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保健学教育의 改善에 관한 比較研究

1. 緒 論

保健大学院은 綜合的科学으로서 複雜化된 公衆保健学의 諸問題 解決을 위한 学問的研究와 大学院次元의 専門的 保健教育을 実施하는 동시에 国民健康을 維持하고 増進하는데 一益을 担当하고 있는 保健専門家를 養成하는 教育機関이라고 할 수 있다.

우리나라도 産業発展에 따라 필연적으로 各種 保健衛生問題, 社会福祉問題 等을 効率的으로 解決하기 위한 努力이 要求되고 있어 보다 높은 次元의 専門的知識과 技術을 具備한 保健専門家를 必要로 하게 되었다.

우리나라에는 서울大学校 保健大学院이 1959年 3月에 大学院課程으로서 設立된 以後 1981年 9月 現在 延世大学校, 慶北大学校를 포함한 3個 保健大学院이 있으나 保健大学院으로서의 教育目標를 충분히 達成하는 데는 質的으로나 量的으로나 未洽한 점이 없지 않다고 하겠으며, 現在 서울大学校 保健大学院의 教科課程을 中心으로 質的向上 및 教育制度의 改善을 위한 作業이 試図되고 있다.

最近 美国에서는 保健関係機関에 就職을 하기 위해서는 적어도 保健学碩士(Master of Public Health:MPH)学位가 要求되고 있어 保健大学院 卒業生들에 대한 評価가 社会的으로 定着化되어 가고 있는 実情이다. 또한 現在 美国内에는 21個의 保健大学院이 散在해 있으며 7,722名(1978年 Fall 現在)의 学生이 약 11個의 専門領域에서 教育을 받고 있다.

本稿에서는 우리나라 保健大学院의 教育制度 및 教科課程이 美国内 保健大学院의 影響을 받고 있는 実情에 비추어 最近 美国内 保健大学院의 教科課程 및 志願者, 在学生, 卒業生의 特性을 比較함으로써 우리나라 保健大学院教育의 質的·量的向上을 図謀함과 동시에 美国内 保健大学院에 留学하려는 学生 및 教授要員에게 基礎資料로 提供하고자 함이 그 目的이라 하겠다.

2. 資料 및 方法

使用된 資料는 美国 保健大学院協会情報収集센타(Association of Schools of Public Health, Data Collection Center)가 1975~79年에 每年 全美国 保健大学院에 登録된 学生들을 対象으로 実施한 質問紙 調査結果를 基礎로 하였다.

또한 美国内 東, 西, 南, 北部에 位置한 保健大学院中 任意로 各 1 個校씩을 抽出하여 最近(1978~80年) 要覧을 参照하여 教授要員의 人力分布 및 特性을 説明하고자 하였다.

3. 結　果

1) 学校 및 学生現況

① 学校数 및 志願者数

1980~81年度 現在 美国内에는 21個의 保健大学院이 17個州와 Puerto Rico(美国領)에 각각 散在해 있고 公衆保健学 및 予防医学과 関聯된 教科課程의 大学院教育을 実施하는 大学이 10個校에 이르고 있다(Appendix 1 参照). 21個 保健大学院만을 보면 캘리포니아州에 3 個, 매사추세츠州에 2 個, 그외의 14個州와 Puerto Rico에 각각 1 個校씩이 있다. 이것은 대략적으로 美国人 1,000万名当 1 個校가 되는 꼴이나 上記의 公衆保健学과 関聯된 教科課程의 教育을 実施하는 大学을 포함시키면 그 数는 훨씬 減少하리라 생각된다.

1960年代初以後 保健大学院에 入学하려는 志願者数를 보면 1961-62年에는 2,274名이 志願하였으나 每年 계속적인 増加를 보여 1979年~80年에는 12,183名이 志願하였다(図 1 参照). 이중에서 入学이 許容된 数는 1979~80年에 3,735名으로 全体志願者의 28.7%에 지나지 않고 있다. 志願者의 増加에 比해 1970年以来 계속적으로 減少된 入学許容率은 各大学院이 入学資格을 좀더 까다롭게 하거나 그 基準을 強化한 것으로 풀이된다.

