets and levels of intervention for social and behavioral science programs.
- 4. Apply evidence-based approaches in the development and evaluation of social and behavioral science interventions.
- 5. Analyze domestic and international issues about health and environment from a socio-behavioral perspective.

### MS - Health Policy and Management

- 1. Identify the main components and key issues of health systems in Taiwan.
- 2. Describe the key concepts and processes of policy-making to improve the health of population.
- 3. Describe the key concepts and theories of health care organizations and management.
- 4. Apply the principles and technique of research methodology to address issues in health care organizations and systems.
- 5. Describe the legal and ethical bases for health administration and health care services.

### MS - Environmental Health

- 1. Describe the key concepts of environmental health sciences.
- 2. Describe the procedures for environmental sampling and analysis.
- 3. Identify information to address issues on environmental health sciences.
- 4. Apply knowledge and skills to assess, design and conduct studies related to environmental health

sciences.

- 5. Apply the principles of environmental health sciences to the practices of public health.
- 6. Apply the concepts of environmental health sciences to communicate with people.

# MS - Occupational Medicine and Industrial Hygiene

- 1. Characterize the biological, chemical, physical and ergonomic hazards affecting human health.
- 2. Apply knowledge to develop management strategies for personal protection, engineering control, administration, and recommendations.
- 3. Search and understand scientific literature and regulations in the field of occupational and environmental health sciences.
- 4. Plan and execute occupational and environmental research and risk analysis, and resolve occupational and environmental health problems.

# PhD - Epidemiology and Preventive Medicine - Epidemiology

- 1. Correctly apply the principles of causal inference while reading scientific journals and doing research on their doctoral dissertation.
- 2. Clearly understand the principles of how to design different type of studies, e.g., clinical trials, cohort studies, and case-control studies.
- 3. Understand how random variation and bias affect the findings of a research and utilize statistical approaches to perform epidemiologic data analysis.
- 4. Build up the ability of critical appraisal on empirical studies.

### PhD - Epidemiology and Preventive Medicine - Biostatistics

- 1. Accomplish research design and data collection regarding a research topic, and to appropriately conduct statistical analyses.
- 2. Elucidate the rationale of a statistical method, to know its applicability under different situations, and to suggest the appropriate statistical method according to the underlying problem.
- 3. Understand the rationale and overcome the difficulties of existing statistical methods for big data.
- 4. Communicate the analysis results with non-statistical people, to write formal statistical reports, and to do oral presentation; able to find and correct common mistakes when doing statistical analyses.
- 5. Point out the limitations of existing statistical methods; able to develop new statistical method, and to demonstrate its superiority over existing methods via simulations.
- 6. Understand the role of statisticians, the challenges, and the difficulties in current research topics; able to suggest practical solutions, and to promote new statistical methods.

# PhD - Epidemiology and Preventive Medicine - Preventive Medicine

1. Equip with the advanced research ability (design and conduct a study, data analysis, preventive

- method and outcome evaluation).
- 2. Establish the advanced concept of preventive medicine (levels of preventive measures) and utilize biostatistics, epidemiology, disease prevention, and various public health knowledge for research design and decision analysis.
- 3. Understand the role and contents of various advanced disciplines in preventive medicine.
- 4. Develop advanced evidence-based preventive medicine (include screening and health promotion) to evaluate and promote community health care.
- 5. Understand human right and ethical issues related to preventive medicine strategies and research.

# PhD - Health Policy and Management - Health Behaviors and Community Sciences

- 1. Explain the mechanisms through which socio-behavioral and community factors affect the health of individuals and populations.
- 2. Apply the key theories, concepts, and models from a range of social and behavioral disciplines that are used in public health research and practice.
- 3. Design and implement research projects and community-based interventions independently.

# PhD - Health Policy and Management - Health Policy and Management

- 1. Analyze the key issues of health systems.
- 2. Evaluate the process and impacts of health policies and programs.
- 3. Apply the principles of management to improve the performance of health care organizations.
- 4. Conduct health service research projects independently.

### PhD - Environmental Health

- 1. Analyze the key issues of environmental health sciences.
- 2. Explain the mechanisms through which environmental factors affect the health of individual and population.
- 3. Apply the key theories, concepts, and models from a range of environmental health disciplines that are used in public health research and practice.
- 4. Evaluate the process and impacts of environmental health policies and programs.
- 5. Design and implement research projects on environmental health sciences independently.

# PhD - Occupational Medicine and Industrial Hygiene

- 1. Fulfill the four learning objectives for MS.
- 2. Conceptualize, develop and execute innovative research and apply it to promote occupational and environmental health.
- 3. Apply advanced technology and develop novel methodology in resolving occupational and environmental health problems.
- 4. Demonstrate excellent writing and oral communication ability through thesis preparation and

presentation.

#### PhD - Global Health

- 1. Accomplish research design and data collection regarding a research topic, and to appropriately conduct statistical analyses.
- 2. Equip with the research ability (design and conduct a study, data analysis and outcome evaluation).
- 3. Conduct health service research projects independently to evaluate the process and impacts of health policies and programs.
- 4. Apply technology in resolving occupational and environmental health problems.
- 5. Organize and communicate in leadership and to create a shared vision and solutions within diverse cultural settings across local and international landscapes in a changing future of public health.

2.6.c. A matrix that identifies the learning experiences (eg, specific course or activity within a course, practicum, culminating experience or other degree requirement) by which the competencies defined in Criteria 2.6.a and 2.6.b are met. If these are common across the school, a single matrix for each degree will suffice. If they vary, sufficient information must be provided to assess compliance by each degree and concentration. See CEPH Data Template 2.6.1.

Please see Resource File 2.6.c.(1) for matrix of generic competencies and supporting courses and Resource File 2.6.c.(2) for matrix of concentration-specific competencies and supporting courses. Syllabi of those courses can be found also in Resource File 2.6.c.(3).

2.6.d. An analysis of the completed matrix included in Criterion 2.6.c. If changes have been made in the curricula as a result of the observations and analysis, such changes should be described.

After reviewing and analyzing the degree and concentration area competency matrices, it came to our attention that there appeared to be relatively fewer courses pertaining to leadership competencies. As a result, faculty in the Institute of Health Policy and Management added a 2-credit course to address leadership issues in the area of health policy and management. Similarly, the Institute of Epidemiology, Preventive Medicine, and Biostatistics also developed a 2-credit course to discuss entrepreneurship and leadership issues in public health.

# 2.6.e. Description of the manner in which competencies are developed, used and made available to students.

In CPH, all the curricula and corresponding competencies are developed and supervised by the two levels of Curriculum Committee: department/institute level and college level.

Since the degree programs belong to seven academic units (namely, five institutes, one department, and one MPH office), the competencies are mainly discussed and defined within respective department/institute Curriculum Committees, which consist of department/institute directors and representatives of faculty and students, according to educational goals of each program. In the meantime, the curriculum maps are also made, identifying the learning experiences by which students will acquire the required competencies. (The learning experiences and supporting courses are listed in 2.6.c.)

The competencies and curriculum map are also evaluated and overseen by the college Curriculum Committee, according to CPH's mission and education goals. Competencies not in accordance with the mission and goals will be discussed and revised back in the department/institute Curriculum Committees.

To ensure the stability of curriculum planning in each program, the college Curriculum Committee evaluates the competencies and curriculum maps approximately once a year. Feedbacks about student's competencies from alumni and potential employers are also considered in the evaluation. If the competencies or curriculum maps need to be revised, the department/institute Curriculum Committees should complete the revision before the beginning of the next academic year so that the new curriculum maps will be applicable to the new students.

The required competencies, and how they will be acquired and evaluated, are posted on the website of every program. The information will also be made available to students in the fall orientation before the program begins, as well as through the course syllabi and faculty engagement with the students.

# 2.6.f. Description of the manner in which the school periodically assesses changing practice or research needs and uses this information to establish the competencies for its educational programs.

As described in 2.6.e, all the curricula and corresponding competencies are developed and supervised by Curriculum Committees at both the department/institute and college levels. As a result, whether the required and elective courses, or the principles of practicum and research, meet the educational goals of CPH is reviewed by the above-mentioned Curriculum Committees on a regular basis.

CPH assesses changing practice or research needs by administering surveys periodically to

alumni, employers, and internship preceptors who are asked to evaluate the competencies, as well as to current students. In addition, CPH periodically conducts qualitative interviews, such as focus groups and in-depth interviews, among alumni and their employers to gather information regarding competencies required for current practice or research. These findings inform the establishment and development of the competencies for our educational programs, and relevant courses can be designed accordingly.

2.6.g. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

Competencies are explicitly articulated for all educational programs in CPH, and corresponding learning objectives are listed in the syllabus of each course.

# **Challenges:**

It is an ongoing challenge to ensure that similar courses which are taught by different faculty members cover the same competencies.

### **Plans**

- 1. Continue working with the faculty to ensure that competencies that are covered by similar or related courses are addressed consistently.
- 2. Work with the new program leadership to assure that the corresponding concentration-specific competencies are adequately covered in related courses.
- 3. Discuss and refine competencies on the basis of the recommendations derived from the above-noted surveys to and interviews with alumni, employers, etc. to meet the changing practice or research needs.

### The criterion is met.

### 2.7 ASSESSMENT PROCEDURES

There shall be procedures for assessing and documenting the extent to which each professional public health, other professional and academic degree student has demonstrated achievement of the competencies defined for his or her degree program and area of concentration.

2.7.a. Description of the procedures used for monitoring and evaluating student progress in achieving the expected competencies, including procedures for identifying competency attainment in practice or research, as applicable, and in culminating experiences.

#### **Course-Based Assessment**

Evaluation of student progress in achieving the expected competencies largely depends on the course-based assessment. All students are required to take a prescribed set of courses and a specified number of electives according to their majors. Students must successfully complete the class examinations and assignments which were designed based on evaluation of generic and concentration-specific competencies for each course, such as mid-term and final exams, group discussions, papers, presentations, or course participation. An overall grade of C (equivalent to 60) or above or grade of B- (equivalent to 70) or above is required to pass a course for undergraduate or graduate students, respectively. Students who fail the course would not get the credits and should re-take that course in the next year.

Student GPAs are monitored each semester. Students failing to meet minimum standards are placed on probation and/or subject to dismissal. At-risk students also receive targeted counseling via the follow-up advisor meetings.

### **Practicum**

Practicum is required for MPH students and undergraduate students. The practicum not only offers students the opportunity for practical experience, but also provides a means for faculty to assess students' integration of skills and knowledge, especially for problem solution, outside the classroom.

For MPH students, the 200-hour practicum is required and connected with the culminating experience. Please see more details in 2.4.a and 2.5.a.

The practicum for undergraduate students is a 4-credits course (PH4009 Field Practice in Public Health). This course requires students to complete a 30-days practicum in medical institutions, government agencies, or private companies during the summer vacation between their junior and senior years, under the supervision of on-site preceptors. The curriculum committee of DPH (Department of Public Health) set the competencies which students have to attain and practice during the practicum. Students who complete the practicum are required to attend a poster exhibition held by DPH to show their practicum achievements. The faculty and preceptors would assess their performance with a preset evaluation form. (Please see the sample of the preset evaluation form in

Resource File 2.7.a.) Students who get the highest scores in the poster exhibition will be recommended to publish their reports in the annual meeting of Taiwan Public Health Association.

# **Culminating Experience**

The culminating experience provides the final integration of student learning across the disciplines and the application of concepts learned to practical and competitive situations. MPH, MS and PhD students must write theses and pass oral defenses to complete their culminating experience. A panel of three to five experts must evaluate a student's achievement of the expected competencies depending on the thesis and behavior in oral defense. A grade of B- (equal to 70) or above is required for graduation.

For BS students, the capstone requires the completion and presentation of a project that synthesizes their coursework and experiences and demonstrates basic professional skills in a format designed to enhance employability. The project is assessed by faculty for evidence of mastery, integration, and application of core knowledge and skills. The generic and concentration-specific competencies are the bases to assess student performance.

More details about culminating experience are in Criteria 2.5.a (MPH), 2.9.d (BS), and 2.11.c (MS and PhD).

2.7.b. Identification of outcomes that serve as measures by which the school will evaluate student achievement in each program, and presentation of data assessing the school's performance against those measures for each of the last three years. Outcome measures must include degree completion and job placement rates for all degrees (including bachelors, masters and doctoral degrees) for each of the last three years. See CEPH Data Templates 2.7.1 and 2.7.2. If degree completion rates in the maximum time period allowed for degree completion are less than the thresholds defined in this criterion's interpretive language, an explanation must be provided. If job placement (including pursuit of additional education), within 12 months following award of the degree, includes fewer than 80% of the graduates at any level who can be located, an explanation must be provided.

### **Degree Completion**

As the NTU graduation policy, the maximum time to graduation for BS, MS, MPH, and Ph.D. programs is six, four, six, and seven years, respectively. Graduate study period can be extended to two more years with university approval. Table 2.7.b.(1)-Table 2.7.b.(4) present the degree completion data for BS, MPH, MS, and PhD degrees by academic year cohorts. The degree completion data for each program of MS and PhD degrees can be referred to Resource File 2.7.b.

As many BS students chose to delay their graduation due to their study (such as double majors and minor study) or career plans, the BS graduation rate within four years is not quite stable.

However, the graduation rate is stably > 70% within five years. Furthermore, some BS students dropped or transferred to other majors after the first year of undergraduate study. The graduation rate is about 80% if considering the enrolled student numbers from the  $2^{nd}$  year as initial pool numbers.

MS program have a stable graduation rate around 90% within five years. It takes longer time to graduate in the MPH program and Ph.D. programs because most of those students still keep their jobs while studying in the programs, and the nature of this field takes longer time to complete.

Table 2.7.b.(1) Students in BS Degree (DPH), By Cohorts Entering Between 2009-10 and 2015-16

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2009-10	# Students entered <sup>1</sup>	49						
	# Students suspended, withdrew, transfer-out, etc.	5						
	# Transfer-in, Re-enrollment, etc. <sup>2</sup>	0						
	# Students graduated	0						
	Cumulative graduation rate	0.00%						
2010-11	# Students continuing at beginning of this school year <sup>1</sup>	44	51					
	# Students suspended, withdrew, transfer-out, etc.	4	11					
	# Transfer-in, Re-enrollment, etc.	2	0					
	# Students graduated	0	0					
	Cumulative graduation rate	0.00%	0.00%					
2011-12	# Students continuing at beginning of this school year	42	40	54				
	# Students suspended, withdrew, transfer-out, etc.	2	5	14				
	# Transfer-in, Re-enrollment,.etc.	0	4	0				
	# Students graduated	0	0	0				
	Cumulative graduation rate	0.00%	0.00%	0.00%				
2012-13	# Students continuing at beginning of this school year	40	39	40	53			
	# Students suspended, withdrew, transfer-out, etc.	0	0	3	18			
	# Transfer-in, Re-enrollment, etc.	1	0	2	0			
	# Students graduated	36	0	0	0			
	Cumulative graduation rate	73.47%	0.00%	0.00%	0.00%			

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2013-14	# Students continuing at beginning of this school year	5	39	39	35	51		
	# Students suspended, withdrew, transfer-out, etc.	1	0	2	3	16		
	# Transfer-in, Re-enrollment, etc.	0	0	0	2	0		
	# Students graduated	4	35	0	0	0		
	Cumulative graduation rate	81.63%	68.63%	0.00%	0.00%	0.00%		
2014-15	# Students continuing at beginning of this school year	0	4	37	31	35	52	
	# Students suspended, withdrew, transfer-out, etc.	0	1	1	3	9	18	
	# Transfer-in, Re-enrollment, etc.	1	1	0	4	4	0	
	# Students graduated	0	4	31	0	0	0	
	Cumulative graduation rate	81.63%	76.47%	57.41%	0.00%	0.00%	0.00%	
2015-16	# Students continuing at beginning of this school year	1	0	5	32	30	34	52
	# Students suspended, withdrew, transfer-out, etc.	0	0	2	0	3	8	13
	# Transfer-in, Re-enrollment, etc.	1	0	1	0	2	5	0
	# Students graduated	1	0	4	24	0	0	0
	Cumulative graduation rate	83.67%	76.47%	64.81%%	45.28%	0.00%	0.00%	0.00%

<sup>&</sup>lt;sup>1</sup> Students counted in this row includes:

- (1) Students who suspend in the previous years and re-enroll this year (both in the first and second semesters).
- (2) Students who suspend in the first semester and re-enroll in the beginning of the second semester.
- (3) Students who transfer in from other programs or colleges this year (both in the first and second semesters).

<sup>(1)</sup> Students who are admitted to the program and enroll in the beginning of the first semester.

<sup>(2)</sup> Students who study in the previous year and continue to enroll in the beginning of the first semester.

<sup>&</sup>lt;sup>2</sup> Students counted in this row includes:

Table 2.7.b.(2) Students in MPH Degree, By Cohorts Entering Between 2009-10 and 2015-16

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2009-10	# Students entered	13						
	# Students suspended, withdrew, transfer-out, etc.	2						
	# Transfer-in, Re-enrollment, etc.	0						
	# Students graduated	0						
	Cumulative graduation rate	N/A						
2010-11	# Students continuing at beginning of this school year	11	33					
	# Students suspended, withdrew, transfer-out, etc.	0	5					
	# Transfer-in, Re-enrollment, etc.	0	1					
	# Students graduated	8	1					
	Cumulative graduation rate	61.54%	3.03%					
2011-12	# Students continuing at beginning of this school year	3	28	38				
	# Students suspended, withdrew, transfer-out, etc.	1	5	8				
	# Transfer-in, Re-enrollment, etc.	0	3	1				
	# Students graduated	1	10	0				
	Cumulative graduation rate	69.23%	33.33%	0.00%				
2012-13	# Students continuing at beginning of this school year	1	16	31	36			
	# Students suspended, withdrew, transfer-out, etc.	1	1	2	4			
	# Transfer-in, Re-enrollment, etc.	1	1	0	0			
	# Students graduated	0	10	14	0			
	Cumulative graduation rate	69.23%	63.64%	36.84%	0.00%			

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2013-14	# Students continuing at beginning of this school year	1	6	15	32	31		
	# Students suspended, withdrew, transfer-out, etc.	0	1	2	6	5		
	# Transfer-in, Re-enrollment, etc.	0	3	3	1	1		
	# Students graduated	0	3	6	13	0		
	Cumulative graduation rate	69.23%	72.73%	52.63%	36.11%	0.00%		
2014-15	# Students continuing at beginning of this school year	1	5	10	14	27	30	
	# Students suspended, withdrew, transfer-out, etc.	0	0	3	4	3	7	
	# Transfer-in, Re-enrollment, etc.	0	0	2	6	2	1	
	# Students graduated	1	1	1	9	14	0	
	Cumulative graduation rate	76.92%	75.76%	55.26%	61.11%	45.16%	0.00%	
2015-16	# Students continuing at beginning of this school year	0	4	8	7	12	24	28
	# Students suspended, withdrew, transfer-out, etc.	0	1	2	0	2	4	4
	# Transfer-in, Re-enrollment, etc.	0	0	0	2	0	6	0
	# Students graduated	0	2	1	2	4	9	0
	Cumulative graduation rate	76.92%	81.82%	57.89%	66.67%	58.06%	30.00%	0.00%

Table 2.7.b.(3) Students in MS Degree, By Cohorts Entering Between 2009-10 and 2015-16

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2009-10	# Students entered	134						
	# Students suspended, withdrew, transfer-out, etc.	9						
	# Transfer-in, Re-enrollment,.etc.	0						
	# Students graduated	0						
	# Fast-track to doctoral degree	0						
	Cumulative graduation rate	0.00%						
2010-11	# Students continuing at beginning of this school year	125	118					
	# Students suspended, withdrew, transfer-out, etc.	4	10					
	# Transfer-in, Re-enrollment, etc.	1	2					
	# Students graduated	79	0					
	# Fast-track to doctoral degree	2	0					
	Cumulative graduation rate	60.44%	0.00%					
2011-12	# Students continuing at beginning of this school year	41	110	111				
	# Students suspended, withdrew, transfer-out, etc.	12	2	9				
	# Transfer-in, Re-enrollment, etc.	6	1	1				
	# Students graduated	24	83	1				
	# Fast-track to doctoral degree	0	2	1				
	Cumulative graduation rate	78.36%	72.03%	1.80%				
2012-13	# Students continuing at beginning of this school year	11	24	103	118			
	# Students suspended, withdrew, transfer-out, etc.	3	1	3	11			
	# Transfer-in, Re-enrollment, etc.	8	1	4	1			

		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
	# Students graduated	13	18	69	0			
	# Fast-track to doctoral degree	0	0	3	0			
	Cumulative graduation rate	88.06%	87.29%	66.67%	0.00%			
2013-14	# Students continuing at beginning of this school year	3	6	32	108	124		
	# Students suspended, withdrew, transfer-out, etc.	3	1	3	3	13		
	# Transfer-in, Re-enrollment, etc.	6	1	2	2	1		
	# Students graduated	4	3	20	64	3		
	# Fast-track to doctoral degree	0	0	0	4	1		
	Cumulative graduation rate	91.04%	89.83%	84.68%	57.63%	3.23%		
2014-15	# Students continuing at beginning of this school year	1	2	6	39	108	114	
	# Students suspended, withdrew, transfer-out, etc.	0	1	1	5	6	6	
	# Transfer-in, Re-enrollment, etc.	1	2	1	2	7	0	
	# Students graduated	1	2	2	24	68	0	
	# Fast-track to doctoral degree	0	0	0	0	2	0	
	Cumulative graduation rate	92.31%	88.57%	87.88%	77.97%	59.68%	0.00%	
2015-16	# Students continuing at beginning of this school year	1	1	4	12	39	108	125
	# Students suspended, withdrew, transfer-out, etc.	0	0	2	4	2	2	13
	# Transfer-in, Re-enrollment, etc.	0	0	1	1	4	2	2
	# Students graduated	0	1	0	5	19	71	0
	# Fast-track to doctoral degree	0	0	0	0	0	8	0
	Cumulative graduation rate	92.31%	92.37%	86.49%	82.20%	75.00%	69.30%	0.00%

Table 2.7.b.(4) Students in PhD Degree, By Cohorts Entering Between 2007-08 and 2015-16

		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2007-08	# Students entered	34								
	# Students suspended, withdrew, transfer-out, etc.	2								
	#Transfer-in, Re-enrollment, etc	9								
	# Students graduated	0								
	Cumulative graduation rate	0.00%								
2008-09	# Students continuing at beginning of this school year	41	28							
	# Students suspended, withdrew, transfer-out, etc.	7	2							
	#Transfer-in, Re-enrollment, etc	4	8							
	# Students graduated	0	0							
	Cumulative graduation rate	0.00%	0.00%							
2009-10	# Students continuing at beginning of this school year	38	33	36						
	# Students suspended, withdrew, transfer-out, etc.	7	3	4						
	#Transfer-in, Re-enrollment, etc	3	6	5						
	# Students graduated	1	0	0						
	Cumulative graduation rate	2.44%	0.00%	0.00%						
2010-11	# Students continuing at beginning of this school year	33	36	37	36					
	# Students suspended, withdrew, transfer-out, etc.	7	3	2	0					
	#Transfer-in, Re-enrollment, etc	1	2	2	3					
	# Students graduated	4	2	0	0					
	Cumulative graduation rate	12.20%	5.56%	0.00%	0.00%					

		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
2011-12	# Students continuing at beginning of this school year	23	33	37	39	36				
	# Students suspended, withdrew, transfer-out, etc.	3	3	0	3	2				
	#Transfer-in, Re-enrollment, etc	5	1	1	3	2				
	# Students graduated	3	2	0	0	0				
	Cumulative graduation rate	19.51%	11.11%	0.00%	0.00%	0.00%				
2012-13	# Students continuing at beginning of this school year	22	29	38	39	36	29			
	# Students suspended, withdrew, transfer-out, etc.	2	2	5	3	1	8			
	#Transfer-in, Re-enrollment, etc	4	0	0	0	3	3			
	# Students graduated	9	9	8	1	0	0			
	Cumulative graduation rate	41.46%	36.11%	21.05%	2.56%	0.00%	0.00%			
2013-14	# Students continuing at beginning of this school year	15	18	25	35	38	24	33		
	# Students suspended, withdrew, transfer-out, etc.	7	1	1	4	1	6	4		
	#Transfer-in, Re-enrollment, etc	1	2	2	4	0	9	5		
	# Students graduated	3	5	6	6	2	0	0		
	Cumulative graduation rate	48.78%	50.00%	36.84%	17.95%	5.26%	0.00%	0.00%		
2014-15	# Students continuing at beginning of this school year	6	14	20	29	35	27	34	35	
	# Students suspended, withdrew, transfer-out, etc.	1	9	3	5	3	5	3	3	
	#Transfer-in, Re-enrollment, etc	6	2	0	5	1	4	4	2	
	# Students graduated	4	3	5	8	6	1	0	0	
	Cumulative graduation rate	58.54%	58.33%	50.00%	38.46%	21.05%	3.45%	0.00%	0.00%	
2015-16	# Students continuing at beginning of this school year	7	4	12	21	27	25	35	34	37
	# Students suspended, withdrew, transfer-out, etc.	5	0	4	2	4	5	4	2	12

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
#Transfer-in, Re-enrollment, etc	0	2	3	0	2	2	1	1	7
# Students graduated	2	3	5	9	5	1	2	0	0
Cumulative graduation rate	60.98%	66.67%	65.79%	61.54%	34.21%	68.97%	57.14%	0.00%	0.00%

### **Job Placement**

Job placement for graduates is a major goal for CPH. Every effort is made to ensure students graduating with competent knowledge and skills in the related careers. Besides, department and institutes offices keep track of graduates' employment status every year.

The tables below (Table 2.7.b.(5) to Table 2.7.b.(8)) show employment statuses within one year after graduation of the undergraduate and graduate students. Data in these tables are from alumni survey which is described in 2.7.c.

Since military service is obligated for healthy adult males in Taiwan, the results of job placement is confounded. The occupation placement is displayed as being employed, seeking employment, pursuing further education, and military service.

Table 2.7.b.(5). Bachelor's Graduate Employment Information

	Graduate in	Graduate in	Graduate in	Graduate in
	2012	2013	2014	2015 <sup>1</sup>
Employed	11%	14%	17%	
Pursuing Further Education	66%	67%	62%	
Military Service	17%	7%	14%	
Seeking Employment	0%	0%	0%	
% Employed within 1 year (/total cohort) <sup>2</sup>	100%	100%	100%	
Responding Rate	94%	88%	93%	0%
Number of Students Graduated	45	36	42	35

<sup>&</sup>lt;sup>1</sup>The survey for alumni graduating in 2015 is still ongoing till December 2016.

Table 2.7.b.(6). MPH Graduate Employment Information

	Graduate in	Graduate in	Graduate in	Graduate in
	2012	2013	2014	2015 <sup>1</sup>
Employed	100%	96%	97%	80%
Pursuing Further Education	0%	4%	3%	20%
Military Service	0%	0%	0%	0%
Seeking Employment	0%	0%	0%	0%
% Employed within 1 year (/total cohort) <sup>2</sup>	100%	100%	100%	100%
Responding Rate	73%	92%	58%	19%
Number of Students Graduated	14	26	22	26

<sup>&</sup>lt;sup>1</sup> The survey for alumni graduating in 2015 is still ongoing till December 2016.

<sup>&</sup>lt;sup>2</sup>% Employed = N (Employed + Pursuing Further Education + Military Service) / N (Graduates providing employment info)

<sup>&</sup>lt;sup>2</sup>% Employed = N (Employed + Pursuing Further Education + Military Service) / N (Graduates providing employment info)

	Graduate in	Graduate in	Graduate in	Graduate in
	2012	2013	2014	20151
Employed	84%	92%	80%	73%
Pursuing Further Education	8%	4%	2%	6%
Military Service	5%	4%	7%	12%
Seeking Employment	3%	0%	11%	9%
% Employed within 1 year (/total cohort) <sup>2</sup>	97%	100%	89%	91%
Responding Rate	85%	75%	77%	33%
Number of Students Graduated	115	103	93	99

Table 2.7.b.(7). MS Graduate Employment Information

Table 2.7.b.(8). PhD Graduate Employment Information

Tubic 2000 (O) 1 In District Conference of the C					
	Graduate in	Graduate in	Graduate in	Graduate in	
	2012	2013	2014	2015 <sup>1</sup>	
Employed	95%	100%	100%	100%	
Pursuing Further Education	0%	0%	0%	0%	
Military Service	0%	0%	0%	0%	
Seeking Employment	5%	0%	0%	0%	
% Employed within 1 year (/total cohort) <sup>2</sup>	95%	100%	100%	100%	
Responding Rate	100%	94%	91%	26%	
Number of Students Graduated	31	34	31	27	

<sup>&</sup>lt;sup>1</sup> The survey for alumni graduating in 2015 is still ongoing till December 2016.

2.7.c. An explanation of the methods used to collect job placement data and of graduates' response rates to these data collection efforts. The school must list the number of graduates from each degree program and the number of respondents to the graduate survey or other means of collecting employment data.

CPH utilizes a multiplicity of means to collect graduate employment data. Department and institutes offices play a key role in collecting these data mainly by email and social media sites, such as Facebook. Faculty members also gain these data by keeping in contact with their former advisees and/or serving as employment references. They share this information with the department coordinators for documentation. Department/institutes offices and faculty members are the two main ways to keep track of graduates' employment status.

<sup>&</sup>lt;sup>1</sup> The survey for alumni graduating in 2015 is still ongoing till December 2016.

<sup>&</sup>lt;sup>2</sup>% Employed = N (Employed + Pursuing Further Education + Military Service) / N (Graduates providing employment info)

 $<sup>^2\,\%\,\,</sup>Employed = N\,\,(Employed + Pursuing\,\,Further\,\,Education + Military\,\,Service) \,/\,\,N\,\,(Graduates\,\,providing\,\,employment\,\,info)$ 

An overall alumni survey was conducted by CPH via online questionnaire in 2015. Requests to participate the survey were sent to the email addresses of CPH alumni who graduated from 2012 to 2014. This survey included: (1) the current employment of the alums, (2) feedback as to education experience in CPH and to application of competencies following degree completion, (3) feedback as to academic and career advising service from CPH. A new round of the same survey for alumni graduating in 2015 was conducted in 2016 and is still ongoing till December.

CPH has started the exit survey from 2015 to collect information. Students are invited (but not obliged) to fill out the online questionnaire right before graduating and leaving school. Items on the survey solicit similar information as the alumni survey. This information is often lacking for some graduates who fail to report if they do not have a job yet.

The responding rates of the two surveys are showed in Table 2.7.c.(1) and Table 2.7.c.(2). Because students and alumni are encouraged but not required to fill out those questionnaires, the responding rates are quite unstable.

Table 2.7.c.(1) Responding Rate of the Alumni Survey

	0		•	
	Bachelor	MPH	MS	PhD
Graduated in 2012	94%	73%	85%	100%
Graduated in 2013	88%	92%	75%	94%
Graduated in 2014	93%	59%	77%	91%
Graduated in 2015 <sup>1</sup>	0%	19%	33%	26%

<sup>&</sup>lt;sup>1</sup> The survey for alumni graduating in 2015 is still ongoing till December 2016.

Table 2.7.c.(2) Responding Rate of the Exit Survey

	Bachelor	MPH	MS	PhD
Graduated in 2015	57%	58%	82%	93%
Graduated in 2016	14%	56%	61%	67%

Samples of alumni and exit survey questionnaires can be referred to Resource File 2.7.c.(1) and 2.7.c.(2). Results of these surveys can be referred to Resource File 2.7.(3) and 2.7.(4).

2.7.d. In fields for which there is certification of professional competence and data are available from the certifying agency, data on the performance of the school's graduates on these national examinations for each of the last three years.

In Taiwan, there is no national examination on public health competencies. However, Taiwan Public Health Association (TPHA) holds a Basic Level in Public Health Core Competency Examination (BPHCE) to evaluate students' performance in competencies of five core areas. Passing

BPHCE is highly encouraged but not required for graduation. (Table 2.7.d.(1))

Year	Testing	Passing	Rate
2012	32	23	72%
2013	19	14	74%
2014	11	9	82%
2015	14	13	93%

Table 2.7.d.(1). Bachelor's Students' Performance on BPHCE, counted by the end of every year

Government issues different licenses and certificates in professional public health including health administration, environmental health, and occupational safety. The law requires factories and companies with more than 300 employees to hire certified experts, such as occupational health specialist and occupational safety and hygiene officers, to inspect workplace and protect workers' health and safety. As a result, CPH highly encourages students to take the national certificate examination.

Certain national certificate examinations, such as Occupational Health Specialist Certificate and Technician for Labor Health Management, have set a low pass rate (about one-six). Some other examinations, such as Occupational Safety and Hygiene Officer, might be carried out for limited vacancy, leading to high competition and low pass rate. According to the graduate summary, there are in average 31% CPH graduates getting national certificates in professional public health in the past years (Table 2.7.d.(2)). Among these graduates, about one third is getting Occupational Health Specialist Certificate. Others include Technician for Labor Health Management, Occupational Safety and Hygiene Officer, Exclusive Personnel of Air Pollution Prevention, Technical Personnel of Waste Disposal (Treatment), etc.

**Table 2.7.d.(2) Percentage of CPH Graduates Getting National Certificate** 

Year	Testing	Passing	Rate
Graduated in 2012	13	1	8%
Graduated in 2013	43	15	35%
Graduated in 2014	11	5	45%
Graduated in 2015	8	2	25%

2.7.e. Data and analysis regarding the ability of the school's graduates to perform competencies in an employment setting, including information from periodic assessments of alumni, employers and other relevant stakeholders. Methods for such assessments may include key informant interviews, surveys, focus groups and documented discussions.

CPH tries in several ways to obtain data on graduates' abilities to become competent employees after graduation. Alumni survey is one of the main data source and is quite helpful for our curriculum design. For example, as many alumni point out the importance of English abilities in career, the number of courses taught in English increased in recent years. Furthermore, as the lack of basic training and the gap between students in biostatistics courses are mentioned several times, ability grouping is applied to "Applied Biostatistics Course" since fall 2016.

Descriptions and results of the alumni surveys can be referred to 2.7.c (with Resource File 2.7.c).

Data also come from employers and preceptors. General topics from the focus groups with employers and preceptors include curriculum issues, specifically addressing to what extent our curriculum includes coursework that their agency/organization would expect a student to have completed, and what topics we could add to the curriculum to better prepare students for working at their organization. We also ask about strengths and weaknesses of CPH graduates that they have hired in terms of public health knowledge and skills. In addition to asking about what skills our graduates have that stand out, we also inquire about what skills could be improved upon and what additional job skills training they would recommend us to provide to students. In addition, we ask which competencies are important and not important to their organization and how well students demonstrate proficiency in these competencies.

The information generated by these processes provides important information for CPH to adjust course content to maintain the high quality of our students in the public health workforce. For example, in response to the comments from our alumni working in high tech industry, our curriculum design has been modified and pays more attention to risk assessment.

DPH and other graduate institutes also invited alumni and employers from different workplaces to share their experiences and provide suggestion to current students and the college. Table 2.7.e shows the numbers of these activities as well as the participants. Samples of activity descriptions can be referred in Resource File 2.7.e.

Table 2.7.e. Numbers of Alumni and Employers Forum, invited guests, and CPH participants

		2013-2014		2014-2015			2015-2016		
	#s of	Invited	СРН	#s of	Invited	СРН	#s of	Invited	СРН
	forum	guests	participants	forum	guests	participants	forum	guests	participants
DPH	3	5	120	3	3	120	3	5	80
EPM	3	6	190	2	3	100	2	8	90
HPM	1	2	17	1	2	26	2	2	40
EH	0	0	0	1	1	17	0	0	0
OMIH	0	0	0	3	15	30	2	6	72

# 2.7.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

- 1. CPH has multiple, well-established methods for monitoring and evaluating student progress for degree completion and the extent to which they meet program-specific competencies.
- 2. CPH has established performance standards to assess student competencies leading up to and following graduation.
- 3. Students continue to perform well and to assimilate into the job market or proceed for further training.
- 4. Alumni and employer surveys indicate that graduates give high ratings to the quality of their educational experiences.

# **Challenges:**

Refining the data collection strategies for tracking CPH graduates' work activities and professional accomplishments is an ongoing challenge.

### **Plans:**

- CPH Curriculum Committees at both the department/institute and college levels will continue to
  monitor the results of course evaluations and student feedback to ensure that the courses provide
  students with sufficient training and equip them with the required generic and
  concentration-specific competencies.
- 2. CPH will continue to refine the methods and instruments for collecting data from our alumni, their employers and practicum preceptors in regard to the achievement of the competencies defined for CPH graduate's degree programs and concentration areas.
- 3. CPH will strengthen the connection with alumni associations in both the department/institute and college levels so that the current status of alumni as well as their suggestions for CPH will be renewed whenever necessary.

# The criterion is met.

### 2.8 OTHER GRADUATE PROFESSIONAL DEGREES

If the school offers curricula for graduate professional degrees other than the MPH or equivalent public health degrees, student pursing them must be grounded in basic public health knowledge.

2.8.a. Identification of professional degree curricula offered by the school, other than those preparing primarily for public health careers, and a description of the requirements for each.

There are two professional degree curricula offered by CPH, namely Professional Master of Science in Biostatistics (PMSB) and the Executive Master of Health Administration (EMHA). Both programs offer Master of Science (MS) degree. One essential feature of these professional degree programs is that their required courses are tailored and offered exclusively for them and hence should be separated from other programs. The programs also appoint several adjunct instructors to provide more practice-oriented courses.

# (1) PMSB program

The PMSB program was founded in year 2008 in the Institute of Epidemiology, which was consolidated with Institute of Preventive Medicine later in 2010 (currently Institute of Epidemiology and Preventive Medicine). The PMSB program is tailored for master students who already have job and been interested in studying how to apply statistical methods to solving their practical problems.

The PMSB program has one required course (Quantitative Science, 2 credits), which is offered in the weekend or in the evening during weekday because this program is for students who are currently on the job. All students are also required to write a thesis (0 credits) before graduation. The minimum credit number of elective courses is 22, which has no specific restriction for the course selection.

### **Student admission**

The qualification of applying this program is minimum 1-year full-time job experience in the same working institute. The evaluation of student's qualification of admission to this program includes 3 parts: (1) application materials (application form, proof of working experience, diploma, grade, and personal statement; 30%), (2) written exam (basic biostatistics and English, 30%), and (3) oral exam (40%). In the past 5 years (2011-2016), both the student quota and accepted number are 7 with an acceptance rate ranging from 47% to 32%. About two third of the students are health professionals and one third of them belongs to other professions.

School year	Number of Applicants	Admission Quota	Number of Acceptance	Acceptance rate	Absence rate
2016	22	7	7	31.82%	0.00%
2015	21	7	7	33.33%	0.00%
2014	13	7	7	53.85%	0.00%
2013	15	7	7	46.67%	0.00%
2012	15	7	7	46.67%	0.00%

2.8.a.(1) Number of applicants and acceptance rates for PMSB, 2012-2016

# (2) EMHA program

The EMHA program was started in September 2016. The curriculum was designed for students who have more extensive working experience and wish to complete the program intensively during the weekends.

# **Objective of EMHA Education**

- 1. To foster students to have prospectively professional knowledge of health care administration and policy
- 2. To foster students to have ability of integrating projects, plans and leadership
- 3. To foster students to have ability of comment and solve problems of current health industry
- 4. To foster students to be a leader with international perspective and innovative spirit.

# **Core Competencies of EMHA**

- 1. To be able to possess the knowledge of health care system and related policy environment.
- 2. To be able to translate and apply the knowledge and models of management to improve the performance of an organization.
- 3. To possess the ability to plan, lead, evaluate and coordinate projects.

# **Student admission**

There two groups in the EMHA program. The qualification to apply for group A is at least 3 years of related work experience; for group B is at least 3 years of experience as an Executive administrator. The evaluation of student's qualification of admission to this program includes 2 arts: (1) application materials (application form, proof of working experience, diploma, grade, and personal statement; 50%), (2) face-to-face interview (50%). For 2016, the number of students is 7 and 8, respectively (please refer to Table 2.8.a.2).

<b>2.8.a.(2)</b> Number of a	applicants and acceptan	ce rates for EMHA, 2016

Groups	Number of Applicants	Admission Quota	Number of Acceptance	Acceptance rate	Absence rate
Group A	29	7	7	24.14%	0.00%
Group B	28	8	8	28.57%	0.00%

Qualifications for

Group A: at least 3 years of working experience

Group B: at least 3 years of experience as an executive administrator

2.8.b. Identification of the manner in which these curricula assure that students acquire a public health orientation. If this means is common across these other professional degree programs, it need be described only once. If it varies by program, sufficient information must be provided to assess compliance by each program.

### (1) PMSB

The single required course of PMSB program belongs to the "biostatistics" core competency. Therefore, the remaining 4 public health competencies (Epidemiology and Preventive Medicine, Health Services Administration, Social and Behavioral Sciences, and Environmental Health Sciences) may not be able to be fulfilled by PMSB students as there is no restriction on the selection of elective courses.

### (2) EMHA

The minimum credit hours are 36, including 9 required courses (22 credit hours), elective courses and a master's thesis (no credit hour). (The curriculum map can be referred to Figure 2.8.b.) These required courses can be categorized into the core competencies of "Biostatistics," "Health Services Administration" and "Health Services Administration, Social and Behavioral Sciences." Therefore, the remaining 2 CEPH competencies (Epidemiology & Preventive Medicine and Environmental Health Sciences) may not be able to be fulfilled by EMHA students. However, since the first semester of the program, we will modify the required courses or contents so that students will be able to know all the five core competencies of public health.

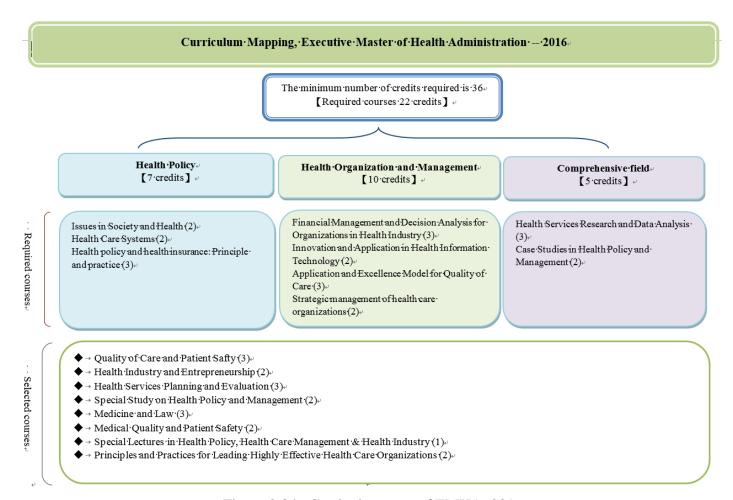


Figure 2.8.b. Curriculum map of EMHA, 2016

2.8.c. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

- 1. The curricula are tailored and offered exclusively for PMSB and EMHA students to meet their needs.
- CPH provides space and computer facilities for both PMSB and EMHA students to take courses and practice and conduct statistical analysis.
- 3. In additions, students can take elective courses from all courses offered by NTU.

### Weakness:

There is no specific restriction for taking the elective courses; therefore, students in these programs may not be able to fulfill all 5 core competencies of CEPH.

# Plan:

1. For both PMSB and EMHA programs, the curricula will be reviewed annually and incorporate all 5 core competencies into required courses so that students can have a comprehensive knowledge in addition to their intensified areas.

This criterion is partially met.

### 2.9 BACHELORS DEGREES IN PUBLIC HEALTH

If the school offers baccalaureate public health degrees, they shall include the following elements:

Required Coursework in Public Health Core Knowledge: students must complete courses that provide a basic understanding of the five core public health knowledge areas defined in Criterion 2.1, including one course that focuses on epidemiology. Collectively, this coursework should be at least the equivalent of 12 semester-credit hours.

Elective Public Health Coursework: in addition to the required public health core knowledge courses, students must complete additional public health-related courses. Public health-related courses may include those addressing social, economic, quantitative, geographic, educational and other issues that impact the health of populations and health disparities within and across populations.

Capstone Experience: students must complete an experience that provides opportunities to apply public health principles outside of a typical classroom setting and builds on public health coursework. This experience should be at least equivalent to three semester-credit hours or sufficient to satisfy the typical capstone requirement for a bachelor's degree at the parent university. The experience may be tailored to students' expected post-baccalaureate goals (eg, graduate and/or professional school, entry-level employment), and a variety of experiences that meet university requirements may be appropriate. Acceptable capstone experiences might include one or more of the following: internship, service-learning project, senior seminar, portfolio project, research paper or honors thesis.

The required public health core coursework and capstone experience must be taught (in the case of coursework) and supervised (in the case of capstone experiences) by faculty documented in Criteria 4.1.a and 4.1.b.

2.9.a. Identification of all bachelor's-level majors offered by the school. The instructional matrix in Criterion 2.1.a. may be referenced for this purpose.

The BS degree program in Department of Public Health (DPH) is the only bachelor-level program offered in CPH. It was founded as the pioneer of bachelor program in public health in Taiwan. Please refer to Table 2.1.a.

2.9.b. Description of specific support and resources available in the school for the bachelor's degree programs.

As DPH is the first and basic academic unit of CPH, it offered coursework that is aimed at undergraduate-level education. The required core courses and advanced courses, which are described in 2.9.c, are designed specifically for BS students to set the foundation of essential knowledge and techniques for public health.

Moreover, in order to provide "well-round education," which is "to establish the inter-subjectivity relationship between the humanities and the natural environments where humans live," National Taiwan University requires all BS students to take general courses and liberal education courses. All of those courses are designed especially for BS students in order to promote the dialogue and integration between different academic areas, as well as foster students' cultural literacy and expand their global vision.

Table 2.9.b describes the areas of the general and the liberal education. Every BS student in CPH should take 12 credits for general courses and 18 credits for liberal education courses.

Table 2.9.b. Areas of General and Liberal Education Course

Areas of General Course	Chinese
	English and Other Foreign Language.
	Physical Education
	Service Learning
Areas of Liberal Education Course	Literature and Art
	Historical Thinking
	World Civilization
	Philosophy and Moral Reasoning
	Civic Awareness and Social Analysis

Advising service is also important for BS students since they are still in a stage of searching for their career and devotion. CPH designs a "two-stage advisor system" for BS students so that students may get more appropriate advising and assistance in their different learning stages. Please refer to 4.4.a for more descriptions of the advisor system.

2.9.c. Identification of required and elective public health courses for the bachelor's degree(s). Note: The school must demonstrate in Criterion 2.6.c that courses are connected to identified competencies (ie, required and elective public health courses must be listed in the competency matrix in Criterion 2.6.d).

The DPH students are required to take a minimum of 128 credits for graduation, including core courses, disciplinary field courses, elective courses, and practicum.

Core courses include four areas: Basic Natural Sciences (12-14 credits), Basic Social Sciences

(3 credits), Basic Medical Sciences (11 credits) and Basic Public Health (27 credits). These core courses set the foundation of knowledge and techniques that enable students to adequately prepare for future practice in public health. Students must take all of these courses regardless of their concentration areas.

Among these core courses, those in Basic Public Health address the five public health core knowledge areas and offer an overview of the eight generic competencies of public health for all BS students, which are shown in Table 2.9.c.(1).

Table 2.9.c.(1). Required Courses Addressing Public Health Core Knowledge Areas for DPH Students

Core Knowledge	Course Title (credits)		
Area	Fundamental Courses	<b>Comprehensive Courses</b>	
Biostatistics	Biostatistics I (3)		
Biostatistics	Biostatistics II (3)		
Enidamialagy	Epidemiology (3)		
Epidemiology	Case Study on Epidemiology(2)		
Environmental	Fundamentals of Environmental Health (2)	Introduction to Public Health (2)	
Health Sciences	Occupational Health (2)	Field Practice in Public Health (4)	
Social & Behavioral	Health Promotion and Health Education (2)		
Sciences	Health Fromotion and Health Education (2)		
Health Services	Laws and Regulation in Medicine and Health (2)		
Administration	Principles of Public Health Administration (2)		

Students are also required to take disciplinary field courses according to their concentration areas, including Epidemiology & Preventive Medicine, Biostatistics, Health Policy & Management, Environmental Health, Occupational Health, and Global Health. These courses provide students with advanced trainings and in-depth knowledge of the specific areas. The courses are shown in Table 2.9.c.(2).

Table 2.9.c.(2). Required Advanced Courses for DPH Students

Concentration Areas	Course Title (credits)
Epidemiology, Biostatistics & Preventive  Medicine – major in <b>Epidemiology &amp; Preventive Medicine</b>	Introduction to Pathology (2), Practical Issues in the Control of Infectious Disease(2), Epidemiology of Chronic Disease(2), Practice in Public Health(2), Biochemistry(4) + Lab (2)
Epidemiology, Biostatistics & Preventive  Medicine – major in <b>Biostatistics</b>	Linear Algebra (2), Statistical Theory (2), Applied Statistics (2), Advanced Biostatistics (2), Practice in Public Health (2)

Concentration Areas	Course Title (credits)
	Economics I (3), Introductory Sociology (3),
	General Psychology (3), Introduction to Health
Health Policy & Management and Health	Service Research (2), Practice in Public Health (2),
<b>Behaviors &amp; Community Sciences</b>	Management of Health Services Organizations (2),
	Introduction to Health Behavior Science (2), Social
	Security, Welfare and Health System (2)
	Environmental Chemistry (3), Biochemistry (3)+
Environmental & Occupational Health – major in	Lab (1), Principles of Environmental and
Environmental Health	Occupational Toxicology (2), Health and Hazard
	Risk Assessment (2), Practice in Public Health (2)
	Monitoring for Health Hazard at Work (I+II) (2+2),
	Industrial Ventilation (2), Industrial Safety and
Environmental & Occupational Health – major in	Health Law (2), Principles of Environmental and
Occupational Health	Occupational Toxicology (2), Personal Protective
	Equipment (2), Health and Hazard Risk Assessment
	(2), Practice in Public Health (2)
	Second Foreign Language I-III (9), Essentials of
Global Health	Global Health (3), Overseas Exchange Program (4
	or 8), Practice in Public Health (2)

Besides required courses (core courses and disciplinary field courses), students are allowed to take elective courses provided either by CPH or other colleges in NTU according to their interests. We hope the elective courses may help students to broaden their visions.

Students also have to complete a 240-hour practicum and write a practicum report before graduation. The detailed description of practicum can be referred to 2.9.d.

# 2.9.d. A description of school policies and procedures regarding the capstone experience.

Successful completion of the culminating experience assures that students are able to integrate their classroom experiences with the real world of public health practice in the field. There are no written graduation examinations for BS students; however, a practicum, a practice result poster, and a final paper report are required for all students before graduation.

The practicum offers students an opportunity to develop and expand practical skills through applied learning in public health settings outside the classroom. The aim is to allow students to develop problem-solving skills in approved and supervised practicum experiences, to apply key academic concepts in partnership with community organizations and other agencies.

DPH has tried enormously to strike a balance between theory and practice. As we consider practicum experience as a necessary training for all DPH students, a 240-hour practicum is an important part in the DPH curriculum. During the practice, students are required to hand in weekly journals to report their progress to their practice-advisors as part of the practice experience qualifications. The practicum site supervisors are responsible for the evaluation of student's progress and performance during the practice placement experience. They must complete the "Evaluation Form for Public Health Practicum", which requires a direct and honest report of the students' level of success in completing the learning performance. After the practice, students not only should make a poster and give a poster presentation, but also have to write a report that describe how they met the expected outcomes and present the practicum results as the culminating experience.

Some students may do some research with a faculty member and even formally submitted a research grant and funded for research awards, but it is optional.

2.9.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

- 1. DPH is the best school of public health in Taiwan, enabling us to compete with the larger colleges for qualified faculty.
- 2. DPH adopts a two-stage advisor system offering academic advising and life advising (assisting new students to adjust to being college students, such as social relationship counseling or psychological counseling) for students. Each student is assigned a faculty member as advisor when he/she is just enrolled in this department as a freshman, and allowed to invite a preferable faculty member as a succeeding advisor while turning junior.

# **Challenges:**

Although the DPH is able to offer various kinds of teaching courses to meet the requirements for the five competencies in public health, the required course credits earned by student for graduation is quite rigidly set up.

# Plan:

This department plans to convince the university, or even the education authority of this country, to ease up the regulations on course credit requirement, and, based upon the philosophy of public health education currently prevail in the north American, to introduce/launch new education system like concentration courses arrangement for the first-two-year undergraduate students. We wish this new system will encourage more undergraduate students to be interested in the field of public health.

### The criterion is met.

### 2.10 OTHER BACHELORS DEGREES

If the school offers baccalaureate degrees in fields other than public health, students pursing them must be grounded in basic public health knowledge.

2.10.a. Identification of other baccalaureate degrees offered by the school and a description of the requirements for each. The instructional matrix in Criterion 2.1.a may be referenced for this purpose.

This criterion is not applicable.

2.10.b. Identification of the manner in which these curricula assure that students acquire a public health orientation. If this means is common across these degree programs, it need be described only once. If it varies by program, sufficient information must be provided to assess compliance by each program.

This criterion is not applicable.

2.10.c. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

This criterion is not applicable.

#### 2.11 ACADEMIC DEGREES

If the school also offers curricula for graduate academic degrees, students pursuing them shall obtain a broad introduction to public health, as well as an understanding about how their discipline-based specialization contributes to achieving the goals of public health.

2.11.a. Identification of all academic degree programs, by degree and area of specialization. The instructional matrix in Criterion 2.1.a may be referenced for this purpose.

As outlined in 2.1.a, CPH offers seven academic master's degrees and eight academic doctoral degrees in the following six areas: Epidemiology and Preventive Medicine, Health Policy and Management, Health Behavior and Community Sciences, Environmental Health, Occupational Medicine and Industrial Hygiene, and Global Health. These programs separately belong to the five institutes in CPH: Institute of Epidemiology and Preventive Medicine (EPM), Institute of Health Policy and Management (HPM), Institute of Health Behavior and Community Sciences (HBCS), Institute of Environmental Health (EH), and Institute of Occupational Medicine and Industrial Hygiene (OMIH).

2.11.b. Identification of the means by which the school assures that students in academic curricula acquire a public health orientation. If this means is common across the school, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each.

To ensure the population-based orientation for students with academic degree, all students in MS and PhD programs are required to take courses in general public health and are encouraged to acquire a broader public health perspective through elective courses.

For MS programs, students are required to take at least 2 credits in epidemiology and 3 credits in general public health (such as introduction to public health and biostatistics). The required courses vary in departments. Table 2.11.b.(1) outlines the courses for MS program students.

Program / Concentration Area	Course Title	
EPM - Biostatistics	MPH7009 - Public Health: Perspective and Prospect	2
	EPM5030 - Applied Biostatistics	3
	EPM7112 - Principles of Epidemiology	2
	MPH7009 - Public Health: Perspective and Prospect	2
EPM - Epidemiology	EPM5030 - Applied Biostatistics	3
	EPM7112 - Principles of Epidemiology	2

Program / Concentration Area	Course Title	Credit	
	MPH7009 - Public Health: Perspective and Prospect		
EPM - Preventive Medicine	EPM5030 - Applied Biostatistics		
	EPM7112 - Principles of Epidemiology		
	HPM7002 - Public Health Ethics	1	
HPM - Behavior	EPM5030 - Applied Biostatistics	3	
	EPM7112 - Principles of Epidemiology	2	
	HPM7002 - Public Health Ethics	1	
HPM - Policy and Management	EPM5030 - Applied Biostatistics	3	
	EPM7112 - Principles of Epidemiology	2	
	MPH7009 - Public Health: Perspective and Prospect	2	
EH	HPM7002 - Public Health Ethics		
En	EPM5030 - Applied Biostatistics	3	
	OMIH5002 - Environmental and Occupational Epidemiology	2	
	MPH7009 - Public Health: Perspective and Prospect	2	
	HPM7002 - Public Health Ethics	1	
	EPM5030 - Applied Biostatistics	3	
OMIH	OMIH7039 - Case Conference in Environmental and		
OMIH	Occupational Health I*	1	
	OMIH7040 - Case Conference in Environmental and	1	
	Occupational Health II*	1	
	OMIH5002 - Environmental and Occupational Epidemiology	2	

<sup>\*</sup>Case Conference in Environmental and Occupational Health I (OMIH 7039) and Case Conference in Environmental and Occupational Health II (OMIH7040) include basic knowledge about epidemiology.

For PhD programs, students are required to take at least 2 credits in epidemiology and at least 2 credits in general public health. Since basic knowledge about epidemiology is one of the admission requirements for PhD programs in EH and OMIH, PhD students in these two programs are not prescribed to take basic epidemiology courses.

Table 2.11.b.(2) outlines the courses for PhD program students.

Table 2.11.b.(2): Public Health Orientation Course for PhD Programs

Program / Concentration Area	Course Title*	Credit
EPM - Biostatistics	MPH7009 - Public Health: Perspective and Prospect	2
	HPM7002 - Public Health Ethics	1
	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM7110 - Advanced Methods in Epidemiology	2

Program / Concentration Area	Course Title*	Credit
	MPH7009 - Public Health: Perspective and Prospect	2
	HPM7002 - Public Health Ethics	1
EPM - Epidemiology	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM7112 - Principles of Epidemiology	2
	EPM7110 - Advanced Methods in Epidemiology	2
	MPH7009 - Public Health: Perspective and Prospect	2
	HPM7002 - Public Health Ethics	1
EPM - Preventive Medicine	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM7112 - Principles of Epidemiology	2
	EPM7110 - Advanced Methods in Epidemiology	2
	MPH7009 - Public Health: Perspective and Prospect	2
LIDM II. 141 Doggan	HPM7002 - Public Health Ethics	1
HPM - Health Promotion	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM7112 - Principles of Epidemiology	2
	MPH7009 - Public Health: Perspective and Prospect	2
HPM - Health Services and	HPM7002 - Public Health Ethics	1
Industry	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM7112 - Principles of Epidemiology	2
	MPH7009 - Public Health: Perspective and Prospect	2
ЕН	HPM7002 - Public Health Ethics	1
	EPM5012 - Public Health Leadership and Entrepreneurship	1
	MPH7009 - Public Health: Perspective and Prospect	2
OMIL	HPM7002 - Public Health Ethics	1
OMIH	EPM5012 - Public Health Leadership and Entrepreneurship	1
	EPM5030 - Applied Biostatistics	3
	OMIH5125 - Contemporary Issues in Global Health	3
Global Health	EPM8001 - Biostatistics for Public Health	3
	EPM8002 - Principle and Application in Epidemiology	3

<sup>\*</sup>Based on their previous experience with statistics courses, students may choose to opt out if sufficient progress has been exhibited.

2.11.c. Identification of the culminating experience required for each academic degree program. If this is common across the school's academic degree programs, it need be described only once. If it varies by degree or program area, sufficient information must be provided to assess compliance by each.

# **MS Degrees**

The culminating experience for all the academic master students is a written thesis. Although students are not required to take written qualification exams, there is a universal requirement at NTU that a final oral defense should be held for master's theses before a panel of three to five experts, including the advisor.

# **PhD Degrees**

For doctoral students, each institute has more detailed regulation about the graduation process. In general, students need to take a written qualification exam before they make a thesis proposal. They may apply for qualification exam once they complete the required courses. Many institutes further require that students pass the exam within three years after enrolment. Students may only take the exam twice. Students who fail to pass the examination would be dropped out. For the doctoral thesis, a student needs to have an advisor within certain period of time (e.g., one year in EPM) after qualify exam. Then the advisor organizes the Oral Presentation Committee, including 5-7 experts, for graduate qualification. Many institutes require PhD candidate student to give some form of progress report (oral presentation or written report to the committee or the faculty meeting). Before applying for final oral defense, many institutes require that the student has already published a certain number of peer-reviewed scientific papers (favorably in international journals).

This myriad system of regulation for doctoral graduation works for the majority of doctoral students; nevertheless, there remain a considerable proportion of doctoral students who run into some distraction that they may apply for leave of absence, with many of them working for a publishable manuscript. To help graduate students improve their scientific writing skills, each institute now offers some small-group English writing courses (basic and advanced ones) specifically for the graduate students of its own.

2.11.d. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

CPH has strong academic degree programs at the graduate level.

## **Challenges:**

No challenge is identified.

#### Plans:

None.

# The criterion is met.

#### 2.12 DOCTORAL DEGREES

The school shall offer at least three doctoral degree programs that are relevant to three of the five areas of basic public health knowledge.

2.12.a. Identification of all doctoral programs offered by the school, by degree and area of specialization. The instructional matrix in Criterion 2.1.a may be referenced for this purpose. If the school is a new applicant and has graduates from only one doctoral program, a description of plans and a timetable for graduating students from the other two doctoral programs must be presented, with university documentation supporting the school's projections.

As outlined in 2.1.a, CPH offers eight doctoral degrees (all of them are academic, which are listed in Table 2.12.a) in the following six areas: Epidemiology and Preventive Medicine, Health Policy and Management, Health Behavior and Community Sciences, Environmental Health, Occupational Medicine and Industrial Hygiene, and Global Health. These programs separately belong to the four institutes in CPH: Institute of Epidemiology and Preventive Medicine (EPM), Institute of Health Policy and Management (HPM), Institute of Environmental Health (EH), and Institute of Occupational Medicine and Industrial Hygiene (OMIH).

Table 2.12.a. List of Academic Doctoral Degrees in CPH

Academic Doctoral Degree	Academic Unit	
PhD - Epidemiology and Preventive Medicine - Epidemiology		
PhD - Epidemiology and Preventive Medicine - Biostatistics	Institute in EPM	
PhD - Epidemiology and Preventive Medicine - Preventive Medicine		
PhD - Health Policy and Management - Health Behaviors and Community Sciences	In addition in LIDM	
PhD - Health Policy and Management - Health Policy and Management	Institute in HPM	
PhD - Environmental Health	Institute in EH	
PhD - Occupational Medicine and Industrial Hygiene	Institute in OMIH	
PhD - Global Health		

# 2.12.b. Description of specific support and resources available to doctoral students including traineeships, mentorship opportunities, etc.

Types of traineeships and funding for doctoral students include Teaching Assistantships and Research Assistantships. As the assistantships are not available in all the courses and labs, the places of assistantships are limited.

In order to encourage international exchange, CPH offers scholarship specifically for outstanding international doctoral students (most of them study in global health program). A student may be awarded up to 10,000 US dollars per year. For Taiwanese students who do research in other countries, CPH also help them apply for grants from Ministry of Science and Technology.

2.12.c. Data on student progression through each of the school's doctoral programs, to include the total number of students enrolled, number of students completing coursework and number of students in candidacy for each doctoral program. See CEPH Template 2.10.1.

The doctoral student data for 2015-2016 academic year can be referred in Table 2.12.c. Students of PhD in Global Health are also divided to the five core areas according to their majors when they are counted.

Table 2.12.c. Doctoral Student Data for 2015-2016 Academic Year

	# newly	# currently	# completed	# advanced	# graduated
	admitted	enrolled	coursework <sup>1</sup>	to candidacy	# graduated
Biostatistics	6	22	2	11	7
Epidemiology and Preventive	10	65	2	39	4
Medicine	10	0.5		39	4
Social and Behavioral Sciences	3	19	14	7	3
Health Policy and Management	6	50	21	16	9
Environmental Health,					
Occupational Medicine and	9	37	26	23	3
Industrial Hygiene					

<sup>&</sup>lt;sup>1</sup>The number listed as "completed coursework" includes the number that have "advanced to candidacy."

# 2.12.d. Identification of specific coursework, for each degree, that is aimed at doctoral-level education.

The following displays a list of doctoral-level courses which are designed and instructed particularly for doctoral students.

<sup>&</sup>lt;sup>2</sup>Institute of Epidemiology and Preventive Medicine (including biostatistics area and epidemiology and preventive medicine area) didn't count the number of students completing coursework.

PhD - Epidemiology and Preventive Medicine - Epidemiology

Course Name	Credit	
Required Courses		
EPM8067 - Seminar on Epidemiology I	1	
EPM8068 - Special Seminar on Epidemiology II	1	
EPM8069 - Case Study in Epidemiologic Research I	1	
EPM8070 - Case Study in Epidemiologic Research II	1	
EPM8071 - Review of Issues in Epidemiology	2	
EPM8999 - Thesis (Ph.D.)		
Elective Courses	·	
EPM8088 - Advanced Seminar of Preventive Medicine I	1	
EPM8057 - Advanced Seminar of Preventive Medicine II	1	
EPM8058 - Advanced Seminar of Preventive Medicine III	1	
EPM8059 - Advanced Seminar of Preventive Medicine IV	1	
EPM8064 - Advanced Medical Statistics I	3	
EPM8080 - Biomedical Statistical Consultation D1	2	
EPM8084 - Biomedical Statistical Consultation D2	2	
EPM8081 - Biomedical Statistical Consultation D3	2	
EPM8085 - Biomedical Statistical Consultation D4	2	
EPM8082 - Seminar on Biomedical Statistics D1	1	
EPM8086 - Seminar on Biomedical Statistics D2	1	
EPM8083 - Seminar on Biomedical Statistics D3	1	
EPM8087 - Seminar on Biomedical Statistics D4	1	
EPM8089 - Mathematical Statistics	3	
EPM8090 - Applied Stochastic process I	2	
EPM8091 - Applied Stochastic process II	2	

PhD - Epidemiology and Preventive Medicine - Biostatistics

Course Name	Credit
Required Courses	
EPM8089 - Mathematical Statistics	3
EPM8082 - Seminar on Biomedical Statistics D1	1
EPM8086 - Seminar on Biomedical Statistics D2	1
EPM8080 - Biomedical Statistical Consultation D1	
EPM8064 - Advanced Medical Statistics I	3
EPM8999 - Thesis (Ph.D.)	
Elective Courses	

Course Name	Credit
EPM8088 - Advanced Seminar of Preventive Medicine I	1
EPM8058 - Advanced Seminar of Preventive Medicine II	1
EPM8057 - Advanced Seminar of Preventive Medicine III	1
EPM8059 - Advanced Seminar of Preventive Medicine IV	1
EPM8067 - Seminar on Epidemiology I	1
EPM8068 - Special Seminar on Epidemiology II	1
EPM8069 - Case Study in Epidemiologic Research I	1
EPM8070 - Case Study in Epidemiologic Research II	1
EPM8071 - Review of Issues in Epidemiology	2
EPM8084 - Biomedical Statistical Consultation D2	2
EPM8081 - Biomedical Statistical Consultation D3	2
EPM8085 - Biomedical Statistical Consultation D4	2
EPM8083 - Seminar on Biomedical Statistics D3	1
EPM8087 - Seminar on Biomedical Statistics D4	1
EPM8090 - Applied Stochastic process I	2
EPM8091 - Applied Stochastic process II	2

# **PhD - Epidemiology and Preventive Medicine - Preventive Medicine**

Course Name	Credit
Required Courses	
EPM8088 - Advanced Seminar of Preventive Medicine I	1
EPM8058 - Advanced Seminar of Preventive Medicine II	1
EPM8057 - Advanced Seminar of Preventive Medicine III	1
EPM8059 - Advanced Seminar of Preventive Medicine IV	1
EPM8999 - Thesis (Ph.D.)	
Elective Courses	
EPM8064 - Advanced Medical Statistics I	3
EPM8067 - Seminar on Epidemiology I	1
EPM8068 - Special Seminar on Epidemiology II	1
EPM8069 - Case Study in Epidemiologic Research I	1
EPM8070 - Case Study in Epidemiologic Research II	1
EPM8071 - Review of Issues in Epidemiology	2
EPM8080 - Biomedical Statistical Consultation D1	2
EPM8084 - Biomedical Statistical Consultation D2	2
EPM8081 - Biomedical Statistical Consultation D3	2
EPM8085 - Biomedical Statistical Consultation D4	2

Course Name	Credit
EPM8082 - Seminar on Biomedical Statistics D1	1
EPM8086 - Seminar on Biomedical Statistics D2	1
EPM8083 - Seminar on Biomedical Statistics D3	1
EPM8087 - Seminar on Biomedical Statistics D4	1
EPM8089 - Mathematical Statistics	3
EPM8090 - Applied Stochastic process I	2
EPM8091 - Applied Stochastic process II	2

# PhD - Health Policy and Management - Health Behaviors and Community Sciences

Course Name	Credit	
Required Courses		
HPM8003 - Special Topics in Health Policy and Management	2	
HPM8004 - Seminar in Health Policy and Management I	1	
HPM8005 - Seminar in Health Policy and Management II	1	
HPM8006 - Independent Study on Health Policy and Management	2	
HPM8999 - Thesis (Ph.D.)		
Elective Courses		
HPM8001 - Advanced Topics in Quality of Care and Patient Safety	2	
HPM8002 - Advanced Health Services Research Methods	2	
HPM8007 - Mental Health Policy and Management	2	
HPM8008 - Culture, Society and Health	2	
HPM8009 - Advanced Health Economics	2	
HPM8010 - Special Topics in Society and Health	2	
HPM8014 - Global Health Policy and Management	3	
HPM8015 - Special Topics on Social and Behavioral Sciences	2	

# PhD - Health Policy and Management - Health Policy and Management

Course Name	Credit	
Required Courses		
HPM8003 - Special Topics in Health Policy and Management	2	
HPM8004 - Seminar in Health Policy and Management I	1	
HPM8005 - Seminar in Health Policy and Management II	1	
HPM8006 - Independent Study on Health Policy and Management	2	
HPM8999 - Thesis (Ph.D.)		
Elective Courses		
HPM8001 - Advanced Topics in Quality of Care and Patient Safety	2	

Course Name	Credit
HPM8002 - Advanced Health Services Research Methods	2
HPM8007 - Mental Health Policy and Management	2
HPM8008 - Culture, Society and Health	2
HPM8009 - Advanced Health Economics	2
HPM8010 - Special Topics in Society and Health	2
HPM8014 - Global Health Policy and Management	3

# PhD - Environmental Health

Course Name	Credit	
Required Courses		
EH8001 - Seminar on Environmental Health	2	
EH8002 - Internship Consultation of Environmental Health I	1	
EH8003 - Internship Consultation of Environmental Health II	1	
EH8004 - Seminar on Industrial Hygiene	2	
EH8007 - Special Topic on Environmental and Occupational Health I	2	
EH8008 - Special Topic on Environmental and Occupational Health II	2	
EH8999 - Thesis (Ph.D.)		

# PhD - Occupational Medicine and Industrial Hygiene

Course Name	Credit	
Required Courses		
OMIH8030 - Environmental and Occupational Health Seminar I	1	
OMIH8031 - Environmental and Occupational Health Seminar II	1	
OMIH8999 - Thesis (Ph.D.)		
Elective Courses		
OMIH8011 - Advances in Reproductive Toxicology	2	

# PhD - Global Health

Course Name	Credit
Required Courses	
EPM8001 - Biostatistics for Public Health	3
EPM8002 - Principle and Application in Epidemiology	3
EPM8003 - Principle and Application in Health Research Methods	3
HPM8014 - Global Health Policy and Management	3
HPM8006 - Independent Study on Health Policy and Management	4
OMIH8031 - Environmental and Occupational Health Seminar II	1

# 2.12.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

CPH offers doctoral degrees in the five core public health disciplines.

# **Challenges:**

The number of applicants is decreasing in recent years.

## Plans:

For encouraging excellent master students keep studying for doctoral degree in NTU, the university and college of public health will provide scholarship for master students, who are approved for PhD program by fast track admission (please refer to 4.3.b).

# The criterion is met.

#### 2.13 JOINT DEGREES

If the school offers joint degree programs, the required curriculum for the professional public health degree shall be equivalent to that required for a separate public health degree.

2.13.a. Identification of joint degree programs offered by the school. The instructional matrix in Criterion 2.1.a may be referenced for this purpose.

This criterion is not applicable.

2.13.b. A list and description of how each joint degree program differs from the standard degree program. The school must explain the rationale for any credit sharing or substitution as well as the process for validating that the joint degree curriculum is equivalent.

This criterion is not applicable. CPH does not offer any joint degree program currently.

2.13.c. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# Plans:

A memorandum of understanding is to be signed by College of Public Health, National Taiwan University, and the Graduate School of Comprehensive Human Sciences, University of Tsukuba, for the purpose of establishing an effective partnership to advance academic cooperation to develop students who will take an important role on global stage in years to come. Both institutions agree to implement "Dual Degree Program" that offers students to receive two graduate diplomas (from College of Public Health, National Taiwan University, and from Graduate School of Comprehensive Human Sciences, University of Tsukuba).

#### 2.14 DISTANCE EDUCATION OR EXECUTIVE DEGREE PROGRAMS

If the school offers degree programs using formats or methods other than students attending regular on-site course sessions spread over a standard term, these programs must a) be consistent with the mission of the school and within the school's established areas of expertise; b) be guided by clearly articulated student learning outcomes that are rigorously evaluated; c) be subject to the same quality control processes that other degree programs in the school and university are; and d) provide planned and evaluated learning experiences that take into consideration and are responsive to the characteristics and needs of adult learners. If the school offers distance education or executive degree programs, it must provide needed support for these programs, including administrative, travel, communication and student services. The school must have an ongoing program to evaluate the academic effectiveness of the format, to assess learning methods and to systematically use this information to stimulate program improvements. The school must have processes in place through which it establishes that the student who registers in a distance education or correspondence education course or degree is the same student who participates in and completes the course or degree and receives the academic credit.

2.14.a. Identification of all degree programs that are offered in a format other than regular, on-site course sessions spread over a standard term, including those offered in full or in part through distance education in which the instructor and student are separated in time or place or both. The instructional matrix in Criterion 2.1.a may be referenced for this purpose.

This criterion is not applicable.

2.14.b. Description of the distance education or executive degree programs, including an explanation of the model or methods used, the school's rationale for offering these programs, the manner in which it provides necessary administrative and student support services, the manner in which it monitors the academic rigor of the programs and their equivalence (or comparability) to other degree programs offered by the school, and the manner in which it evaluates the educational outcomes, as well as the format and methods.

The Executive Master of Health Administration (EMHA) is offered by Institute of Health Policy and Management (Institute of HPM) on campus throughout the entire 18 weeks of a semester. A staff in the office of Institute of HPM is designated to provide student service and administrative support. The major difference between EMHA and regular MS program of Institute of HPM or MPH program is that the majority of EMHA's courses are taught during weekends. Those required courses are tailored and offered exclusively for EMHA students, so regular MS and MPH students are not

allowed to take these courses. On the other hand, elective courses are open to all EMHA, regular MS and MPH students. EMHA students' academic performance will be graded using the standard same for regular MS students and the quality of master's thesis will be required as well.

2.14.c. Description of the processes that the school uses to verify that the student who registers in a distance education or correspondence education course or degree is the same student who participates in and completes the course or degree and receives the academic credit..

This criterion is not applicable.

2.14.d. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strength:**

- 1. The EMHA program was developed in accordance to the need of the society and potential student from health care industry.
- 2. The CPH provide sufficient staff and resources to support the operation of EMHA program.

# Weakness:

Faculty members may not have sufficient experience in the industry, thus the analyses of case or example given may not be closely tied to students' experience.

# Plan:

- 1. EHMA curriculum will be reviewed annually and make necessary modifications.
- 2. The Institute will invite/recruit more experienced administrators to be adjunct faculty to co-teach or to offer management oriented courses.

This criterion is met.

# SECTION 3: CREATION, APPLICATION AND ADVANCEMENT OF KNOWLEDGE

## 3.1 RESEARCH

The school shall pursue an active research program, consistent with its mission, through which its faculty and students contribute to the knowledge base of the public health disciplines, including research directed at improving the practice of public health.

3.1.a. Description of the school's research activities, including policies, procedures and practices that support research and scholarly activities.

Both NTU and CPH play leading roles in Taiwan research activities. To promote academic research and development in NTU, Office of Research and Development (ORD) was set up to manage research affairs. In CPH, there are seven leading research centers engaged in research and scholarly activities on specific issues in Taiwan.

Table 3.1.a.(1) List of the Leading Research Centers of CPH

Center	Aims
	1. Promote international academic exchanges.
	2. Facilitate cross-country collaboration among universities
Global Health Center	and researchers.
	3. Create a platform of international learning and internship
	experiences for students.
	1. Conduct research projects focusing on social determinants
	of health, healthy lifestyle, and mental health promotion.
Health Promotion Research Center	2. Organize workshops, educational trainings, and keynote
	speeches to communicate with fellow researchers and the
	public.
	1. Facilitate interdisciplinary studies, especially in genetics
Research Center for Genes, Environment	for characterizing biological mechanism associate with
and Human Health	environmental exposures.
and Human Heatur	2. Promote collaborations and communications between the
	faculty members and inter-school researchers.
	Develop health risk assessment methodologies for
Center of Environmental and Occupational	protection of public health in Taiwan.
Health	2. Establish analytical capacities targeted at measurements
	of physical, chemical, and biological factors in the

Center	Aims
	environment and workplaces, provide information needed to
	identify hazards, and perform risk management for research
	and practical purposes.
	1. Carry our data collection for the registry, oversee checks
	for logical errors and programming, maintain the quality of
Contan of Taiwan Canaan Basistan	reporting, and perform monitoring of the system.
Center of Taiwan Cancer Registry	2. Use the cancer registry database to perform
	epidemiological analyses of cancer incidence rates, survival
	rates, and long-term trajectories of cancer in Taiwan.
Ministery of Health and National Taiwan	1. Coordinate NTU's researchers and facilities to carry out
Ministry of Health and National Taiwan	research projects on infectious diseases.
University (MOHW-NTU) Infectious Diseases Research and Education Center	2. Offer training courses on the prevention of infectious
Diseases Research and Education Center	diseases.
	1. Establish a national center of providing supports to
	accelerate drug development in Taiwan.
Taiwan Clinical Trial Statistical Center,	2. Offer training programs for clinical and translational
Training Center, and Pharmacogenomics	researchers.
Laboratory	3. Establish the core lab to support genomics research and to
	speed up the development of novel genomic biomarkers and
	therapies.

ORD has made active efforts to promote academic research and development in the schools of NTU and worked out full-fledged plans to optimize the environment for researches and industrial-academic cooperation. Facilities for researches and enthusiasm for industrial-academic cooperation have been strengthened. Resources have been consolidated to facilitate collaborative research, to train human resources for basic researches, and to encourage across-the-board upgrades in every field in order to achieve key breakthroughs. This helped to attract both domestic and foreign first-rate talents, to increase derivative profits from intellectual property, and to secure the leadership of NTU in academic research in Taiwan as well as sustainable progress.

A high level of research is crucial to fulfilling CPH's mission of improving the health and well-being of populations worldwide, and meeting CPH's principal goals—particularly promoting research that might lead to change of policy or practice.

# **Policies**

Several regulations, such as Teacher Evaluation Rules, Teacher Appointment and Promotion Review Rules, and Teachers Promotion Research Project Review Criteria (Resource File 1.5.c.(6), (7), and (8)), delineate faculty expectations for research. All faculty members are expected to

conduct rigorous, high-quality research and scholarship. Continued productivity and publication in high-rank journals is considered at the time of evaluation. The successful candidate should have an excellent research record, demonstrating substantial impact. The Teacher Appointment and Promotion Review Rules also encourage faculty to undertake interdisciplinary research with colleagues within and outside CPH, especially through the collaboration with overseas universities and research agencies.

# **Support for Research Activities**

As shown in the Teacher Appointment and Promotion Review Rules (Resource File 1.5.c.(7)), CPH has built an energetic research culture by reviewing faculty members' research capacity as part of the recruitment process, as well as by supporting new faculty members to their research activities upon their arrival. New faculty members are required to participate in a three-day orientation, including an informative session on research in the College and the University. In order to encourage faculty to attend in research, NTU offers each new faculty a startup fund of 200,000-250,000 NT dollars (about 6600-8300 US dollars). If a new assistant professor is awarded a grant for their research project by Ministry of Science and Technology within one year, NTU will also add on an extra 50% of the amount of the grant for the project. Moreover, faculty members who have made original contributions or devoted themselves to less popular topics will get additional rewards by NTU. NTU also provide university-wide mentorship program to help new faculty seek their mentors and develop their own research programs.

A portion of indirect cost returns from grants and contracts are returned to CPH by the University; these are distributed to the departments in proportion to the funds generated each year to provide research and support teaching infrastructure for departments. Of the total indirect costs the University receives to support the research infrastructure, eighty-five percent goes to CPH. CPH retains a small portion of the returned indirect cost to support college-wide research and teaching activities.

ORD provides grant proposal resources readily available for College researchers on its website with links to each source. Faculty also receives prompt notice via email regarding new calls for grant proposals. There are also indirect incentives to apply for research projects. First, there are different types of awards that are highly based on the quality and quantity of research articles published. Second, the performance in research tends to be the most critical part in the evaluation of promotion. Thus, getting research grants constitutes an important part of a faculty member's academic performance.

NTU has different types of awards for research publication:

- 1) Outstanding Research Article Award: for articles published in journals with an Impact Factor ranked within the top 15 percentiles or above in the category of the journals;
- 2) Excellent Research Article Award: for articles published in journals with an Impact Factor ranked between 40 and 15 percentiles in the category, or other journals endorsed by the University.

From 2013 to 2015, CPH faculty has won 325 Research Article Awards, with 155 being Outstanding Research Article Award and 170 being Excellent Research Article Award. There is a steady increase in the number of Research Article Awards received by faculty in each institute of CPH and in total every year.

In addition to awards for individual research articles, there are other types of awards that are based on overall research performance in a certain period of time, including the following:

- 1) National Taiwan University (NTU):
  - (1) Distinguished Research Achievement: CPH can nominate one faculty each year for this award, which is awarded to a researcher with excellent research output but is not yet a Distinguished Professor.
  - (2) Distinguished Professor: including (i) College-level Distinguished Professor (3-year term); and (ii) University-level Distinguished Professor (permanent).
- 2) Taiwan Foundation for the Advancement of Outstanding Scholarship: a non-profit organization founded by the Nobel Laureate Dr. Yuan-Tseh Lee has several prestigious awards, including Young Scholar Award, and Distinguished Chair Professor.
- 3) Ministry of Science and Technology (MOST) has two prestigious awards for research performance:
  - (1) Outstanding Research Award: each year, MOST selects about top 1% of researchers for this 3-year award.
  - (2) Distinguished Investigator: after receiving three times of Outstanding Research Award, a researcher is awarded Distinguished Investigator.
  - 4) Ministry of Education:
    - (1) National Chair Professor: this is usually awarded to a senior researcher, who has obtained the status of Ministry of Science and Technology Distinguished Investigator with a long and outstanding research career.
- 5) Foreign institutions or organizations: some faculty members received awards from foreign institutions or organizations either when they were working in foreign countries or their achievements were recognized by such institutions or organizations.

Overall, the CPH faculty has been performing very well in obtaining these research awards.

# **CPH Scholarly Research Performance**

Every faculty member of CPH is highly committed to research. In the past three years, as shown in Table 3.1.a.(2), the numbers of research projects undertaken by CPH faculties have exceeded 100. On average, every faculty member has 2 projects every year. Relevant information of individual research projects can be found in Resource File 3.1.c. The total amount of funding for these research projects are also shown in the table, and described and discussed in 1.6.a.

Year	2013	2014	2015
Primary Faculty Headcount	56	55	55
Number of Research Project	129	112	120
Research Project Funding (NT dollars)	192,913,077	165,819,663	176,240,560

**Table 3.1.a.(2)** Number of research grants awarded to CPH, 2013-2015

The CPH faculty has been productive in scholarly research and made significant contributions to fields relevant to Public Health over the past years. This can be demonstrated in several aspects. First, the innovation or contribution of the CPH faculty's research in general can be illustrated in the increasing number of peer-reviewed publications in journals included in the Science Citation Index (SCI) or the Social Science Citation Index (SSCI) (Figure 3.1.a.(1), and Figure 3.1.a.(2)). In particular, the number of papers published in high-impact journals (e.g., Impact Factor > 5 or > 10), which on average emphasize more on innovation or impact to the field, has been increasing steadily too. Second, the number of citations to the papers published by the CPH faculty is also increasing. Third, the results of the research by the CPH faculty have been recognized both nationally and internationally, as shown by the numbers of research awards won by the CPH faculty (Table 3.1.a.(2)). Finally, the results of the CPH faculty's research have been adopted or taken into account by the government or societies in policy making.

Table 3.1.a.(3) List of CPH Faculty Members Receiving Research Honors, Since 2008

Award	Year	Recipient	
Academia Sinica Junior Research Investigators Award	2016	Hsien-Ho Lin (林先和)	
Adolescent Dissertation Award from Lee Foundation on	2015	Jiun-Hau Huang (黃俊豪)	
Adolescent Medicine and Health	2010	Yungling L. Lee (李永凌)	
Excellence Award from the 2012 Asia Pacific Congress	2012	Chwan Chuan Vina (公庫主)	
of Medical Virology	2012	Chwan-Chuen King (金傳春)	
Ministry of Science and Technology Distinguished	2012 2015	Ming-Whei Yu (于明暉)	
Investigator	2012 - 2015		
	2013 - 2016	Shou-Hsia Cheng (鄭守夏)	
Ministers of Science and Technology Outstanding	2015	Pau-Chun Chen (陳保中)	
Ministry of Science and Technology Outstanding Research Award	2012 - 2015	Hsiu-His Chen (陳秀熙)	
Research Award	2009 - 2012	Wei J. Chen (陳為堅)	
	2009 - 2012	Ming-Whei Yu (于明暉)	
	2013	Pau-Chun Chen (陳保中)	
NTU Distinguished Research Award	2011 -2013	Chwan-Chuen King (金傳春)	
	2012	Yaw-Huei Hwang (黃耀輝)	
	2010 - 2012	Kuo-Liong Chien (簡國龍)	

Award	Year	Recipient
Ta-Yu Wu Memorial Award, for investigators under 42 years old and associate professor or below	2014	Yungling L. Lee (李永凌)
	2013	Hung Hung (洪弘)
	2013	Yu-Chi, Tung (董鈺琪)
The 11th TienTe Lee Award	2015	Yungling L. Lee (李永凌)
Young Scholar Award, Taiwan Foundation for the Advancement of Outstanding Scholarship	2012 - 2017	Hsien-Ho Lin (林先和)
	2012 - 2014	Yu-Kang Tu (杜裕康)
	2008 - 2012	Po-Hsiu Kuo (郭柏秀)

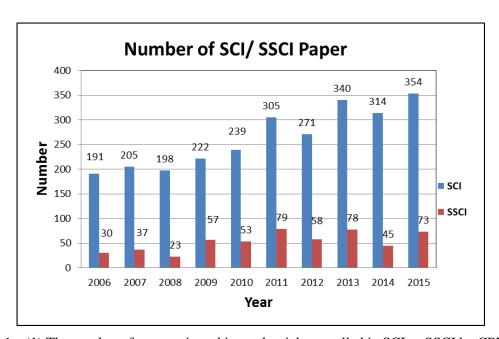


Figure 3.1.a.(1) The number of peer-reviewed journal articles enrolled in SCI or SSCI by CPH faculty

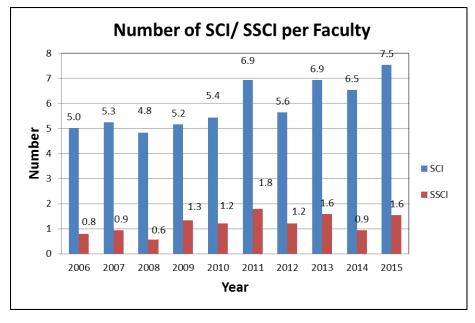


Figure 3.1.a.(2) The number of peer-reviewed journal articles enrolled in SCI or SSCI per faculty member by CPH faculty

The quantity of research production by CPH faculty members has increased steadily over the past years in terms of SCI or SSCI papers. As shown in Figure 3.1.a.(1), the SCI papers increased from 191 in 2006 to 354 in 2015, and the SSCI papers increased from 30 in 2006 to 73 in 2015. The numbers of paper published in SCI indexed journals per faculty (Figure 3.1.a.(2)) have increased from 5.0 in 2006 to 7.5 in 2015, and that in SSCI indexed journals have increased from 0.8 in 2006 to 1.6 in 2015. The improvement in research output is manifested not only in quantity but also in quality. The number of paper published in high-impact journals is also increasing substantially.

Much of the CPH faculty members' research is based on analyses of national data, long-term followed-up cohorts, or community-based projects. Thus a considerable portion of the research findings has been utilized by the society or government in policy making. Such impact can be divided into three major fields:

# 1) Epidemiology, biostatistics, and preventive medicine:

- 1. Health screening: the faculty's research has been involved in integrated health examination in several regions in Taiwan, and contributed to theory and practice of screening methodology.
- 2. Cancer prevention: the study of hepatitis B virus (HBV) genotypes and DNA level on the prediction of liver cancer has led to major changes in the practice of medical care for HBV carriers.
- 3. Cardiovascular disease: research outputs from several faculty members have produced non-communicable disease prediction models, including type 2 diabetes, hypertension, chronic kidney disease, stroke and coronary heart disease, to identify and select high-risk individuals for further health promotion programs. They have engaged in community-based health survey and cohort follow-up, and provided important information on cardiovascular risk factors on non-communicable diseases.
- 4. Psychiatric disorders: the faculty's research on major psychiatric disorders (e.g. schizophrenia, bipolar disorder, substance use disorder) has led to important findings, including identifying susceptible genetic factors and biomarkers to assist diagnosis and phenotype refinement, and depicting the trend and incidence of substance use among adolescents.
- 5. Infectious disease: the faculty's research has assisted Dengue fever control and informed policy making in HIV prevention in Taiwan, and contributed to evaluation of new TB diagnostics.
- 6. National Translational Medicine and Clinical Trial Resource Center (NTCRC): some faculty members have been key members in establishing this resource center to help clinical trial researchers with clinical trial protocol wrting, data management, and biostatistical consultation procedure, and proactively involved in the collaboration with outstanding nation-wide disease-specific clinical trial consortiums.

# 2) Health policy and management:

Research topics chosen by faculty members have been highly relevant to public health issues

in the society and the health industries. Research results generated by these academic endeavors have not only enriched scientific knowledge, but have also contributed greatly to the improvement of public health systems. Examples are listed below:

- 1. Recommendations proposed by several articles concerning the core measures for cancer care quality have been adopted by the Bureau of Health Promotion to monitor the quality of care nationwide.
- 2. Study results indicating the positive effects of Taiwan version of DRG have provided supports to the implementation of the NHI payment reform.
- 3. A research finding that NHI pay-for-performance program for diabetes can improve the outcome of care but also leave those patients with severe conditions out of the program has helped to push the Bureau of NHI to recruit more diabetes patients into the pay-for-performance program.

# 3) Environmental and occupational health:

- 1. Air pollution: the faculty's research has integrated continuous air quality monitoring and national health insurance claim data to establish the association between poor air quality and increased health visits by children or adults. Some animal models on exposure to small particulate matter 2.5µm (PM2.5) illustrated a possible long-term effect of PM2.5 on a variety of respiratory or cardiovascular functions. The findings have led to a new regulation on PM2.5 issued by Environmental Protection Agency in Taiwan in 2012.
- 2. Occupational hazards: a series of studies on the influence of occupation exposures to a variety of health outcome has led to tougher regulations on the occupational safety measures. In particular, recent studies on the exposure of nanoparticle to health have alerted public health professionals worldwide.
- 3. Water quality monitoring: the faculty's research has been involved in monitoring newly emerged pollutants in the environment, including antibiotics used in poultry industry and illegal drugs. The excellence in faculty's expertise in water quality control has attracted a team of Iraqi officials to come to CPH for a two-week's training to help them rebuild post-war Iraq.

# 3.1.b. Description of current research undertaken in collaboration with local, state, national or international health agencies and community-based organizations. Formal research agreements with such agencies should be identified.

The CPH faculty engages in a large amount of inter-institutionally sponsored and collaborative research with a wide range of local and national agencies. Many of these partnerships focus on research directed at improving population health or public health practice.

Table 3.1.b states the number of collaborative researches by CPH faculty during 2013 to 2015.

For example, one of the research grants awarded by the National Health Insurance Administration aims to develop a risk adjustment methodology for in-hospital mortality, 30-day mortality, 30-day readmission, and 3-day return to ER measures for acute myocardial infarction, heart failure, and knee replacement. The risk adjustment methodology is going to be used by the hospital report cards to help patients with identifying healthcare providers with good performance based on quality and outcome of healthcare and therefore encourage competition among healthcare providers. Another grant awarded by the Archilife Research Foundation, a community-based organization, was to develop vector control strategies and to rebuild the system of symbiotic arthropods. This program focused on applying eco-friendly strategies for vector control. Local residents were encouraged to execute source reduction voluntarily. An experimental community was set up. The base of the experimental community included artificial settlements with self-sufficient ability and native forest. In consideration of biodiversity and possible vector-borne diseases, public health courses were held and handbooks with pictorial SOP were provided to propagate survival knowledge for people who live in such symbiotic and sustainable village.

The list of those projects can also be found in Resource File 3.1.c.

Source of Funding	Number of Projects	Number of PIs	Research Project Funding (NTD)	
Central Government	105	34	251,693,292	
Local Government	13	6	36,386,924	
International Organization	11	4	3,623,788	
Community-Based Organization	3	3	2,121,500	
Private Company	3	2	1,940,000	

**Table 3.1.b.** Number of Collaborative Research Grants Awarded to CPH. 2013-2015

3.1.c. A list of current research activity of all primary faculty identified in Criterion 4.1.a., including amount and source of funds, for each of the last three years. These data must be presented in table format and include at least the following information organized by department, specialty area or other organizational unit as appropriate to the school: a) principal investigator, b) project name, c) period of funding, d) source of funding, e) amount of total award, f) amount of current year's award, g) whether research is community based and h) whether research provides for student involvement. See CEPH Data Template 3.1.1; only research funding should be reported here. Extramural funding for service or training/continuing education grants should be reported in Template 2 (funded service) or Template 3.3.1 (funded training/workforce development), respectively.

Please refer to the Resource File 3.1.c. The major outcomes of these research projects are

scientific publications, which are summarized and discussed in 3.1.a and 3.1.b.

3.1.d. Identification of measures by which the school may evaluate the success of its research activities, along with data regarding the school's performance against those measures for each of the last three years. For example, schools may track dollar amounts of research funding, significance of findings (eg, citation references), extent of research translation (eg, adoption by policy or statute), dissemination (eg, publications in peer-reviewed publications, presentations at professional meetings) and other indicators.

Table 3.1.d. Research performance of CPH from 2014 to 2016

Measures	Tamast	Years		
Measures	Target	2014	2015	2016
Total number of research proposals	120 each year	112	120	pending
Total number of papers on Social Science Citation Index (SSCI) and Science Citation Index (SCI)	300 each year	359	427	pending
Hold joint seminars within each institute, at least	At least twice in			
once a semester.	each institute per semester	1	3	5
Hold cross-talk symposiums across institutes within CPH, at least once a semester	At least twice per semester	2	5	8
Create the space for faculty for leisure time and increase the frequency of faculty activities	At least 6 activities each year	6	10	13
Encourage to join in integrated research projects - number of integrated research projects	50 projects per year before 2018	51	30	pending
Encourage to join in integrated research projects - proportion of faculty who carry out integrated research projects	40% per year before 2018	22(39.3%)	20(36.4%)	pending
Increase the participation in internationally collaborated projects - number of internationally collaborated projects	More than 25 projects before 2018	27	12	pending
Increase the participation in internationally collaborated projects - proportion of faculty who carry out internationally collaborated projects	25% before 2018	12(21.4%)	7(12.7%)	pending
Increase the number of faculty's research that has engagement in policy debate or reform options - number of related research projects	More than 30 projects before 2018	25	24	pending

Measures	Towast	Years		
Weasures	Target	2014	2015	2016
Increase the number of faculty's research that has	Proportion of			
engagement in policy debate or reform options -	t in policy debate or reform options - faculty who carry		0(14.50/)	nandina
proportion of faculty who carry out related	out related	13(23.2%)	8(14.5%)	pending
research projects	research projects			
Increase the number of interventional grant	More than 15			
applications - number of interventional grant	applications	11	7	pending
applications	before 2018			
Increase the number of interventional grant	More than 10%	5(9.1%)	3(5.5%)	pending
applications - Proportion of faculty who submit	before 2018			
interventional grant applications	before 2018			
Increase the number of research papers published	100 research			
in high-ranking journals - number of research	papers before	68	82	65
papers published in journals ranking in top 15%	2018			
Increase the number of research papers published				
in high-ranking journals - proportion of faculty	50% before 2018	20(35.7%)	28(50.9%)	22(40%)
who have research papers published in journals	30% before 2018			
ranking in top 15%				

# 3.1.e. Description of student involvement in research.

Students are encouraged to actively participate in research. To fulfill their diverse needs and requirements, the college provides supports for students to participate in research.

Students play a wide range of roles in research depending on their capabilities and the projects in which they participate. These roles may include collecting, coding and entering data; participating in data management and analysis; conducting literature reviews; participating in the implementation of interventions; and contributing to research presentations and publications.

## 1) For undergraduate students:

Since about 60% of undergraduate students at DPH go on to study a post-graduate degree, they are strongly encouraged to participate in the CPH faculty's research, particularly in their third or fourth year, in order to acquire research skills and to develop critical thinking. DPH has a system to provide grants for undergraduate students to undertake a research project supervised by a faculty member (called Special Topic in Public Health for Undergraduates). Each year, around 10 to 15 students are awarded for such research practice.

Some students with sufficient experience are encouraged to apply for Ministry of Science and

Technology research projects. Also some student received support from Department of Health. In addition, some undergraduate students who participated in research might go on to write a full-length manuscript and compete in Dr. Chen Antai's Research Scholarship for Undergraduate Students. Some students presented their research findings in national or international conferences.

# 2) For graduate students:

In general, almost every full-time graduate student in MS and MPH programs participates in one or more research projects of her or his advisor. Graduate students learn about faculty research areas at the annual Graduate Student Orientations for new students where faculty briefly share their current research interests and invite students to get involved in research. Even graduate students who hold a full-time job are involved to certain extent in some research projects, with some initiated by themselves or their colleagues. MPH students are also encouraged to participate in advisor's research projects. However, because almost all the MPH students have a full-time job, very rare of them do participate in extra research activities except those within their own practicum. Many institutes have a system to encourage graduate students to take a one-to-one special course of short-term research on a specific topic in public health with a faculty member other than their advisor to broaden their research capabilities.

Every MPH student has to present their research project proposals for their practicum before getting approved. Once started, MPH students work enthusiastically and meet regularly with their on- and off- campus supervisors for progress discussion. Before final presentation, students have to complete a written report under the supervision of their advisors.

Many scientific publications have been generated out of collaborative efforts of faculty members and graduate students. In general, doctoral students are required to have a certain number of published or publishable manuscripts in international journals to be able to apply for the viva for their doctoral dissertation.

3.1.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

- 1. CPH is the best school of public health in Taiwan.
- 2. CPH has strong and productive research programs in all departments as measured by grant funding, peer reviewed publications, social impact of research outputs, and doctoral involvement in research.
- 3. Faculty (and students) enjoy collegial ties and effective collaboration across CPH departments, as well as with colleagues across the University and with researchers at other institutions.
- 4. We have established partnerships and collaborations with various non-profit organizations,

- government and private sector public health service providers, and the schools of public health of foreign universities.
- 5. We have seven interdisciplinary Research Centers, which were launched to create clusters of expertise and interdisciplinary research teams with faculty who have similar interests.
- 6. We encourage students and provide opportunities for them to participate in research activities.
- 7. The University and college provide dedicated resources to support and promote research and involve students.

# **Challenges:**

In a climate of reduced funding, it is more difficult to find external funding for research activities.

#### **Plans:**

- 1. Continue to promote interdisciplinary research with colleagues within and outside CPH, especially through the collaboration with foreign universities and research agencies.
- 2. Expand the pursuit of government sponsored grants as well as funding from industry and non-profit organizations.
- 3. Expand the pursuit of community-based research. Facilitate and support the interactions between faculties and community to promote service in the community. Promote cross-college and international research collaboration.

# **Approaches:**

- (a) To facilitate the interactions between faculties and community, CPH may hold activities to establish the links from different aspects, e.g., government institutes, non-government organizations, different levels of medical institutes, clinics, and families of the study participants, etc.
- (b) Hold symposium for faculties from different colleges or schools in public health to exchange their research findings and experiences. Provide funding information on collaboration and successful examples of collaborative projects.

#### The criterion is met.

#### 3.2 SERVICE

The school shall pursue active service activities, consistent with its mission, through which faculty and students contribute to the advancement of public health practice.

3.2.a. Description of the school's service activities, including policies, procedures and practices that support service. If the school has formal contracts or agreements with external agencies, these should be noted.

CPH encourages faculty to participate in internal and external services. CPH offers faculty service award to encourage both on-campus as well as community-based services. Being a relevant benchmark of public health academia in Taiwan, faculty members of CPH also continuously provide technical assistance and consultation service for government agencies such as Ministry of Health, National Health Insurance Administration, Environmental Protection Department, Center for Disease Control, and Ministry of Labor. Some faculty members also participate further as a member of the consultation committee or even serving as the chair of non-governmental public health organizations.

CPH also cooperates with government and industry by providing educational programs such as the community-based courses and the training courses. Please refer to 3.3 (Workforce Development) for the details of these courses.

Furthermore, CPH collaborates with administration offices in NTU's Medical Campus to provide administrative support and services. For example, faculty members who are interested in projects outsourced by the government will receive administrative assistance in the process of application in order to encourage faculty members to bid for those projects.

# 3.2.b. Description of the emphasis given to community and professional service activities in the promotion and tenure process.

According to Teacher Appointment and Promotion Review Rules, the involvement in service activities is recognized as one of the necessary requirement for faculty promotion, along with education and research activities. (The Teacher Appointment and Promotion Review Rules can be referred to Resource File 1.5.c.(8).)

In the CPH faculty promotion review criteria, which have been newly modified in September 2015, there are three types of service activities:

- (1) On-campus service, which includes taking roles such as sitting in university meetings, university committee members, instructors for student service teams, editors of campus publications, and student association advisors.
  - (2) Off-campus service, which includes participating in government agencies, private

companies, public interest organizations, and academic organizations. Participations in these organizations may take the form as being committee members, speakers, supervisors, and consultants, etc.

(3) Intercollegiate/international service, which includes the participation of international activities, and the promotion of intercollegiate/international collaboration.

The promotion review committee would give scores from 1 to 100 according to the candidate's engagement and achievement in at least two types of the service activities stated above.

3.2.c. A list of the school's current service activities, including identification of the community, organization, agency or body for which the service was provided and the nature of the activity, over the last three years. See CEPH Data Template 3.2.1. Projects presented in Criterion 3.1 should not be replicated here without distinction. Funded service activities may be reported in a separate table; see CEPH Data Template 3.2.2. Extramural funding for research or training/continuing education grants should be reported in Templates 3.1.1 (research) and 3.3.1 (funded workforce development), respectively.

A list of the service activities CPH faculty members attended during 2012-2016 is in Resource File 3.2.c. CPH faculty members provide technical assistance and consultation work for government agencies, consultation committees as well as educational programs such as the community-based courses and the training courses. Examples of the types of service activities conducted by the faculty include public health agencies, advocacy/policy groups, health care organizations, grant reviewing bodies, advisory boards, public speaking to community and worker groups, editorial boards, manuscript reviews, consultancies, expert panels, and technical assistance.

3.2.d. Identification of the measures by which the school may evaluate the success of its service efforts, along with data regarding the school's performance against those measures for each of the last three years.

CPH values service efforts and the relationship between school and the community. Faculty is strongly encouraged to participate, assist, and lead community based projects. Virtually all faculty members are involved in on-campus, local, regional, national, or international services activities. Outcome measures and the summary of the goals and the targets according to 1.1.d and 1.2.c for service activities are listed in Table 3.2.d.(1).

**Table 3.2.d.(1) Summary of the Measurements for Service Efforts** 

Objectives	Target	2013	2014	2015
Increase faculty's involvement	Increase faculty's involvement in any	0.40/	80%	85%
in any service activity	service activity >90% before 2018	84%		
Increase faculty's involvement	Increase faculty's involvement in local	200/	38%	27%
in local service	service >40% before 2018	29%		
Increase faculty's involvement	Increase faculty's involvement in	4.60/		42%
in national service	national service >50% before 2018	46%	38%	
Increase faculty's involvement	Increase faculty's involvement in	6407	510/	
in international service	national service >60% before 2018	64%	51%	49%
		2013-14	2014-15	2015-16
	80 community-based service activities	<b>-</b> -		
Increase faculty's involvement	each year.	76	61	55
in community-based service.	60% of faculty members who join in	22	30	26
·	community-based services each year.	(39.3%)	(54.5%)	(46.4%)
	200 organization-based activities each			
Increase faculty's involvement	year.	161	187	120
in organization-based service.	60% of faculty members who join in	27	29	37
in organization based service.	organization-based services each year.	(48.2%)	(52.7%)	(66.1%)
	5 community-based courses each year.	7	6	6
Increase community-based	40% of faculty members who offer	22	19	20
courses.	community-based courses each year.	(39.2%)	(34.5%)	(35.7%)
	30 organization-based courses each			
Increase organization-based	year.	22	26	25
courses.	50% of faculty members who offer	27	24	28
	organization-based courses each year.	(48.2%)	(43.6%)	(50%)
Increase the number of faculty's		, ,		, ,
research articles mentioned in	100 articles mentioned in media report	50	86	150
media report and press release.	and press release.			
	More than 25% of faculty members			
	participating in international activities	13	8	7
	as organizer, keynote speaker, and	(23.2%)	(14.5%)	(12.7%)
Increase the number of faculty	committee member.	(	(,	
members participating in global	The number of the total participation			
health related activities.	in international activities as organizer,			
	keynote speaker, and committee	33	22	9
	member should be more than 25.			
	member should be more than 23.			

		2013-14	2014-15	2015-16
Encourage faculty to join in the				
study sections, advisory groups,	More than 50% of faculty members	25	27	22
or leadership of non-government	joining in related organizations.	(44.6%)	(49.1%)	(40%)
sectors.				

Data incomplete

The university sets up awards for recognition of contributions to university or societal service. As shown in Table 3.2.d.(2), three CPH faculty members won either Excellent University Service Award or Excellent University Service Award since 2008.

Table 3.2.d.(2). Service Awards to the CPH Faculty, Since 2008

Recipient	Year	Award
Chang-Chuan, Chang (詹長權)	2014	NTU Excellent Societal Service Award
Cheuh, Chang (張珏)	2013	NTU Outstanding Societal Service Award
Mei-Shu, Lai (賴美淑)	2012	NTU Excellent Societal Service Award
Pau-Chung, Chen (陳保中)	2011	NTU Excellent University Service Award
Shou-Hsia, Cheng (鄭守夏)	2011	NTU Excellent Societal Service Award
Yaw-Huei, Hwang (黃耀輝)	2010	NTU Excellent University Service Award
Gen-Shuh, Wang (王根樹)	2008	NTU Outstanding University Service Award

# 3.2.e. Description of student involvement in service, outside of those activities associated with the required practice experience and previously described in Criterion 2.4.

Students of CPH are involved in local and international community-based public health services through coursework, practicums, CPH-sponsored service activities, faculty mentoring opportunities and individual volunteering opportunities. Faculty members work with students every summer in the Public Health Service Team (please see some samples in Resource File 3.2.e). Besides, some student organizations are very active in service projects, supported by the University. Despite having a faculty advisor, these organizations are primarily run by the students, including the selection, planning, and execution of these service projects. For example, Taiwan Medical & Public Health Student Workshop, which consists of students from College of Medicine and College of Public Health, conducts annual survey of hygiene and health care in various communities.

Courses with service-learning for undergraduate and graduate students are listed in Table 3.2.e.(1). The courses for Master's levels are available for both MPH and MS students. Students get the opportunity to put their knowledge into practice to enhance professional development, expand

networks, and improve their skills while working with community agencies. Services-learning experiences are integrated throughout the curriculum as students go through required and optional coursework. Community-based organizations also benefit from these collaborations. For example, in the class of Community Health Development, students will develop social skills to communicate with community residents and integrate neighborhood resources to develop community projects to promote community health at the individual and collective levels. Students will share their projects with course members and community residents with whom they develop health projects at the end of the course. Examples of students involved in the international public health services between 2012 and 2014 are listed in Table 3.2.e.(2)

# Table 3.2.e.(1) Courses for Undergraduate and Graduate levels

# **Undergraduate-level Course**

# MPH7009 - Public Health: Perspective and Prospect

Students will learn and involve in the critical public health issues in the areas of biostatistics, epidemiology/ prevention medicine, environmental and occupational health and safety, health policy and management through lecture, attending international public health conference, group report and oral presentation.

## PH4009 - Field Practice in Public Health

A public health internship program provides students to participate in medical institutions, government agencies or industries at least 6 weeks. The field practices are in the areas of biostatistics, epidemiology/ prevention medicine, environmental and occupational health and safety, health policy and management. Students are expected to actively involve and develop the observation and communication skills through the internship.

# PH3021 - Maternal and Child Health

The course will introduce the definition and the development of maternal and child health in local, community, and global. Students will visit a local public health center or a hospital during the class. Students will learn to evaluate and improve the current maternal and child health as a health policy maker and enforcer through the visit, in-class discussion and writing reports.

# **Graduate-level Course**

# EPM7167 - Community Medicine and Primary Health Care

The class introduces the currents situation of community medicine and primary health care. Students will learn what's the available resources and promote healthy community through practicing community medicine and primary health care.

# MPH7009 - Public Health: Perspective and Prospect

Students will learn and involve in the critical public health issues in the areas of biostatistics, epidemiology/ prevention medicine, environmental and occupational health and safety, health policy and management through lecture, attending international public health conference, group report and oral presentation.

# **Undergraduate-level Course**

# HBCS7010 - Community Health Development

The focus of the course is about how community organizations, neighborhood resources, and residents build alliance and collaboratively promote projects that improve community health at the individual and collective levels. The course will begin with an introduction of relevant theories, concepts and ethical issues, followed by case studies within and beyond Taiwan. Students will develop hands-on community projects that concerns the health and wellbeing of designated communities and their residents in Taipei by the end of the semester

# HBCS7014 - Community Health Development Fieldwork

Students take Community Health Development are required to take Community Health Development Fieldwork as well. Students will design community projects that concern the health and wellbeing of designated communities and their residents in Taipei.

# HPM5002 - Public Mental Health

In order to let students understand what is mental health, mental health promotion, mental illness prevention as well as rehabilitation in the community, this course is designed to integrate the theories of public health and psychology into practice. Let the students aware "Mental health is more than the absence of mental disorders" and "There is no heath without mental health". The students will encourage to take mental health promotion actions after they understand those influence factors such as individual characteristics, personality, family, social policies etc.

# HPM5015 - Public Mental Health and Mental Health Promotion

The course provides students an opportunity to understand how individual's mental health interact with individuals, families and community. Students will use themselves or their friends or families as subjects to evaluate and promote their mental health, use available resources to deal with the pressure from relationship, academic stress, chronic disease, or disaster.

#### HPM8007 - Mental Health Policy and Management

Students will learn Taiwan's and global mental health development and how to evaluate a policy through mental health.

# OMIH5116 - Practices of Health Management I

The course includes: 1. Pre-trip training: Basic concepts of industrial hygiene survey are lectured. Students are also required to summarize and present background information about the plants to be visited. 2. Two-day field trip. 3. Report writing.

# OMIH5120 - Practices of Health Management II

This class is case-oriented, problem-solving approach for learning practical issues of occupational and environmental health problems of workers who are potential victims of work-related diseases/injuries. It provides a unique opportunity for graduate students and residents of occupational medicine to integrate and apply practical skills and training for hazard identification through onsite walkthrough, discussion and writing reports. Under the supervision and guidance of senior occupational physicians, the trainee will develop technology of how to recognize occupational and environmental hazard as well as recommendation

# **Undergraduate-level Course**

for prevention and management.

Table 3.2.e.(2) Students and Projects of International Service, 2012-2015

Student	Degree	Service Site	Service Projects	
2015-2016 Academic Year				
Tzu-Hsuan Hung	zu-Hsuan Hung		Global Health Professional	
(洪梓瑄)	Undergraduate	Malawi	Cultivation Program in Malawi,	
(0,11,-2)			Southern Africa	
Ching-Hsuan Tzeng			Global Health Professional	
(曾靖軒)	Undergraduate	Malawi	Cultivation Program in Malawi,	
(   -			Southern Africa	
Ting-En Hsi		Democratic Republic of	Anti-malaria Program in the	
(席鼎恩)	Graduate (MS)	Sao Tome and Principe	Democratic Republic of Sao Tome	
(冲邪心)		Sao Tome and Timespe	and Principe, West Africa	
2014-2015 Academic	Year			
Hsuan-Chu Chen			Global Health Professional	
	Undergraduate	Malawi	Cultivation Program in Malawi,	
(陳宣竹)			Southern Africa	
Char Lin Harr			Global Health Professional	
Chu-Lin Hsu	Undergraduate	Malawi	Cultivation Program in Malawi,	
(許筑淋)			Southern Africa	
Ta-Zhou Wu		Dama anatia Damuhlia of	Anti-malaria Program in the	
	Undergraduate	Democratic Republic of	Democratic Republic of Sao Tome	
(吳大洲)		Sao Tome and Principe	and Principe, West Africa	
Was Charlin		Dama anatia Damuhlia of	Anti-malaria Program in the	
Wan-Chu Lin	Undergraduate	Democratic Republic of	Democratic Republic of Sao Tome	
(林莞筑)		Sao Tome and Principe	and Principe, West Africa	
2013-2014 Academic	Year	•		
D : I II			Global Health Professional	
Pei-Ju He	Undergraduate	Malawi	Cultivation Program in Malawi,	
(何佩儒)			Southern Africa	
П. М. В			Global Health Professional	
Hui-Zhen Tan	Undergraduate	Malawi	Cultivation Program in Malawi,	
(譚慧貞)			Southern Africa	
G : W		<b>D</b> . <b>D</b>	Anti-malaria Program in the	
Sui-Wen Hsiao	Undergraduate	Democratic Republic of	Democratic Republic of Sao Tome	
(蕭穗文)	_	Sao Tome and Principe	and Principe, West Africa	

Student	Degree	Service Site	Service Projects
Pei-Jung Lin	Undergraduate	Democratic Republic of Sao Tome and Principe	Anti-malaria Program in the
(林佩蓉)			Democratic Republic of Sao Tome
(你你公			and Principe, West Africa

# 3.2.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

# **Strengths:**

- 1. CPH values service activities through which faculty and students contribute to public health practice. This value is shown through recognition of service in faculty awards, the promotion and tenure process and in a portion of faculty effort dedicated to service. The faculty report significant engagement in professional service activities.
- 2. CPH has modified the Teacher Appointment and Promotion Review Rules so that service has been recognized as a necessary requirement for promotion. Polices for faculty appointment and promotion are well documented.

# **Challenges:**

Extensive resources are required to maximize the benefit of student experiential and service learning. In a climate of reduced funding, it is more difficult to find external funding for service activities.

#### **Plans:**

- 1. CPH will continue to promote faculty and students contribute to public health practice by working with residents in the community, and non-profit organizations to gather more information and resources to address local and domestic public health challenges.
- 2. CPH will continue to promote faculty with distinguished service activities through faculty awards, the promotion and tenure process.

# The criterion is met.

#### 3.3 WORKFORCE DEVELOPMENT

The school shall engage in activities other than its offering of degree programs that support the professional development of the public health workforce.

3.3.a. Description of the ways in which the school periodically assesses the continuing education needs of the community or communities it intends to serve. The assessment may include primary or secondary data collection or data sources.

CPH conducts yearly needs assessments and incorporates data from three sources to identify public health training needs in Taiwan: (1) Periodic alumni surveys. (2) Evaluation forms for continuing education courses that include a section for participants to describe their needs for additional training. (3) Informal mechanisms: discussions with faculty and participants at conferences, workshops, and courses.

Utilizing these three sources of data, training in the following three areas were set as priorities for these years:

- 1. *Leadership/Management*: Priorities under leadership/management included boosting morale in times of hardship, managing human resources issues (e.g., people who do not show up on time, customer service skills, phone etiquette), supervising and managing employees with differing personalities, creating environments to facilitate high performance, understanding reward theory and managing people.
- 2. *Communication/Marketing*: Priorities under communication/marketing included marketing health department and district health services, destignatizing the health department and improving communication between leadership and staff.
- 3. Applied Skills: Priorities under applied skills included practical epidemiology and biostatistical skills (e.g., what is an age-adjusted rate; how to use data for decision making, epidemiological methods, materials and techniques), skills to improve processes (e.g., skills needed in data analysis, information systems, charts, etc.), data interpretation and critically thinking about data, basic health planning and community health assessment, systems thinking, application of lessons learned from successful prevention programs to other public health issues and the education of boards of health members on public health issues.

National Taiwan University sets up awards for recognition of contributions to university or societal service. The following Table lists the CPH faculty members who have won either Excellent University Service Award or Excellent University Service Award since 2008.

3.3.b. A list of the continuing education programs, other than certificate programs, offered by the school, including number of participants served, for each of the last three years. Those programs offered in a distance-learning format should be identified. Funded

training/continuing education activities may be reported in a separate table. See CEPH Template 3.3.1 (Optional template for funded workforce development activities). Only funded training/continuing education should be reported in Template 3.3.1. Extramural funding for research or service education grants should be reported in Templates 3.1.1 (research) or 3.2.2 (funded service), respectively.

The following three lists show the numbers of participants in continuing education courses offered by CPH over the previous three years. Most of those programs are for employees in government and private companies.

2013-2014 Academic Year

	Continuing Education Opposition	Number of	Certificate
	Continuing Education Opportunities	Participants	Awarded
1	2014 Winter Course: Network Meta-Analysis	24	Yes
2	STATA Workshop	45	No
3	Bringing Eating Disorders Prevention Into Focus as a Public Health Priority: A Research Plan of Action	60	Yes
4	2013 The Mental Health Association in Taiwan Annual Meeting: Mainstreaming Mental Health for Department of Mental Health	100	Yes
5	Taiwan Laughing Qigong Association: Community Experiences and Teacher Training for Smile and Health	50	No
6	A Personal Journey of Learning	50	Yes
7	Mental Health and Governance	50	Yes
8	NTU Health Promotion Academic Seminar and Professor Chueh Chang Retirement Conference	100	Yes
9	Taiwan Laughing Qigong Association: Community Experiences and Teacher Training for Smile and Health	50	No
10	2014 Occupational Health Symposium and the Fifth Cross-Strait Occupational Health Seminar	300	Yes
11	Research Methods and Applications on Gene-Environmental Interaction Workshop	60	No
12	Continuing Education Course: B-Type and C-Type Hepatitis	5641	No
13	H7N9 Influenza Prevention Workshop	291	No
14	11 <sup>th</sup> International AIDS Seminar in Taipei	613	No
15	Epidemiology Basic Course	66	Yes
16	Epidemiology Advanced Course	45	Yes
17	Multidrug-Resistant Tuberculosis Case Management Workshop	61	No
18	Dengue Vector Ecology and Prevention Workshop	153	No

	Continuing Education Opportunities	Number of Participants	Certificate Awarded
19	Practical Course of Latest Treatment to Latent Tuberculosis Infection	15215	No
20	2013 Society and Health Workshop	60	No
21	2013 NTU Health Promotion Seminar	120	No
22	Long-Term Tracking Data Analysis Workshop	40	No
23	2014 Dragon Net Mini Symposium	45	No
24	Conversations in Oncology in Asia	173	Yes
25	Professional Research Accreditation for Clinical Trials Investigative Site Executives: Core Concepts & Compliance(PRACTISE TM Core) (Co-sponsor with BI)	94	Yes
26	Professional Research Accreditation for Clinical Trials Investigative Site Executives: Actions at Sites (PRACTISE TM Act) (Co-sponsor with BI)	94	Yes
27	Taiwan Mentor-Mentee Workshop (Co-sponsor with Lilly)	24	Yes
28	GC-MS/MS Operation and Setting Education	4	No
29	Waters UPLC_MS/MS Training Course	31	No
30	GC/TOF/MS Training Course	22	No

## 2014-2015 Academic Year

	Continuing Education Opportunities	Number of Participants	Certificate Awarded
1	2015 Winter Course: Bayesian Network Meta-Analysis	25	Yes
2	2015 Summer Course: Network Meta-Analysis and Meta-Analysis of Diagnostic Tools with STATA	28	Yes
3	Legislation of Occupational Accident & Injury Insurance: Prospect and Challenges	120	No
4	Building A Safety Net to Curb the Spread of Emerging Suicide Methods in Hong Kong (Professor Yip, Paul S.F., The Hong Kong Jockey Club Centre for Suicide Research and Prevention)	40	No
5	From a Public Mental Health Perspective: Organizational Assessment and Recommendations for Department of Mental and Oral Health	50	No
6	Mental Health Promotion and New Ways to Relieve Stress: Physical and Mental Health of Cancer Patients Effectiveness Evaluation	50	No
7	Mental Health Promotion and New Ways to Relieve Stress: Laughing Qigong Training Program	50	No
8	2014 Taiwan Public Health Association Annual Meeting	50	No
9	New Public Mental Health Promotion Forum for Action	50	No
10	Review of Taiwan National Second Report on the Implementation of	50	No

	Continuing Education Opportunities	Number of Participants	Certificate Awarded
	CEDAW: Conclusions and Recommendations of the Review Committee		
	in Respond to Point No.28 Gender and Health Forum		
11	Global Engagement of CSW and CEDAW: Reflection and Future Action	50	No
12	Department of Mental & Oral Health, Ministry of Health and Welfare	50	No
13	2014 Society for Risk Analysis-Asia Conference	217	Yes
14	Risk Analysis Course: Advisory System of GMO in Agriculture Risk Assessment	5	No
15	Molecular and Genomic Epidemiology for Cancer Etiology and Outcome	30	No
16	29 <sup>th</sup> Health Survey Basic Training Course	13	No
17	Tuberculosis Case Management Practice Workshop	93	No
18	"Food-Borne Diseases: the Integration of Monitoring and Response"  International Workshop	295	No
19	Special Lecture: the Current Status and Prevention of Ebola Outbreak	168	No
20	Professionals in Epidemiology Training Program 30th Anniversary Symposium	232	No
21	Ebola Outbreak: Experience Sharing of Ebola Prevention in Nigeria	20	No
22	Strategy of Eliminating Tuberculosis in 2035 International Workshop	242	No
23	Long-Term Tracking Data Analysis Workshop	30	No
24	2014 Society and Health Workshop	100	No
25	Community Health Construction and Leisure Theory: Using Recreation to Increase Positive Interaction in Medical Care	35	No
26	My Studies and Thoughts (Dr. Chih-Ping Chou)	40	No
27	How Unfairness Shapes Illness and Well-Being (Dr. Gilbert C. Gee)	50	No
28	Charity and Medical Care: Social Change in Hong Kong and the Development of Tung Wah Group of Hospitals (Dr. HO Pui Yin)	30	No
29	Bringing Eating Disorders Prevention into Focus As A Public Health Priority: A Research Plan of Action (Dr. Bryn Austin)	40	No
30	New Challenges, Opportunities and Paradigm for Future Public Health (Dr. Dong-Chul Seo)	40	No
31	My Studies and Thoughts (Dr. Alice P. Lin)	30	No
32	Conversations in Oncology in Asia (Co-sponsor with Boehringer Ingelheim)	328	Yes
33	Prof. Alexander M. Walker - Large Databases: When a study is Feasible and When a Study May Be Unwise (Co-sponsor with Roche)	179	Yes

	Continuing Education Opportunities	Number of Participants	Certificate Awarded
34	Meet the Expert: Novel Anticancer Agents Discussion with Prof. Alex	25	Yes
34	A. Adjei (Co-sponsor with Roche)	25	103
35	Taiwan Mentor-Mentee Workshop / Asian Thoracic Oncology	41	Yes
33	Program(ATOP) (Co-sponsor with E. Lily)	41	168
36	Joint COS-CAHON-SITC Workshop on Cancer Immunotherapy 2015	383	Yes
37	Waters UPLC_MS/MS Training Course	22	No
38	Waters UPLC_MS/MS Operation and Setting Education	12	No
39	Severe Enteroviruses Prevention Workshop	58	No

## 2015-2016 Academic Year

	Cardinalia Elastia Oras atantita	Number of	Certificate
	Continuing Education Opportunities	Participants	Awarded
1	2015 Society and Health Workshop: Life Technology, Big Data, and	70	No
1	Health Behavior	70	NO
2	When Data Mining Meets Facebook (Dr. Chih-Hua Tai)	25	No
3	Social Media Data and Public Health Research (Dr. Dr. Kevin Fu King)	25	No
4	New Perspective of Health Promotion among Chinese	80	No
5	Joint COS-CAHON-SITC Workshop on Cancer Immunotherapy 2016	296	Yes
6	5th Japan-Taiwan Oncology Phase I Trial Conference (JTOPIC)	581	Yes
7	Breast Cancer Management Forum	40	Yes
8	Statistical Genomics Workshop on Sequence and Genotype Data	60	No
8	Analysis	00	NO
9	New Guidelines and Clinical Examples of TB Diagnosis and Treatment	11949	No
10	Severe Enterovirus Prevention Workshop	89	No
11	Norovirus Prevention Workshop	309	No
12	Roundtable Forum on Biotechnology Industry and Prevention and	113	No
12	Treatment of Infectious Diseases	113	NO
13	Cross-Strait Tropical Medicine Seminar	59	No
14	Introduction to 3HP Short-Term Treatment Prescription to Latent TB	7334	No
15	The Latest Clinical Practice of Tuberculosis and Comorbidity, 2016	6786	No
1.0	International Seminar on the 30th Anniversary of Hepatitis B Vaccine	270	NI.
16	Comprehensive Inoculation	278	No
17	Clinical Practice of Treatment and Control of Viral Hepatitis	8573	No
18	Career of Infectious Diseases Discipline	42	No
19	Education Training on Operation Principle of Nitrogen Generator	8	No

		Continuing Education Opportunities	Number of Participants	Certificate Awarded
Ī	20	UPLC_MS/MS Training Course	35	No

## 3.3.c. Description of certificate programs or other non-degree offerings of the school, including enrollment data for each of the last three years.

CPH does not offer certificate programs. However, the research centers housed by CPH (Namely the Global Health Center, Health Promotion Research Center, Research Center for Genes, Environment and Human Health, Center of Environmental and Occupational Health, Center of Taiwan Cancer Registry, MOHW-NTU Infectious Diseases Research and Education Center, as well as Taiwan Clinical Trial Statistical Center, Training Center, and Pharmacogenomics Laboratory. Please refer to Table 3.1.a for the summary of each center's issues and concerns) offer educational courses and workshop for participants' professional development from time to time. The courses offered by these centers and the number of participants in previous three years are shown in 3.3.b.

## 3.3.d. Description of the school's practices, policies, procedures and evaluation that support continuing education and workforce development strategies.

CPH provides workforce development programs primarily through all of its academic units. The largest efforts are in:

- Department of Public Health
- Institute of Health Policy and Management
- Institute of Occupational Medicine and Industrial Hygiene
- Institute of Epidemiology and Preventive Medicine
- Institute of Environmental Health

Besides, a newly established NTU Health Data Research Center, in which the CPH faculty takes main responsibility for its training and educational tasks, has provided a series of training courses on analysis of health database, particularly of national health insurance database. Other centers of CPH, including Center of Taiwan Cancer Registry, Research Center of Genes, Environment, and Human Health, Center for Environmental and Occupational Health, and Center of Health Promotion also offer workshops or short courses occasionally. Faculty members are also frequently invited to give talks or to deliver training courses by education to professional organizations.

Our CPH has set some regulations in recognition of contributions in the faculty evaluation and

promotion process. Every faculty member can choose his/her own personalized evaluation scoring system as research 50%, teaching 40%, and service 10%, or research 50%, teaching 30%, service 20%. Our National Taiwan University also sets up awards for recognition of contributions and services to university or society, which would be added during faculty evaluation process.

## 3.3.e. A list of other educational institutions or public health practice organizations, if any, with which the school collaborates to offer continuing education.

Currently professional training courses (such as certificate programs) are provided through research centers of CPH. First, many faculty members of EPM work with DOH-NTU Infectious Diseases Research and Education Center to run training courses for non-NTU employees every year. The courses ranged from basic and advanced epidemiology and biostatistics to the treatment guidelines for tuberculosis, lab diagnosis for infectious diseases, and development of EV71 vaccine. CPH faculty members with expertise in epidemiology and biostatistics are also actively engaged in the protocol development and biostatistical consultation through the Ministry of Science and Technology sponsored the National Translational Medicine and Clinical Trial Resource Center, which also offers professional training course on the design and conduct of clinical trials.

# 3.3.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

CPH engages in numerous activities that support the professional development of the public health workforce. Primarily through the Department of Public Health, Institute of Health Policy and Management, Institute of Occupational Medicine and Industrial Hygiene, Institute of Epidemiology and Preventive Medicine, Institute of Environmental Health, and other centers, CPH has received funding to support workforce development efforts of public health professionals throughout Taiwan.

#### **Challenges:**

Funding for public health workforce training has been decreasing, yet there remains a strong demand and need for it. We need to find ways to meet these needs in challenging economic times. CPH still needs to expand continuing education and continuing education unit provider capacity.

#### **Plans:**

CPH needs to find ways to support continued public health training.

#### This criterion is met.

## **SECTION 4: FACULTY, STAFF AND STUDENTS**

#### 4.1 FACULTY QUALIFICATIONS

The school shall have a clearly defined faculty which, by virtue of its distribution, multidisciplinary nature, educational preparation, practice experience and research and instructional competence, is able to fully support the school's mission, goals and objectives.

4.1.a. A table showing primary faculty who support the degree programs offered by the school. It should present data effective at the beginning of the academic year in which the self-study is submitted to CEPH and should be updated at the beginning of the site visit. This information must be presented in table format, organized by department, specialty area or other organizational unit as appropriate to the school and must include at least the following: a) name, b) title/academic rank, c) FTE or % time, d) tenure status or classification\*, g) graduate degrees earned, h) discipline in which degrees were earned, i) institutions from which degrees were earned, j) current instructional areas and k) current research interests. See CEPH Data Template 4.1.1.

\*Note: classification refers to alternative appointment categories that may be used at the institution.

Currently, there are 56 primary faculty members in the CPH including 48 full-time faculty members and 8 full-time project faculty members (non-tenure track). The information about individual faculty members is shown in Table 4.1.a (pp.170-177).

Table 4.1.a. Primary Faculty of CPH, NTU: sort by academic area/academic rank/last name

Acad.		Academic	Tenure	DOD	Degree/Year	T		
Area <sup>1</sup>	Name	Rank/Since	Status <sup>2</sup>	FTE	Earned	Institution	Disciplines of Interest	Disciplines of Instruction
BIO	Shu-Hui Chang (張淑惠)	Prof./2004	Tenure	1.0	Ph.D., 1995	Johns Hopkins University	Applied biostatics, advanced medical statistics, survival analysis	Biostatistics, biomedical statistics, medical statistics, survival analysis
BIO	Hsiu-Hsi Chen (陳秀熙)	Prof./2002	Tenure	1.0	Ph.D., 1995 D.D.S., 1986	Cambridge University; Taipei Medical University	Basic statistics, statistics in disease screening, applied stochastic	Biostatistics, applied stochastic, statistics in disease screening, quantitative science
BIO	Chuhsing Kate Hsiao (蕭朱杏)	Prof./2003	Tenure	1.0	Ph.D., 1994	Carnegie Mellon University	Applied Bayesian statistical analysis, biostatistics, statistics	Biostatistics, statistics and life
BIO	Wen-Chung Lee (李文宗)	Prof./2000	Tenure	1.0	Ph.D., 1994 M.D., 1988	National Taiwan University	Epidemiology, biostatistics, generalized linear models	Epidemiology, descriptive epidemiology, biostatistics
BIO	Yu-Kang Tu (杜裕康)	Prof./2016	Tenure-Track	1.0	·	University of Leeds; National Taiwan University	Biostatistical consultation, statistical thinking, structural equation modeling	Biomedical statistical consultation, biostatistics, statistical thinking
BIO	Hung Hung (洪弘)	Assoc. Prof./2014	Tenure-Track	1.0	Ph.D., 2009	National Taiwan University	Statistical inference, biostatistics, generalized linear model	Biostatistics, generalized linear model, mathematical statistics
BIO	Wan-Yu Lin (林菀俞)	Assist. Prof./2012	Non-Tenure	1.0	Ph.D., 2010	National Taiwan University	Biostatistics and genetic epidemiology	Biostatistics, statistical analysis, computing in epidemiology and biostatistics
BIO	Tzu-Pin Lu (盧子彬)	Assist. Prof./2014	Non-Tenure	1.0	Ph.D., 2011	National Taiwan University	Bioinformatics, microarray analysis, computational biology	Computational biology methods

Acad. Area <sup>1</sup>	Name	Academic Rank/Since	Tenure Status <sup>2</sup>	FTE	Degree/Year Earned	Institution	Disciplines of Interest	Disciplines of Instruction
вю	Chen-Fang Chen (陳瑱芳)	Project Assist. Prof./2014	Non-Tenure	1.0	Ph.D., 2013	National Taiwan University	Clinical Trails, survival analysis, observational studies	Biostatistics, survival analysis, secondary database analysis
EPM	Wei J. Chen (陳為堅)	Prof./1997	Tenure	1.0		Harvard University; National Taiwan University	Psychiatric epidemiology, genetic epidemiology	Genetic epidemiology, research methods, entrepreneurship
ЕРМ	Wei-Chu Chie (季瑋珠)	Prof./1998	Tenure	1.0	Ph.D., 1989 M.D., 1981	National Taiwan University	Preventive medicine, clinical medicine, maternal and child health	Preventive medicine, clinical medicine, maternal and child health
ЕРМ	Kuo-Liong Chien (簡國龍)	Prof./2010	Tenure-Track	1.0	Ph.D., 2000 M.D., 1988	National Taiwan University	Cardiovascular epidemiology, clinical trial, preventive medicine	Clinical trial, epidemiology of chronic disease, preventive medicine of cardiovascular disease
EPM	Chi-Tai Fang (方啟泰)	Prof./2016	Tenure-Track	1.0	Ph.D., 2002 M.D., 1990	National Taiwan University	Infectious epidemiology, clinical epidemiology	Epidemiology, clinical epidemiology
EPM	Chwan-Chuen King (金傳春)	Prof./1994	Tenure-Track	1.0	Dr.P.H., 1987	U of California , Los Angeles	Infectious epidemiology	Epidemiology of infectious disease
EPM	Ming-Whei Yu (于明暉)	Prof./1997	Tenure	1.0	Ph.D., 1991	National Taiwan University	Epidemiologic case study, cancer epidemiology	Cancer Epidemiology
ЕРМ	Yen-Ching Karen Chen (程蘊菁)	Assoc. Prof./2012	Tenure-Track	1.0	Sc.D., 2001	Harvard University	Quantitative method for genomic research, epidemiologic study of aging and the elderly	Preventive medicine
EPM	Po-Hsiu Kuo (郭柏秀)	Assoc. Prof./2012	Tenure-Track	1.0	Ph.D., 2002	National Taiwan University	Genetic Epidemiology, Psychiatric Epidemiology	Epidemiology
EPM		Assoc. Prof./2014	Tenure-Track	1.0	Ph.D., 2004 M.D., 1999	Natl. Cheng Kung University National Taiwan University	Ergonomics, environmental and occupational epidemiology	Preventive medicine

Acad.	NT	Academic	Tenure	TEKNIE	Degree/Year	T	D'ac' d'accept de cod	D'art d'arra 61 and a adt a
Area <sup>1</sup>	Name	Rank/Since	Status <sup>2</sup>	FTE	Earned	Institution	<b>Disciplines of Interest</b>	Disciplines of Instruction
							Infectious epidemiology, global	Study design of epidemiology,
EPM	Hsien-Ho Lin	Assoc.	Tenure-Track	1.0	Sc.D., 2009	Harvard University;	epidemiology of tuberculosis,	global epidemiology of
EPIVI	(林先和)	Prof./2014	Tenure-Track	1.0	M.D., 2001	National Taiwan University	systematic review and	tuberculosis, systematic review
							meta-analysis	and meta-analysis
	Shu-Fen Liao	Project	oject				Epidemiology, biostatistics and	Epidemiology, biomedical
EPM	Shu-Fen Liao (廖淑芬)	Assist.	Non-Tenure	1.0	Ph.D., 2010	National Taiwan University	data analysis, generalized linear	statistics, generalized linear
		Prof./2010					model	model
	Wai Liana Chih	Project						Biostatistical methods, infectious
EPM	(施惟量)	Vei-Liang Shih Assist. Non-Tenure 1.0	1.0	Ph.D., 2008	National Taiwan University	Epidemiology, biostatistics	disease control, laboratory	
	(地作里)	Prof./2010						diagnosis of reportable diseases
		an-Rung Chen Prof./2013 Tenure-						Multilevel research methods,
							Social sciences, health behavior	social and behavioral science,
HBCS	Duan-Rung Chen		Drof /2012	Tenure-Track	1.0	Ph.D., 1997	Columbia University	and community science, spatial
пвсъ	(陳端容)	F101./2013	Tellule-Tlack	1.0	FII.D., 1997	Columbia Oniversity	analysis, health services,	health system, health policy and
							multilevel models	management, community health
								and spatial analysis
							Health behavior and community	Health policy and management,
	Jiun-Hau Huang	Assoc.					science, health services, health	health behaviors and community
HBCS	Jidii-Had Huang (黃俊豪)	Prof./2013	Tenure-Track	1.0	Sc.D., 2003	Harvard University	policy and management, health	sciences, health promotion and
	(	1101./2013					communication and health	education, health communication
							promotion	and health promotion
	Hein Chiah Chang	Assist.					International migration, gender	Community health development,
HBCS		Prof./2015	Non-Tenure	1.0	Ph.D., 2014	U of California, Los Angeles	relations, social integration,	multicultural health in urban
		1101./2013	13				health and wellbeing	settings

Acad. Area <sup>1</sup>	Name	Academic Rank/Since	Tenure Status <sup>2</sup>	FTE	Degree/Year Earned	Institution	Disciplines of Interest	Disciplines of Instruction
HBCS	Shu-Sen Chang (張書森)	Assist. Prof./2015	Non-Tenure	1.0	Ph.D., 2010	University of Bristol, UK	Psychiatric epidemiology, spatial epidemiology, suicide prevention, community mental health	Health psychology, health behaviors and community sciences, social epidemiology
HBCS	Yi-Ching Lin (林宜靜)	Project Assist. Prof./2013	Non-Tenure	1.0	Ph.D., 2012	Indiana U, Bloomington	Health behavior, human development, health promotion	Human development and health, health behavior science
НРМ	Ray-E Chang (張睿詒)	Prof./2015	Tenure-Track	1.0	Ph.D., 1994	U of Texas at Arlington	Business administration, healthcare management science	Healthcare management and finance, health industry and policy
НРМ	Shou-Hsia Cheng (鄭守夏)	Prof./2004	Tenure	1.0	Ph.D., 1993	Yale University	Health policy, health services, health economics	Health policy and management, health economics
НРМ	Yawen Cheng (鄭雅文)	Prof./2014	Tenure-Track	1.0	Sc.D., 1998	Harvard University	Social epidemiology, society and health, health policy	Public health administration, global health, health policy and management, labor and health
НРМ	Tung-liang Chiang (江東亮)	Prof./1994	Tenure	1.0	Sc.D., 1984	Johns Hopkins University	Health policy, health insurance, social and health	Health policy and management, society and health
НРМ	Kuo-Piao Michael Chung (鍾國彪)	Prof./2012	Tenure	1.0	Ph.D., 1995	Johns Hopkins University	Quality of management and innovation in healthcare organization, quality of care and patient safety	Health policy and management, quality of management and innovation in healthcare organization, quality of care and patient safety

Acad. Area <sup>1</sup>	Name	Academic Rank/Since	Tenure Status <sup>2</sup>	FTE	Degree/Year Earned	Institution	Disciplines of Interest	Disciplines of Instruction
НРМ	Ming-Chin Yang (楊銘欽)	Prof./2016	Tenure-Track	1.0	Dr.PH., 1989	University of Texas	Public health administration, health services and industry, economic evaluation of healthcare programs	Health policy and management, health services and industry, economic evaluation of healthcare care services
НРМ		Assoc. Prof./2016	Non-Tenure	1.0	Ph.D., 2004	University of Washington	Long-term care system and policy, social security system	Health policy and management, health service, long-term care service management
НРМ	Yu-Chi Tung (董鈺琪)	Assoc. Prof./2012	Tenure-Track	1.0	Ph.D., 2004	National Taiwan University	Health organization and management, health services and industry, project management	Health policy and management, health insurance
НРМ	Nien-Chen Kuo	Assist. Prof./2012	Tenure-Track	1.0	Ph.D., 2010	National Taiwan University	Risk adjustment, comparative effectiveness research, health insurance payment system	Health policy and management, healthcare payment systems, health informatics
ЕН	Ching-Wen Chang (張靜文)	Prof./2012	Tenure-Track	1.0	Ph.D., 1994	University of Cincinnati	Environmental microbiology, occupational health	Environmental microbiology
ЕН	Chang Chuan Chan (詹長權)	Prof./1996	Tenure	1.0	Sc.D., 1990	Harvard University	Air pollution control, sustainable health and environment, risk management and communication	health, sustainable health and
ЕН	Chia-Yang Chen (陳家揚)	Prof./2011	Tenure-Track	1.0	Ph.D., 2000	U of North Carolina at Chapel Hill	Environmental analysis, environmental health, environmental and occupational toxicology	Environmental and occupational health, environmental and occupational toxicology, exposure assessment, application of mass spectrometry

Acad. Area <sup>1</sup>	Name	Academic Rank/Since	Tenure Status <sup>2</sup>	FTE	Degree/Year Earned	Institution	Disciplines of Interest	Disciplines of Instruction
ЕН	Chih-Chieh Chen (陳志傑)	Prof./2001	Tenure		Ph.D., 1991	University of Cincinnati	Industrial ventilation, personal protective equipment, aerosol technology and instrumentation	Environmental and occupational health, aerosol, personal protective equipment
ЕН	Pau-Chung Chen (陳保中)	Prof./2007	Tenure-Track	1.0	Ph.D., 1995 M.D., 1986	University of London; Kaohsiung Medical University	Environmental and occupational medicine, reproductive hazards, children's environmental health, epidemiology	Reproductive hazards, woman and child health, developmental origins of health and disease, reproductive toxicology
ЕН	Tsun-Jen Cheng (鄭尊仁)	Prof./2002	Tenure	1.0	Sc.D., 1995 M.D., 1980	Harvard University Taipei Medical University	Environmental and occupational medicine, molecular biomarkers, inhalation toxicology	Environmental and occupational health, inhalation toxicology
ЕН	Yaw-Huei Hwang (黃耀輝)	Prof./2011	Tenure	1.0	Ph.D., 1994	University of Cincinnati	Environmental and occupational epidemiology, ergonomics, work environment measurement	Environmental and occupational health, monitoring for health hazard at work, ergonomics
ЕН	Shih-Wei Tsai (蔡詩偉)	Prof./2009	Tenure-Track	1.0	Ph.D., 1998	IU of California Los Angeles	Air sampling and analysis, biological monitoring	Environmental and occupational health, air sampling and analysis, environmental analysis, industrial hygiene, biological monitoring
ЕН	Gen-Shuh Wang (王根樹)	Prof./2003	Tenure-Track	1.0	Ph.D., 1994	State U of New York at Albany	Environmental chemistry, water quality management	Environmental chemistry
ЕН	Chang-Fu Wu (吳章甫)	Prof./2014	Tenure-Track	1.0	Ph.D., 2002	University of Washington	Industrial hygiene, exposure assessment, risk assessment, environmental health	Health and hazard risk assessment, environmental and occupational health
ЕН	Kuen-Yuh Wu (吳焜裕)	Prof./2013	Tenure-Track	1.0	Ph.D., 1997	U of North Carolina at Charlotte	Health risk assessment, risk management and	Risk assessment and analysis, risk management and

Acad.	Name	Academic	Tenure	FTE	Degree/Year	Institution	Disciplines of Interest	Disciplines of Instruction
Area <sup>1</sup>	Name	Rank/Since	Status <sup>2</sup>		Earned	nisutuuon	Disciplines of Interest	Disciplines of Instruction
							communication, biological	communication
							monitoring, molecular	
EH	Ching-Yu Lin	Assoc.	Non-Tenure	1.0	Ph.D., 2007	U of California, Davis	Environmental and occupational	Environmental and occupational
ЕП	(林靖愉)	Prof./2015	Non-Tenute	1.0	PII.D., 2007	O of Camornia, Davis	toxicology, toxicogenomics	toxicology, toxicogenomics
							Ventilation theory and	Industrial ventilation, industrial
EH	Jia-Kun Chen	Assist.	Non-Tenure	1.0	Ph.D., 2008	National Cheng Kung U	technology, fluid dynamics,	safety, environmental and
ЕП	(陳佳堃)	Prof./2014	Non-Tenute	1.0	PII.D., 2006	Ivational Cheng Kung O	MEMS theory & design of	occupational health, local
							electrokinetic microfluidics	exhaust ventilation
	Wan-Chen Lee	Assist.					Environmental health, climate	Environmental and occupational
EH	(李婉甄)	Prof./2016	Non-Tenure	1.0	Sc.D., 2015	Harvard University	change exposure, occupational	health, industrial hygiene,
	(子姚玑)	F101./2010					exposure assessment	laboratory rotation
EH	Chen-Yu Liu	Assist.	Non-Tenure	1.0	Sc.D., 2007	Harvard University	Environmental genetics and	Environmental genetics and
LII	(劉貞佑)	Prof./2012	Non-Tenure	1.0	SC.D., 2007	Traivard Oniversity	epigenetics	epigenetics
	Kun-Hsien Tsai	Assist.					Vector control, vector-borne	Vector control, environmental
EH		Prof./2012	Non-Tenure	1.0	Ph.D., 2004	National Taiwan University	infectious diseases, medical	health and vector-borne
	(茶汁 思)	1101./2012					entomology	infectious diseases
	Hsiao-Yu Yang	Assist.			M.D., 1998	China Medical University	Asbestos, occupational	Environmental and occupational
EH	(楊孝友)	Prof./2015	Non-Tenure	1.0	Ph.D., 2010	National Taiwan University	epidemiology, occupational lung	health, occupational Lung
	(物子及)	1101./2013			1 II.D., 2010	Tradional Talwan Oniversity	diseases	Diseases
		Project					Air quality modeling, aerosol	
EH	Chia Pin Chio	Assist.	Non-Tenure	1.0	Ph.D., 2005	National Chung Hsing U	technology, risk assessment,	Environmental data analysis and
ЕП	(邱嘉斌)	Prof./2012	Non-Tenute	1.0	FII.D., 2003	Ivational Chang Fishing O	environmental data analysis and	simulation
		F101./2012					simulation	
EH	Yu-Chuan Chuang	Project	Non-Tenure	1.0	Ph.D., 2010	National Chung Hsing	Health risk assessment,	Environmental and occupational
1511	(莊育權)	Assist.	rvon-renute	1.0	11.1.1., 2010	University	probabilistic exposure	health

Acad. Area <sup>1</sup>	Name	Academic Rank/Since	Tenure Status <sup>2</sup>	FTE	Degree/Year Earned	Institution	Disciplines of Interest	Disciplines of Instruction
		Prof./2016					assessment, multimedia	
							transport modeling, Bayesian	
							statistical simulation	
	Chang Hain Huang	Project					Industrial hygiene, aerosol	A arosal tachnology and
EH	Sheng-Hsiu Huang (黃盛修)	Assist.	Non-Tenure	1.0	Ph.D., 2001	National Taiwan University	science, air filtration and filter	Aerosol technology and instrumentation
	(貝益形)	Prof./2010					loadings, lung deposition	nistrumentation
	Tau Hanan Vuon	Project					Occupational and environmental	Environmental and accountional
EH	Tzu-Hsuen Yuan	Assist.	Non-Tenure	1.0	Ph.D. (2011)	National Taiwan University	epidemiology, exposure	Environmental and occupational
	(袁子軒)	Prof./2015					biomarkers, air pollution	health

<sup>&</sup>lt;sup>1</sup>BIO = Biostatistics; EPM = Epidemiology and Preventive Medicine; HBCS = Health Behavior and Community Science; HPM = Health Policy and Management; EH = Environmental Health/Occupational Medicine and Industrial Hygiene

- Lifetime Distinguished Professor: endorsed for those with distinguished research or teaching achievements at University level; free from regular evaluation. (Tenure)
- Three-year-term Distinguished Professor: endorsed for those with distinguished research or teaching achievements at College level; free from regular evaluation. (Tenure)
- Evaluation-Free Professor: endorsed for those with certain quantitative merits in research or teaching achievements; free from regular evaluation. (Tenure)
- Professor: evaluated every five years. (Tenure Track)
- Associate Professor: evaluated every five years. (Tenure Track)
- Post-Evaluation Assistant Professor: having to be promoted to Associate Professor within 8 years post initial appointment. (Non-Tenure)
- Newly Appointed Assistant Professor: evaluated after two years. (Non-Tenure)

<sup>&</sup>lt;sup>2</sup>Tenure Status: Strictly speaking, Taiwan has no "tenureship" equivalent to that in the United States. Nevertheless, some newly evolved evaluation system implemented in National Taiwan University has produced a more differentiated appointment system. This system can be summarized as follows:

4.1.b. If the school uses other faculty (adjunct, part-time, secondary appointments, etc.), summary data on their qualifications should be provided in table format, organized by department, specialty area or other organizational unit as appropriate to the school and must include at least the following: a) name, b) title/academic rank, c) title and current employment, d) FTE or % time allocated to the school, e) gender, f) race, g) highest degree earned (optional: schools may also list all graduate degrees earned to more accurately reflect faculty expertise), h) disciplines in which listed degrees were earned and i) contributions to the school. See CEPH Data Template 4.1.2.

In addition to primary faculty in CPH, there are 61 adjunct faculty members (including Professor Emeritus) and 19 joint appointment faculty members to support the teaching in specific areas and practice. All of them go through a review process similar to that of primary faculty to ensure appropriate qualifications for their role.

CPH also invites 7 visiting professors offering courses to CPH students. But they are not counted in the SFR. The information about individual faculty members (including adjunct faculty, joint appointment faculty, and visiting professors) is shown in Resource File 4.1.b.

4.1.c. Description of the manner in which the faculty complement integrates perspectives from the field of practice, including information on appointment tracks for practitioners, if used by the school. Faculty with significant practice experience outside of that which is typically associated with an academic career should also be identified.

CPH is dedicated to integrate perspectives from the field of practice to both education and research. Several faculty members of CPH have long experiences in public health practices in addition to academic work. To name a few, M.S. Lai and S.H. Cheng held the position of deputy minister of the Ministry of Health and Welfare, and the chief of National Health Insurance Administration. N.P. Lin on the other hand had practiced in the construction industry as a civil engineer, supervisor, and manager for over 11 years, specializing in design, marketing, as well as process management. CPH also houses faculty members who had professional experiences in chemical engineering (K.Y. Wu) and medicine (T.J. Cheng, Y.L. Guo, P.C. Chen, W.C. Chie, C.T. Fang, Y.K. Tu, and K.L. Chien) that allow them to integrate perspectives from theirs fields of practice. In addition, CPH faculty have been involved in community health promotion (C.C. Chan and K.L. Chien) and integrative chronic disease screening programs in nation-wide level (H.H. Chen), and conduct nation-wide mental health (W.J. Chen and P.H. Kuo), geriatric health (Y.C. Chen and Y.M. Chen), and infectious disease control and prevention (C.C. King and C.T. Fang). Moreover, some faculty members have provided substantial biostatistical support for nation-wide disease consortiums to improve and facilitate the clinical trials (W.J. Chen, K.L. Chien, W.C. Lee,

and Y.K. Tu).

CPH also offers numerous courses that are designed to work closely with the field of practice. For instance, classes on hospital management case studies and occupational health and safety regularly invite on the field professionals to share their firsthand information and experiences. Other courses work closely with the industries to regularly arrange factory tours for students to experience the environment. Furthermore, courses like community empowerment conducts mental health promotion projects with different communities each year to improve the community health.

4.1.d. Identification of measurable objectives by which the school assesses the qualifications of its faculty complement, along with data regarding the performance of the school against those measures for each of the last three years.

**Table 4.1.d. Outcome Measure of CPH Faculty Qualification** 

	Target	2013	2014	2015
Assistant, associate, and full Professors have	100%	100%	100%	100%
a doctoral degree	100%	100%	100%	100%
Student rating of "satisfaction with	> 3.5 on a scale of 1 to	3.7 (0.6) <sup>1</sup>	3.9 (0.8)	3.9 (0.8)
supervision and/or guidance" on exit survey	5, where 5 is highest	3.7 (0.0)	3.9 (0.8)	3.9 (0.8)
Average publications per faculty	5	6.71	8.53	7.48
Percentage of faculty cases who are	>80%	66.67%	3.1.e100%	83.3%
successfully promoted	>60%	00.07%	3.1.6100%	03.3%
Percentage of faculty cases who are	>80%	100%	100%	100%
successfully tenured	>00%	100%	100%	100%

<sup>&</sup>lt;sup>1</sup>Rating score (standard deviation)

4.1.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. CPH has brought together faculty members with backgrounds in all the core public health disciplines who are committed to CPH's mission.
- 2. CPH is one of the top schools of public health in Taiwan, enabling us to compete with the larger institutions for qualified faculty.

#### **Challenges:**

As a growing college, the demand for faculty service and engagement sometimes exceeds

faculty time constraints. The small number of faculty makes it challenging for faculty to balance teaching, research and service demands.

### **Plans:**

CPH will continue to focus on recruiting and hiring highly qualified faculty who complement the existing faculty expertise.

The criterion is met.

#### 4.2 FACULTY POLICIES AND PROCEDURES

The school shall have well-defined policies and procedures to recruit, appoint and promote qualified faculty, to evaluate competence and performance of faculty, and to support the professional development and advancement of faculty.

## 4.2.a. A faculty handbook or other written document that outlines faculty rules and regulations.

Faculty rules and regulations are outlined in the faculty handbook. It covers policies and resources relating to research, teaching, and services. The handbook is provided to faculty in hardcopy as well as electronically, with the following seven chapters:

Chapter 1: About National Taiwan University

Chapter 2: Teaching and Student Counseling

Chapter 3: Resources for Teaching and Research

Chapter 4: Research Grants and Awards

Chapter 5: Resources for International Exchange

Chapter 6: Academic Honors and Services

Chapter 7: Personnel Service and Benefits

Chapter 8: Campus Life and Health

The e-copy of the handbook is available on the NTU website at <a href="http://host.cc.ntu.edu.tw/sec/news/N-Thandbook-2014-e.pdf">http://host.cc.ntu.edu.tw/sec/news/N-Thandbook-2014-e.pdf</a>

# 4.2.b. Description of provisions for faculty development, including identification of support for faculty categories other than regular full-time appointments.

For teaching part, the Center of Teaching and Learning Development (CTLD) of NTU provide orientation for new faculty members and biennial Faculty Advancement Retreat for those who have had at least 3 years of teaching experiences. In addition, CTLD also provides a mentor system "New faculty mentorship" for new faculty members. CTLD holds regular workshops for faculty to improve and learn various teaching skills (e.g., flipped classroom, co-teach, deep-bowl learning, "FACULTY Plus" E-Teaching Workshop, faculty develop group, and Scholarship of Teaching and Learning). CTLD also gives certificates to teaching assistants (TAs) who pass the training courses and then the faculty can request of these trained TAs. CTLD also provides interactive teaching resources to support teaching, e.g., Zuvio cloud feedback system and Interactive Response System (IRS). Faculty and researchers can also form "faculty development group" to share their teaching experiences.

Regarding academic development, each graduate institute of CPH hold regular faculty seminar to share their research and also invite scholars from outside of the school. For faculty advancement on research, CPH faculty are encouraged to pursue advanced research abroad, e.g., 1- and 2-semester sabbatical for associate professor with a minimum of 3.5- and 7-year employment. For assistant or associate professors obtained their PhD degrees from local universities, they can apply for 1-year leave for advancement in research at prestigious foreign universities. Table 4.2.b summarize the faculty professional development at CPH since 2008. In addition, NTU provides effective professional development opportunities and funding resources. For example, career development project is for young faculties (age  $\leq$  45) to dedicate to long-term and novel research of important fields in order to be in the leading position. Second, cutting-edge steering research project is designated for advanced and fundamental scientific research in order to support economic development of our country and resolve important issues related to social sustainability. Furthermore, NTU faculty exchange program is aimed to improve international collaboration and communication, which encourages faculty exchange for teaching and research purpose, in order to open diversified international courses, and promoting teaching quality and competitiveness.

Table 4.2.b. Faculty Professional Development at CPH, Since 2008

Name	Duration	Country		Description	Professional Outcome	
Chen, Chia-Yang	2015.8.1-	Taiwan	NTU	Sabbatical Leave	Calibratical nament	
(陳家揚)	2016.1.31	Taiwan	NIU	Sabbalical Leave	Sabbatical report	
Cheng, Kai-Wen	2014.8.1-	LICA (Chicago)	UIC <sup>1</sup>	Vicitina	A drian and attribute mamount	
(鄭凱文)	2015.7.31	USA (Chicago)	UIC	Visiting	Advanced study report	
Mei-Shu Lai	2014.2.1-	Tairren	NITH	Cabbatical leave	Cabbatiaslususut	
(賴美淑)	2015.1.31	Taiwan	NTU	Sabbatical leave	Sabbatical report	
Ray-E Chang	2013.9.9-	LICA (Florido)	MOST <sup>2</sup>	A decomposition dec	A decomposed of the decomposed	
(張睿誼)	2014.6.8	USA (Florida) MOST		Advance study	Advanced study report	
Tung-Liang	2013.2.1-					
Chiang	2013.2.1-	Taiwan	NTU	Sabbatical leave	Sabbatical report	
(江東亮)	2014.1.51					
Mei-Shu Lai	2013.2.1-	Toime	NITH	Sabbatical leave	Cabbatias I was a set	
(賴美淑)	2013.7.31	Taiwan	NTU	Sabbancai leave	Sabbatical report	
Neng-Pai Lin	2013.2.1-	Toime	NTU	Cabbatical leave	Cabbatias I was a set	
(林能白)	2013.7.31	Taiwan	NIU	Sabbatical leave	Sabbatical report	
Ya-Wen Cheng	2012.4.29-	Company (Paglia)	MOST	A decomposition dec	A decomposed of the decompose of	
(鄭雅文)	2012.12.17	Germany (Berlin)	MOST	Advance study	Advanced study report	
Hung Hung	2012.7.1-	Langer (Talasa)	NTTI	A dayon on stee de-	A decomposed of the decomposed	
(洪弘)	2012.8.25	Japan (Tokyo)	NTU	Advance study	Advanced study report	

Name	Duration	Country	Funding Source	Description	Professional Outcome
Lan Lee (李蘭)	2011.8- 2012.7	Taiwan	NTU	Sabbatical leave	Sabbatical report
Pau-Chung Chen (陳保中)	2011.8.1- 2012.1.31	Taiwan	NTU	Sabbatical leave	Sabbatical report
Wei-Chu Chie (季瑋珠)	2009.8.1- 2010.1.31	Taiwan	NTU	Sabbatical leave	Sabbatical report
Chih-Chieh Chen (陳志傑)	2008.8.1- 2009.7.31	Taiwan	NTU	Sabbatical leave	Sabbatical report
Chwan-Chuen King (金傳春)	2008.2.1- 2008.8.31	USA (Atlanta)	MOST	Advance study	Advanced study report

<sup>&</sup>lt;sup>1</sup> UIC: University of Illinois at Chicago (Institute of Health for Health Research and Policy)

## 4.2.c. Description of formal procedures for evaluating faculty competence and performance.

### The Purpose of the Reviews

The purpose of evaluating faculty competence and performance is to promote faculty' teaching, research and service. The faculty evaluation system is mainly carried out by the Faculty Evaluation Committee, which includes dean (as the convener) and board members who are professors exempting from evaluation\*. When the number of reviewer is less than five, dean of CPH will initiate the re-election of reviewers. The faculty evaluation can only be proceeded when over two third of reviewers attend the meeting. The resolution can be reached when over one half of reviewers who attend the meeting agree with the proposal.

- \*Associate professors or professors meet the following qualifications are exempted from evaluation:
- (1) Academician of Academia Sinica,
- (2) Receive Academic Award from Ministry of Education,
- (3) Chair professor of prestigious colleges recognized by NTU,
- (4) Distinguish professor of NTU,
- (5) Receive Outstanding Reaching Award twice or Excellent Teaching Award 15 times (one Outstanding Teaching Award is equivalent to 8 Excellent Teaching Award, one National Outstanding General Education Teacher Award from Ministry of Education is equivalent to one Outstanding Teaching Award of NTU),
- (6) Regularly awarded or funded by Ministry of Science and Technology (formerly known as

<sup>&</sup>lt;sup>2</sup> MOST: Ministry of Science and Technology (formerly known as National Science Council, NSC)

National Science Council); regularly receive other awards on teaching, research or service and approved by CPH for exemption of evaluation.

### **Terms of Evaluation and Related Rights and Interests**

The details of terms of evaluation and related rights and interests are in Resource File 4.2.c.(1), outlined from CPH's *Teacher Evaluation Rules* (Resource File 1.5.c.(6)).

#### **Terms of Appointment and Promotion**

In order to encourage teachers of CPH to pursue excellence, to ensure promoted teachers will meet the standards, this Rules (*Teacher Appointment and Promotion Review Rules*, please refer to Resource File 1.5.c.(7)) has been enacted in accordance with Article 6 of the Faculty Teacher Appraisal Committee Establishment Rules.

Qualifications of appointment and promotion of lecturer or above shall be handled in accordance with the related provisions of the Ministry of Education, the National Taiwan University, and CPH. The appointment criteria, as well as the process of nomination and review, shall be handled in accordance with these Rules.

According to Teacher Appointment and Promotion Review Rules (Resource File 1.5.c.(7)), teachers shall meet the following conditions prior to application to the department for promotion:

### 1. Assistant Professor promotes to Associate Professor:

A. **Research:** Over the past five years while working as an assistant professor, with one (inclusive) paper as first author published or accepted for publication in SCI or SSCI journals.

#### **B.** Teaching:

- 1. Over the past five years the average annual offering of primary teaching or two persons joint teaching with a total of four (or more) credit courses, the aggregate total of joint teaching will be calculated in proportion to the actual teaching.
- Served as master and doctoral graduate advisor, or had instructed special study project on public health of undergraduate students and participated in classroom teaching of undergraduate courses.
- 3. Due to reasons of study abroad, official or military service, that the past five years cannot be calculated continuously, it may extend one year forward.
- C. **Services:** Over the past five years, during the term as an Assistant Professor, served in or off campus with substantial evidence.

### 2. Associate Professor promotes to Professor:

**A. Research:** Over the past five years, during the term as an Assistant Professor, with two (inclusive) papers as first author or corresponding author published or accepted for publication in SCI or SSCI journals, and domestically with formal editorial review members and formal

review process academic journals with one (inclusive) or more paper accepted or published as first author or corresponding author.

#### **B.** Teaching:

- 1. Over the past five years the average annual offering of primary teaching or two persons joint teaching with a total of four (or more) credit courses, the aggregate total of joint teaching will be calculated in proportion to the actual teaching.
- 2. Served as master and doctoral graduate advisor, or had instructed special study project on public health of undergraduate students and participated in classroom teaching of undergraduate courses.
- 3. Due to reasons of study abroad, official or military service, that the past five years cannot be calculated continuously, it may extend one year forward.

# C. Over the past five years, during the term as an Associate Professor, served in or off campus with substantial evidence.

The College teacher promotion review is in two stages of preliminary examination and reexamination. Preliminary examination shall set up the Review Committee and the Teaching Services Review Committee to review in accordance with the standard of review on promotion teaching service items and research projects. And submit to the College Faculty Evaluation Committee for review, then decide whether or not to recommend the promotion and recommendation order. The Faculty Evaluation Committee shall read the applicant's information and external review comments, and has the obligations to attend the promotion speech. After determine recommended or not, members present shall provide a written explanation of the reasons for promotion's failure to applicants for their reference.

#### Criteria and Procedure of New Faculty Appointment

For new recruitment, each discipline of CPH should make a moderate to long-term plan based on the quota, sources, employment duration, and the need of expertise of the faculties. The opening of a faculty position should be announced at least a half year before the date of starting the position. The review process starts only when the number of applicants is equal to or greater than three. If the number of applicants is less than three, the review process could only start after the agreement of the provost and the chair of School Faculty Evaluation Committee. The faculty candidates need to have at least 2 years of teaching or research experience. If the candidate was graduated from our school and lack of teaching and research experiences outside of the school for more than 2 years, the candidate is not qualify for applying the position unless special expertise or outstanding performance that is recognized by the Discipline Faculty Evaluation Committee.

## 4.2.d. Description of the processes used for student course evaluation and evaluation of instructional effectiveness.

At the middle and the end of each semester, students are informed to fill out the course evaluation (Resource File 4.2.d, includes both new and old version) through the online system (<a href="http://investea.aca.ntu.edu.tw/aca\_doc/opinion/opinion.asp">http://investea.aca.ntu.edu.tw/aca\_doc/opinion/opinion.asp</a>), which is designed by the Office of Academic Affairs (OAA). The evaluation process is anonymous and students can check the degree of agreement for all the questions (5-point Likert scale) and also provide suggestions. The information is compiled and sent to Dean of CPH and then passed down to director of each department/institute. For course with low score, director will discuss with the lecturer for improvement.

Each year, CPH offers about 400 courses for undergraduates, master students, and doctoral students. From 2011 to 2013, the average course evaluation for 400 courses is around 4.4 (full score is 5), which ranks top 3 out of 11 colleges of NTU. Using the data from academic year 2011 to 2014, the average scores on teaching evaluation by institute of CPH are shown in Table 4.2.d.(1). In addition, the average scores over all courses of the teaching evaluation for NTU versus CPH are displayed in Table 4.2.d.(2). As a whole, the students are satisfied with the teaching of CPH.

Table 4.2.d.(1) Average scores on teaching evaluation by institute of CPH, 2011 to 2015

Division/	Academic Year (1 <sup>st</sup> semester/2 <sup>nd</sup> semester)							
Degree program	2011-12	2012-13	2013-14	2014-15	2015-16			
DPH	4.35/4.42	4.45/4.26	4.35/4.24	4.35/4.29	$4.42/NA^2$			
Institute of EPM	4.52/4.47	4.53/4.55	4.55/4.61	4.46/4.64	$4.48/NA^2$			
Institute of HPM	4.43/4.22	4.43/4.48	4.46/4.64	4.61/4.61	$4.73/NA^{2}$			
Institute of HBCS	-	-	-	-	$4.70/NA^{2}$			
Institute of EH	4.41/4.29	4.30/4.55	4.67/4.67	4.65/4.61	$4.40/NA^{2}$			
Institute of OMIH	4.36/4.28	4.45/4.47	4.44/4.54	4.49/4.42	$4.38/NA^2$			
MPH	4.37/4.33	4.44/4.44	4.25/4.55	4.33/4.49	$4.40/NA^{2}$			

<sup>&</sup>lt;sup>1</sup>The full score is 5.00.

<sup>&</sup>lt;sup>2</sup>The result of the second semester, 2016, will be announced in November 2016.

<sup>&</sup>lt;sup>3</sup>Resource: Office of Academic Affairs, National Taiwan University

	NTU	NTU		
Academic Year	1 <sup>st</sup> semester	2 <sup>nd</sup> semester	1 <sup>st</sup> semester	2 <sup>nd</sup> semester
2011-12	4.39	4.37	4.42	4.35
2012-13	4.40	4.40	4.45	4.46
2013-14	4.44	4.43	4.46	4.55
2014-15	4.45	4.46	4.48	4.54
2015-16	4.42	Pending <sup>2</sup>	4.50	Pending <sup>2</sup>

Table 4.2.d.(2) Average scores on teaching evaluation in CPH and the University, 2011 to 2016

## 4.2.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

#### **Strengths:**

- 1. The performance of teaching, research, and service for our faculty members is evaluated by colleagues and students (teaching only) on a regular basis.
- 2. CPH as well as the University provide substantial research and teaching resources for faculty development.
- 3. The University awards faculty with outstanding performance on teaching, research, and service.
- 4. CPH offers an extended mentor system within CPH to identify the needs or difficulties of junior faculty members.

### **Challenges:**

- 1. Lack of the anonymous channel for faculty members to express their concerns in terms of teaching, research and service.
- 2. Course number in CPH doubles in the past 3 to 4 years and teaching load is heavy for the majority of faculty members.
- 3. Only some institutes or disciplines have regular discussion and update on syllabus and teaching materials.

### **Plans:**

1. Promote cross-college and international research collaboration.

**Approaches:** Hold symposium for faculty members from different colleges or schools in public health to exchange their research findings and experiences. Provide funding information on collaboration and successful examples of collaborative projects.

<sup>&</sup>lt;sup>1</sup>The full score is 5.00.

<sup>&</sup>lt;sup>2</sup>The result of the second semester, 2016, will be announced in November 2016.

<sup>&</sup>lt;sup>3</sup>Resource: Office of Academic Affairs, National Taiwan University

- 2. Establish a Dean's Mailbox to collect and resolve issues or concerns among faculty in CPH. **Approach:** Dean's Mailbox has been established in spring 2015 and CPH will keep strengthening this function for students, faculty and staffs at CPH.
- 3. NTU has a review system (including both qualitative and qualitative information) that regularly evaluates junior faculty's performance after appointed as a faculty at NTU. In addition, establish extended mentor system within CPH for junior faculty members.

#### Approach:

(a) The formal approach has been established by NTU. The 4<sup>th</sup> year after appointment as a faculty at NTU, junior faculty members' performance will be evaluated in terms of teaching, research, and service in order to provide support, consultation or improvement to them.
(b) An informal approach to support junior faculty is to identify a senior faculty at CPH as a new faculty's mentor. Dean or the director of the institute can help assigning the mentor if needed.

The mentor system will last for 3 to 5 years depends on the need of the new faculty members. This mentor system has started from Fall 2015 and will continue to support our junior faculty members.

- 4. Decrease the outnumbered courses by promoting interdisciplinary courses and integrating courses via modifying the terms of promotion (requirement of teach 2/3 of a course).

  Approach: Currently this point is under discussion.
- 5. Regularly evaluate syllabus and teaching materials for required courses. **Approach:** All required courses within CPH have been under regular evaluation since 2015.

This criterion is met.

#### 4.3 STUDENT RECRUITMENT AND ADMISSIONS

The school shall have student recruitment and admissions policies and procedures designed to locate and select qualified individuals capable of taking advantage of the school's various learning activities, which will enable each of them to develop competence for a career in public health.

4.3.a. Description of the school's recruitment policies and procedures. If these differ by degree (eg, bachelor's vs. graduate degrees), a description should be provided for each.

CPH seeks students who are strong academically, highly motivated, and committed to public health. Students are recruited via numerous platforms and methods including the following:

- 1. Recruitment at selected high schools for promotion.
- 2. Recruitment at professional conferences.
- 3. Promotion through relating associations like the Taiwan Public Health Association.
- 4. Printed brochures and posters.
- 5. Social media (Facebook and YouTube channel).
- 6. Encouraging alumni to provide recommendation.
- 7. Website advertisement.
- 8. CPH hosted summer camp for high school seniors.

Additionally, CPH is committed to recruiting a diverse student population, such as students with disability and students live in remote areas. Furthermore, the university holds the Azalea festival (Campus expo) in March since 1997. NTU is the most famous university in Taiwan, there are many high school students, and college students from other university visit the festival. All departments and institutes also set up stalls to demonstrate their distinguishing features to recruit potential students.

CPH also thrives to achieve a diverse student body by providing the equal opportunity for all applicants and hosting recruitment initiatives targeting international students, overseas Chinese students, as well as those of minority groups such as the aboriginal people. Some of these initiatives include collaborating with external organizations such as the national committee of overseas recruitment.

4.3.b. Statement of admissions policies and procedures. If these differ by degree (eg, bachelor's vs. graduate degrees), a description should be provided for each.

### **Admission for Undergraduate Students**

There are two major types of admission for undergraduate students as follows:

- (1) General admission: This is the most competitive one that its quota is highly regulated by the University. For high school students, they can apply to DPH in three channels:
- a) Self-application: High-school students are required to take the General Scholastic Ability Test, which is held by Joint College Entrance Examination and covers five basic courses (Chinese, English, Mathematics, Natural Science, and Social Science) in the first two years of high school curriculum, at the end of 5th semester. They can use the sum of Percentile Rank scores, a maximum of 15 for each course and a maximum of 75 in total, along with their academic records in high school, to apply to certain departments that they prefer. DPH has set the minimum criteria ("screening") for this kind of self-application by requiring the Percentile Rank score of each course be above the mean of the year's examinees. Applicants with scores ranked within the 3-fold of the admission quota will be invited to attend a face-to-face interview.
- b) School recommendation (aka. "Stars Project"): In addition to self-application, the Ministry of Education has set up another route called "Stars Project" that allows the top scorers in those high schools in remote area to have a limited quota to be admitted to a prestigious university like NTU.
- c) Entrance exam: To take the test on designated subjects in the College Entrance Examination, which is also held by Joint College Entrance Examination and covers the five basic courses taught in all three years of high school curriculum. Different departments may designate different subjects and may apply differential weightings for certain subjects. DPH designates 6 subjects for the exam, including Chinese, English, Mathematics, Biology, Chemistry, and Physics, without differential weighting. After obtaining the test score, a student can fill in a priority list of at most 100 departments. The final decision is completely based on the test score and priority order without the need of information on academic performance in high school.
- (2) Special Admission: DPH also keeps an additional admission quota for students with disable students (e.g. hearing impaired, cerebral palsy), aboriginal students, and overseas students. DPH admits two overseas students per year according to NTU policy. For disable students and aboriginal students, the requirements for application are the same with entrance exam channel, whereas the admission quota is exclusive and unlimited. In the past years, both the enrollments of disable students and of aboriginal students are between one to two students.

#### **Admission for Master Students**

There are two ways to apply to a master's degree program (MS or MPH) in CPH:

- (1) Self-application: based on applicants' academic performance, study plan, and recommendation letters, without a need to attend written examination; usually held earlier than that of entrance examination.
- (2) Entrance exam: applicants have to take an entrance examination on subjects requested by the institute they are applying for, and usually need to undertake a face-to-face interview if their test

scores ranked within the 3-fold of the admission quota.

#### **Admission for Doctoral Students**

There are two tracks to be enrolled in a PhD program at CPH.

- (1) Regular track: based on applicants' academic performance, study plan, and recommendation letters; usually no need to attend written examination.
- (2) Fast track: this is for CPH master's students who have excellent academic performance and strong recommendation from a certain number of faculty members. Once approved, those students can study in PhD programs directly without completing their master's theses. The purpose is to shorten the time needed for talented students to obtain a PhD degree.

4.3.c. Examples of recruitment materials and other publications and advertising that describe, at a minimum, academic calendars, grading and the academic offerings of the school. If a school does not have a printed bulletin/catalog, it must provide a printed web page that indicates the degree requirements as the official representation of the school. In addition, references to website addresses may be included.

A number of resources are utilized by CPH for recruitment purposes. Advertisement materials, usually in a format of posters, brochures, and webpages, contain information on program offerings, admission details, enrollment quota, calendar, and grading of the school. For a more complete review of the recruitment materials please refer to the official websites of CPH and each Institution.

CPH: <a href="http://coph.ntu.edu.tw/admissions/admissioninfo?locale=en">http://coph.ntu.edu.tw/admissions/admissioninfo?locale=en</a>

DPH: <a href="http://dph.ntu.edu.tw/academic\_activities">http://dph.ntu.edu.tw/academic\_activities</a> (Chinese Version)

MPH: <a href="http://mph.ntu.edu.tw/academic\_activities">http://mph.ntu.edu.tw/academic\_activities</a>

EPM: <a href="http://epm.ntu.edu.tw/C\_Students">http://epm.ntu.edu.tw/C\_Students</a>

HPM: http://ntuhpm.ntu.edu.tw/academic activities?locale=en

HBCS: <a href="http://hbcs.ntu.edu.tw/en/Academic\_Activities">http://hbcs.ntu.edu.tw/en/Academic\_Activities</a>

EH: <a href="http://ieh.ntu.edu.tw/academic\_activities">http://ieh.ntu.edu.tw/academic\_activities</a> (Chinese Version)

OMIH: <a href="http://omih.ntu.edu.tw/academic\_activities?locale=en">http://omih.ntu.edu.tw/academic\_activities?locale=en</a>

4.3.d. Quantitative information on the number of applicants, acceptances and enrollment, by concentration, for each degree, for each of the last three years. Data must be presented in table format. See CEPH Data Template 4.3.1.

Generally, there are two types of application for admission: Entrance examination and application route. The acceptance criteria of applicants applied via entrance examination will mostly be based on examination scores, whereas the acceptance of recommendation route applicant depends on admission committee discussions on a case by case basis. (The details of admission procedures for each degree can be referred to 4.3.b.)

In Table 4.3.d, the numbers of undergraduate applicants only includes those who applied by personal application and school recommendation channels. Another channel to be admitted to the school is the Joint College Entrance Examination, which is a nationwide examination. Therefore, to include the total number of students joining this national exam is meaningless (around 50% of the students entering this school are through the Joint College Entrance Examination).

Table 4.3.d further suggests greater variations in the number of master/PhD applicants among years. The major reason could be recent economic recession, causing students to rather get a job than pursue for a higher degree. In addition, given the saturated academic market in Taiwan, the number of PhD applications has remained low.

**Table 4.3.d.** Quantitative Information on Applicants, Acceptances, and Enrollments, 2014 to 2016

		2014-15	2015-2016	Fall 2016
BS Degree				
Department of Public Health <sup>1</sup>	Accepted	52	50	45
	Enrolled	47	45	41
MPH Degree				
MPH Biostatistics	Applied	1	7	3
	Accepted	0	3	3
	Enrolled	0	3	3
MPH Epidemiology and Preventive	Applied	15	23	21
Medicine	Accepted	8	7	7
	Enrolled	8	7	7
MPH Social and Behavioral Sciences	Applied	11	17	14
	Accepted	4	6	5
	Enrolled	4	6	5
MPH Health Services Administration	Applied	22	28	44
	Accepted	13	10	10
	Enrolled	13	10	10
MPH Environmental Health Sciences	Applied	5	4	7
	Accepted	3	1	3
	Enrolled	3	1	3

		2014-15	2015-2016	Fall 2016
MS Epidemiology and Preventive	Applied	175	176	166
Medicine	Accepted	40	39	39
	Enrolled	40	39	39
MS Health Policy and Management	Applied	190	123	148
	Accepted	37	27	27
	Enrolled	36	23	27
MS Health Behavior and Community	Applied	-	25	55
Service <sup>2</sup>	Accepted	-	10	10
	Enrolled	-	9	10
MS Environmental Health	Applied	46	55	46
	Accepted	15	15	14
	Enrolled	15	15	14
MS Occupational Medicine and	Applied	46	62	60
Industrial Hygiene	Accepted	20	20	19
	Enrolled	20	16	19
PhD Degrees				
PhD Epidemiology and Preventive	Applied	40	25	27
Medicine	Accepted	18	16	15
	Enrolled	16	15	14
PhD Health Policy and Management	Applied	35	37	46
	Accepted	12	12	10
	Enrolled	11	11	10
PhD Environmental Health	Applied	1	11	2
	Accepted	0	3	1
	Enrolled	0	3	1
PhD Occupational Medicine and	Applied	8	12	4
Industrial Hygiene	Accepted	5	5	3
	Enrolled	5	4	3

<sup>&</sup>lt;sup>1</sup>The number of students applying to DPH is inaccessible since the procedure of exam and distribution involves all the colleges and universities over the country and the detailed data are held by the Ministry of Education.

## 4.3.e. Quantitative information on the number of students enrolled in each specialty area identified in the instructional matrix, including headcounts of full- and part-time students and

<sup>&</sup>lt;sup>2</sup>MS in Health Behavior and Community Service was separated from Institute of HPM since 2015-16 academic year. Therefore, student data before 2015 only showed under MS in Health Policy and Management.

a full-time-equivalent conversion, by concentration, for each degree, for each of the last three years. Non-degree students, such as those enrolled in continuing education or certificate programs, should not be included. Explain any important trends or patterns, including a persistent absence of students in any degree or specialization. Data must be presented in table format. See CEPH Data Template 4.3.2.

All students in CPH are full-time students by definition as all students are expected to commit fully to the program. The complete student enrollment data can be referred in Table 4.3.e.

Table 4.3.e. Student Enrollment Data from 2014 to 2016

	201	14-15	201	15-16	Fall	2016
	нс	FTE	нс	FTE	нс	FTE
BS Degree	143	143.0	143	143.0	149	149.0
MPH Degree	87	87.0	83	83.0	90	90.0
MPH in Biostatistics	2	2.0	1	1.0	1	1.0
MPH in Epidemiology and Preventive Medicine	26	26.0	24	24.0	28	28.0
MPH in Health Behaviors and Community Sciences	14	14.0	17	17.0	28	28.0
MPH in Health Policy and Management	40	40.0	37	37.0	26	26.0
MPH in Environmental Health Science	5	5.0	4	4.0	7	7.0
MS Degrees	273	273.0	268	268.0	278	278.0
Institute of EPM	93	93.0	97	97.0	97	97.0
Institute of HPM	92	92.0	87	87.0	80	80.0
Institute of HBCS	92	92.0	5	5.0	16	16.0
Institute of EH	40	40.0	34	34.0	34	34.0
Institute of OMIH	48	48.0	45	45.0	51	51.0
PhD Degrees	190	190.0	193	193.0	186	186.0
Institute of EPM	91	91.0	93	93.0	98	98.0
Institute of HPM	64	64.0	64	64.0	55	55.0
Institute of EH	6	6.0	8	8.0	9	9.0
Institute of OMIH	29	29.0	28	28.0	24	24.0

<sup>&</sup>lt;sup>1</sup>Data in this table are sorted by academic units, not programs and specialized areas, according to NTU data system.

## 4.3.f. Identification of measurable objectives by which the school may evaluate its success in

<sup>&</sup>lt;sup>2</sup>Institute of HBCS was separated from Institute of HPM since 2015-16 academic year. Therefore, student enrollment data before 2015 only showed under Institute of HPM.

<sup>&</sup>lt;sup>3</sup>Students of PhD in Global Health are also divided and included in the four institutes according to their majors when they are counted.

enrolling a qualified student body, along with data regarding the performance of the school against those measures for each of the last three years.

Among several schools of public health in Taiwan, CPH has the longest history, with expert and diverse faculty. This strength attracts the most outstanding high school and undergraduate students. In addition, as face-to-face interview is required in our undergraduate, master, and doctoral entrance exams (except for the Joint College Entrance Examination), only highly qualified students are accepted. For instance, data show that within the past 3 years, 25-30% of our master applications rank in the top 10% in class, and the proportion is even higher and has been increasing among the acceptances. These statistics support that our school is appealing to remarkable students.

Table 4.3.f. Outcome Measures for Enrolling a Qualified Student Body

Objectives	target	2012-13	2013-14	2014-15	2015-16
Maintain a proper proportion of master	>25%	31%	34%	25%	27%
applicants ranked in the top 10% in class	>23%	31%	34%	23%	21%
Maintain a proper proportion of master	>30%	34%	37%	47%	30%
acceptances ranked in the top 10% in class	>30%	34%	37%	47%	30%
Numbers of Applicants - graduate level	>600	665	595	614	605
% of Applicants Selected - graduate level	<30%	26%	30%	29%	29%

4.3.g. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

## **Strengths:**

CPH is the best college of public health in Taiwan, which has greater number of faculty with diverse background and profession, and also has rich resources for students in studying and doing researches. These advantages can attract more qualified students to apply.

#### **Challenges:**

In recent years, Taiwan's economic status is not good, unemployment rate is high in young population. It might lead students prone to find jobs while they are graduated, rather than pursue for a higher academic degree. Consequently, the number of MPH and PhD applicants gradually decreased in these years. Furthermore, low birth rate might also lead fewer applicants.

#### Plans:

1. To encourage excellent master students for further study into doctoral degree program in NTU, the university and college of public health will provide scholarship for master students, who are

- approved for PhD program by fast track admission.
- 2. To increase the number of MPH applicants, CPH will adopt variety methods to attract more potential students, such as tabling at health related conferences, make a promotion video on YouTube.
- 3. CPH is going to recruit students from overseas in response to the decreasing of applicants. For example, South Asia and Southeast Asia countries will be our target areas. CPH will try to provide more incentives to encourage excellent students from these areas to apply. Furthermore, we have been promoting CPH via ASPPH website and newsletter since 2014 to attract international students to submit their applications. Faculty also have been discussing about setting up booths at regional conferences.

This criterion is met.

#### 4.4 ADVISING AND CAREER COUNSELING

There shall be available a clearly explained and accessible academic advising system for students, as well as readily available career and placement advice.

4.4.a. Description of the school's advising services for students in all degree programs, including sample materials such as student handbooks. Include an explanation of how faculty are selected for and oriented to their advising responsibilities.

Advising services in NTU are in university and college levels. University-level counseling service is provided by the Office of Students Affairs. Each college is appointed an exclusive counselor by the Office, and students of different colleges can make appointment to see the counselors at the main campus. College-level, on the other hand, is conducted in the form of advisor-student relationship. Every student would be assisted by an advisor in terms of academic and life counseling. An additional counselor will be assigned to disabled students.

Every academic unit in CPH offers its own student handbook to new students in the orientations. The sample of MPH Student Handbook can be referred to Resource File 2.4.a.

#### **NTU Advising Services**

There is an orientation called "Orientation Camp" in university level. This is a special camping trip designed specifically for the freshman, which includes special activities to help them get to understand the core values of school, and to build interpersonal relationship at NTU.

#### **CPH Advising Services**

#### (1) For undergraduate students:

In general, DPH designs a two-stage advisor system. For the first two years of undergraduate students, a faculty member may be assigned to take 1 to 2 students each year. Then students entering the third year can choose their own advisor on the basis of their future specialized areas.

According to the "DPH Two-Stage Advisor Selection Implement and Measure," one advisor should not have more than 2 students from each grade. Transfer students in sophomore year will be assigned to the advisors of the student who have transferred out of the program.

#### (2) For graduate students:

For graduate students in each institute in CPH, New Graduate Students Orientation for each institute regularly holds new student orientation activities, introducing courses, faculty, academic regulations, and other necessary information for new graduate students. The most critical step in providing counseling to graduate students is how to help students select an advisor. Usually, at the beginning of the first year of enrollment, each institute will hold an orientation meeting specifically for the new students to explicate the requirement of coursework and living circumstance. For MPH

student, they can choose the faculty member to be the advisor of the internship program in first month of the second semester in the first year of the MPH program, and the students of the MPH program are also assigned the advisor of life counseling.

Faculty members are also students' advisers when new students come in the first semester. Each student is assigned to an adviser, who is responsible for giving academic consultations. Advisers, too, play an important role in students' living, offering pertinent suggestions and encouragements if necessary. Thesis advisers assist in counseling their students for employment and career development. If students have problems regarding course selection or career planning, they can seek out their advisers for in-depth counseling. Each adviser usually has a time-table for counseling and updating student's performance.

#### **Supports for Advisors**

NTU uses Student/Advisor Information Enquiry System to provide advisors real-time student information and more efficient administrative support. The system applies the information for advisors to concern about a student's progress in school. The information applied in the system includes personal information, registration status, family status, residency, club activities, past grades, reward and punishment record, and other assorted basic information.

Besides, Center for Teaching and Learning Development in NTU apply many services to help faculty improve the quality of their teaching and built the relationship with students. For example, the New Faculty Orientation is that a three-day orientation for new faculty is held annually during the first week of September at NTU's Sitou Experimental Forest. One part of the orientation aims is to help new faculty understand available teaching and interactive relationships between faculty and students. The orientation also includes talks by outstanding faculty about their teaching experience. New Faculty Mentorship is that helps new faculty adjust to NTU's teaching. Outstanding professors are invited into mentor-mentee groups with new faculty. Mentors provide guidance and suggestions to new faculty on issues regarding teaching, research, and services. The Center also hosts social gatherings for mentors and mentees so they can become acquainted with each other.

4.4.b. Description of the school's career counseling services for students in all degree programs. Include an explanation of efforts to tailor services to specific needs in the school's student population.

The career counseling services in NTU is conducted at two levels: one by Career Center in the main campus, and the other in the form of mentorship in each of the programs.

### **Career Center, NTU Office of Student Affairs**

The Student Placement Service Section ("Career Center") was the former Graduates'

Placement Service Section established in 1967. Its main purpose lies in providing both students and alumni with information and services necessary for career planning and employment. The services include:

- 1. Employment seeking registration services for students and alumni
- 2. Recruitment registrations services for organizations and businesses
- 3. Employment information involving recruitment, study, work, skill development and training courses
- 4. Information on national exams and local/international education
- 5. Employment forums and campus recruitment events
- 6. Career surveys
- 7. Transferring surveys for alumni
- 8. Graduation ceremonies

The purpose of Career Center is to provide students and alumni the information and services for career planning and employment.

Within the semesters, Career Center invites senior managers from different industrial categories to serve as counselors, providing one on one instruction on writing resume and interviews according to the different types and needs of each field. It allows students to step out their first step towards a successful career.

There is a separate website (<a href="https://info2.ntu.edu.tw/jobmatch/co1">https://info2.ntu.edu.tw/jobmatch/co1</a> index.aspx ) for companies to recruit employers and students to search jobs. This website provides NTU students with numerous opportunities of full-time jobs, internships and different types of work. Furthermore, Career Center holds a campus career fair every March, being one of the biggest career fair in Taiwan. It includes industry exhibit, company seminars, business visitation, classroom recruitment, alumni experiences sharing, and career seminars...etc.

Students of public health can go to the center for employment information and career advising if they need to.

#### **CPH Career Counseling**

(1) For undergraduate students:

To enhance each student's effectiveness in the job market, the DPH office works with NTU Career Center to provide many assistances in an array of activities, such as coordinating internship experiences; improving student's job seeking skills through workshops; maintaining an inventory of employment resources; maintaining professional outreach activities to develop job opportunities for students; coordinating with faculty on student academic advising and networking opportunities; developing and maintaining strong alumni contacts in identifying job opportunities and mentoring activities for students.

#### (2) For graduate students:

In order to help students' employment after graduation, individual institutes and program offices hold different types of activities for career planning, such as regularly inviting domestic and international entrepreneur and academics to share their experiences and insights, as well as alumni to provide suggestions for finding a good job. If any employment opportunities become available, the institutes would post it on their websites for the students. Information on public health related career workshops are regularly sent out to students electronically. Faculty members are also very keen at notifying each other about such opportunities. Besides, CPH have the Symposium of Alumni to invite the alumni work in different field to share their experience about learning and working.

For all students in CPH, we had invited the alumni to give talks to students in CPH. Figure 4.4.b was the statistics of the alumni forums in CPH from 2010 to 2015. Some samples of alumni forums or career workshops can be referred to Resource File 2.7.e.

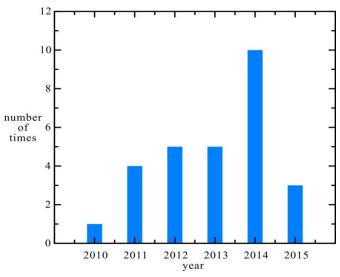


Figure 4.4.b. Statistics of alumni forums in CPH from 2010 to 2015.

#### 4.4.c. Information about student satisfaction with advising and career counseling services.

Student satisfaction with advising and career counseling services is reviewed by exit surveys and alumni surveys (which are described in 2.7.c). Table 4.4.c.(1) - Table 4.4.c.(3) summarize the overall response of student satisfaction with CPH's counseling system. It is measured by a scale of 1 to 5, with 5 as the highest.

8 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -						
	Undergraduate	Master	Doctor	Total		
Graduated in 2014	3.7 (27) <sup>1</sup>	3.9 (83)	4.4 (8)	3.9 (118)		
Graduated in 2015	4.2 (21)	4.0 (119)	4.4 (25)	4.1 (165)		
Graduated in 2016	4.5 (4)	4.1 (69)	4.0 (18)	4.1 (91)		

**Table 4.4.c.(1). Satisfaction with Mentoring System:** 

Table 4.4.c.(2). Satisfaction with Academic Advising System (other than mentoring system):

	Undergraduate	Master	Doctor	Total
Graduated in 2014	3.7 (27) <sup>1</sup>	3.9 (74)	4.6 (5)	3.9 (106)
Graduated in 2015	4.1 (21)	3.8 (119)	4.2 (25)	3.9 (165)
Graduated in 2016	4.3 (4)	3.7 (69)	3.8 (18)	3.7 (91)

<sup>&</sup>lt;sup>1</sup>Satisfaction figure (number of respondents)

Table 4.4.c.(3). Satisfaction with Career Counseling System:

	Undergraduate	Master	Doctor	Total
Graduated in 2014	3.9 (20) <sup>1</sup>	4 (33)	5.0 (1)	3.9 (54)
Graduated in 2015	3.9 (13)	3.8 (68)	3.0 (2)	3.8 (83)
Graduated in 2016	4.8 (4)	3.7 (30)	4.0 (8)	3.9 (42)

<sup>&</sup>lt;sup>1</sup>Satisfaction figure (number of respondents)

In Table 4.4.c.(1), The investigation of the satisfaction showed that the number of all students satisfied the mentoring system were increased from 2014 to 2016, especially students at the undergraduate level. For the academic advising listed in Table 4.4.c.(2), the trend of statistic results was stable.

In CPH, we invite the alumni to give the talk to share the experience of their job or the suggestion of the academic research. After the talk, the alumni give some suggestion to students or CPH. Students generally give positive responses to academic advising and career counseling. However, many students pointed out that the accessibility for students to career counseling is a little weak comparing with academic advising.

We will improve the career counseling services by providing the information of career on the college website, inviting the alumni and the employers to share the professional suggestion of the jobs in public health or the related industries, and promoting career counseling activities.

4.4.d. Description of the procedures by which students may communicate their concerns to school officials, including information about how these procedures are publicized and about the aggregate number of complaints and/or student grievances submitted for each of the last three years.

CPH actively invites students to communicate their concerns via a variety of channels. For instance, several major committee groups in CPH, such as the College Affair Meeting, Curriculum Committee, Space Committee, and Environmental Protection Committee, are required to have at

<sup>&</sup>lt;sup>1</sup>Satisfaction figure (number of respondents)

least two student representatives (one undergraduate representative and one graduate representative) present at each of their meetings to ensure their voices been heard. Furthermore, committees of department and institutes are also required to have at least one student representative present at the meetings.

Students can also contact office of each department/institute to express their opinions and suggestions. Since this is a rather informal way for students to express their concerns, the communications are usually carried on without official record.

To offer a formal channel for communication within CPH, a Dean's Mailbox was established in spring 2015.

#### The Dean's Mailbox:

 $\underline{https://docs.google.com/forms/d/1fJtLbHjYgZMKh8yAbcf-j8-pktAHjG\_WLrWUzTztlTY/vi}\\ ewform?edit\_requested=true$ 

With the mailbox open to all people and accessible by CPH Official Website, students could send their concerns. The concerns would be delegated by CPH Office to the responsible faculty or staffs, who are required to respond the concerns within two weeks.

In the university level, a university-wide feedback mailbox collects students' voluntarily responses which will then be anonymously forwarded to directed departments, such as CPH. Directed departments would delegate these requests to responsible faculty/staff members so they can be addressed. For students who hold that their right is damaged due to the punishment from school, NTU sets up the Student Grievances Committee to receive students' appeals.

The number of the official complaints within CPH in last three years is listed in Table 4.4.d.(1), with the description of the issues and their status shown in Table 4.4.d.(2).

Table 4.4.d.(1). Number of official complaints submitted in each of the last three years.

	2013-14		2014-15		2015-16	
Academic Units	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
	semester	semester	semester	semester	semester	semester
College of Public Health (CPH)	0	0	0	2	2	2
Department of Public Health (DPH)	1	0	1	0	0	0
Master of Public Health Program (MPH)	0	2	1	0	0	0
Institute of Occupational Medicine and	0	0	1	2	0	1
Industrial Hygiene (OMIH)	U	U	1	2	U	1
Institute of Epidemiology and Preventive	1	0	0	0	1	0
Medicine (EPM)	1	U	O	U	1	U
Institute of Environmental Health (EH)	0	1	0	0	1	0
Institute of Health Policy and Management	1	0	1	0	0	0

	2013-14		2014-15		2015-16	
Academic Units	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
	semester	semester	semester	semester	semester	semester
(HPM)						
Institute of Health Behavior and	1				0	0
Community Sciences (HBCS)					0	U

<sup>&</sup>lt;sup>1</sup>Institute of Health Behavior and Community Sciences (HBCS) was established in 2015 and began to recruit students in 2015-16 academic year.

Table 4.4.d.(2). Brief description of issues and status listed in Table 4.4.d.(1).

Academic unit	Year	Semester	official complaints	Status
Department of Public Health	2013-14 1 <sup>st</sup>		The grant application of the student association of Department of Public Health	resolved
(DPH)	2014-15	1 <sup>st</sup>	Modify the principal of the grants of the student affairs for the application of the activity grant in 2015.	resolved
	2013-14	2 <sup>nd</sup>	The application of the transforming to other divisions in MPH	resolved
Master of Public Health Program (MPH)	2013-14		The application of the transforming to other institute in CPH	resolved
riogiam (WFH)	2014-15	1 <sup>st</sup>	Is it possible to add more courses in summer vacation for the students who inconveniently ask for leave?	resolved
Institute of Occupational Medicine and Industrial Hygiene (OMIH)	2014-15	1 <sup>st</sup>	Is it possible to have an expedient solution for Li, Yi-Ci the student of the division of occupational hygiene to pass Epidemiology?	resolved
		2 <sup>nd</sup>	Please discuss that Zheng, Nai-Yun a mater student wants to take Special Topics in Epidemiology to replace Epidemiology.	resolved
			Since the academic year 2015, the score at TOEFL-iBT was revised from 61 to 79 points. Xiao-Yi Hung, a graduate student of the master program, had 78 points at TOEFL-iBT. She also finished Online English for	resolved

Academic unit	Year	Semester	official complaints	Status	
			Postgraduates. Please discuss the		
			proposal that the master student		
			approached the language requirement or		
			not.		
			Since the academic year 2015, the score		
			at TOEFL PBT was revised from 500 to		
			550 points. The master student had 507		
	2015-16	2 <sup>nd</sup>	points at TOEFL PBT. Please discuss	resolved	
			the proposal that the master student		
			approached the language requirement or		
			not.		
Institute of Epidemiology and	2013-14	1 st	Students apply for a space to be a	resolved	
Preventive Medicine (EPM)	2013-14	1	meeting room.	resorved	
Treventive wiedienie (Er wi)	2015-16	1 <sup>st</sup>	Set a recycle bin.	resolved	
Institute of Environmental	2013-14	2 <sup>nd</sup>	The English scores of the provision for	resolved	
Health (EH)	2013-14	2	the graduation.	resorved	
Ticalui (LII)	2015-16	1 <sup>st</sup>	Thesis/Dissertation Defense Application	resolved	
			Students had the proposal that the		
Institute of Health Policy and	2013-14	1 <sup>st</sup>	insufficient illumination in some parts of	resolved	
Management (HPM)	2013-14	1	the study room is due to the part of	Tesorved	
ivianagement (117 ivi)			removed lamps.		
	2014-15	1 <sup>st</sup>	Set a recycle bin for the food scraps.	resolved	

4.4.e. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

### **Strengths:**

- 1. From freshmen to senior, CPH has the well advising services for students in all degree programs.
- 2. Faculty members are willing to support students with career counseling, thesis, dissertation, and project advising.

### **Challenges:**

- 1. Graduate student advising and career counseling in CPH need improvement.
- 2. The advising and the career counseling workload are large. Advising on careers is relatively low compared to advising on curriculum and research issues.
- 3. We had the incomplete investigation of the information about student satisfaction with advising

and career counseling services.

4. The internship opportunities for students are rather limited, and not diverse enough.

#### **Plans:**

- 1. CPH will have the plan to organize the regular investigation of the information about student satisfaction with advising and career counseling services.
- 2. CPH will continue to support and assist students in developing professional skills needed to obtain jobs in the public health field.
- 3. CPH will suggest that students in CPH bachelor's program meet their academic advisors before registering for next semester's courses. It will allow the advisors to keep students on track towards a degree in an appropriate timeframe.
- 4. CPH will suggest that Career Center in NTU has a career counselor dedicated to CPH. This counselor is able to provide students with individualized attention and access to public health resources. This counselor also attends workshops and seminar sessions dedicated to career counseling, throughout the year upon invitation.
- 5. CPH will seek more collaboration with companies to offer various internship opportunities for students (especially for undergraduate students) during summer and winter vacations.

This criterion is met with commentary.