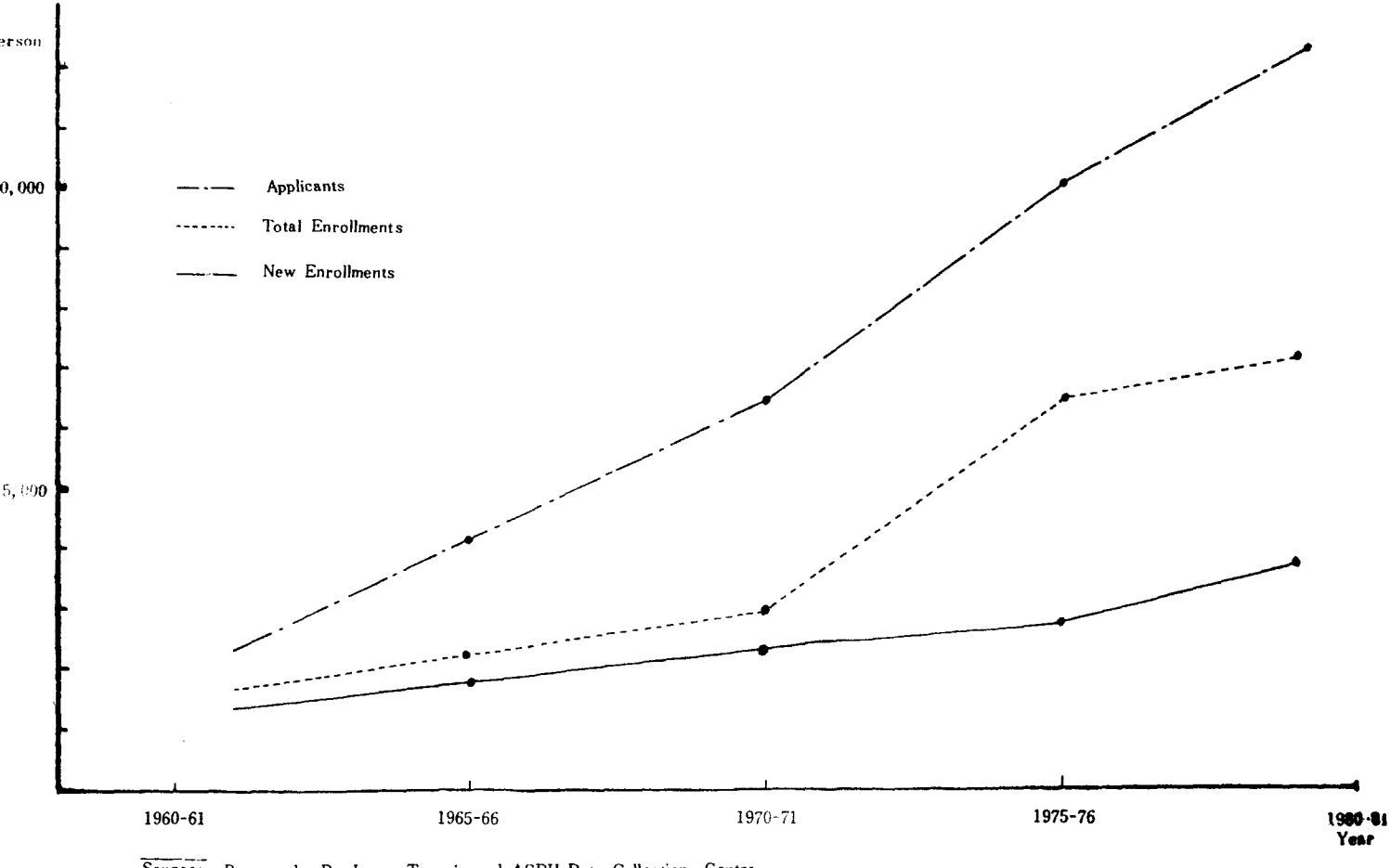
② 総登録学生数 및 新入生状況

美国内 保健大学院은 1960年의 12個에서 1979年에는 21個로 増加되어 거의 2 倍에 가까운 増加에 따라 学生数도 増加되고 있다. 또한 最近 많은 学校에서 碩士課程을 2 年으로 要求하고 있어 平均受業年限의 延長이 登録된 総学生数의 増加를 가져오기도 한다. 図 1 에서 보는 바와 같이 1960-61年에 비해 1979-80年의 総登録学生数는 약 4.4倍, 新入生数는 약 2.8 倍의 増加를 보이고 있다.

③ 新入生의 人口学的特性 (1974~79年)

1974~79年사이에 入学이 許可된 新入生들의 人口学的特性의 推移를 살펴보면 表 1 과 같다. 性別로 보면 1974~75年부터 1976~77年까지는 男学生이 많았으나 1977年度 부

Figure 1. Applicants, New and Total Enrollments in Schools of Public Health, 1961-1979



Source: Reports by Dr. James Troupin and ASPH Data Collection Center

터는 女学生의 比率이 많은 것으로 나타났다. 年齡別로는 20代後半인 25~29才가 가장 많은 数字로 全体의 약 3분의 1을 나타내고 35才미만이 全体의 80%以上을 차지하고 있다. 国籍別로 보면 外国留学生은 1974~75年 以来 全体学生数의 10.6~10.9%의 水準을 維持하고 있다.

Table 1. Distribution of New Public Health Students According to Selected Demographic Characteristics, 1974-1979

New Student Characteristics	Academic Year (Figures are by percentage)				
	1974-1975 (N=2921)	1975-1976 (N=2708)	1976-1977 (N=3317)	1977-1978 (N=3427)	1978-1979 (N=3735)
Sex					
Male	45.5	50.8	50.0	49.4	45.8
Female	41.1	49.2	49.6	50.3	53.9
Unknown	13.4	-	0.4	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0
Age					
Under 25	24.0	33.2	31.0	27.7	27.7
25-29	32.4	34.2	35.0	34.5	32.7
30-34	14.2	17.0	17.7	19.4	19.9
35-39	6.4	6.5	7.8	9.0	10.0
40-44	3.5	3.8	3.6	4.6	4.8
45 and above	5.4	4.6	3.9	4.1	4.1
Unknown	14.1	0.7	1.0	0.7	0.8
Total	100.0	100.0	100.0	100.0	100.0
Nationality					
U. S.	87.1	88.8	89.1	88.9	89.1
Foreign	10.9	10.8	10.6	10.9	10.6
Unknown	2.0	0.3	0.2	0.2	0.3
Total	100.0	100.0	100.0	100.0	100.0

Source : ASPH Data Collection Center

④ 新入生의 入学前 学位所持 및 専攻分野別背景(1974-79年)

1978-79年 新入生의 学位所持現況을 보면(表2参照) 약 25%程度의 学生이 碩士学位를 가지고 있고 15%程度가 博士学位(M.D.와 D.D.S.의 11%를 포함하여)를 가지고 있는 것으로 나타나 대체로 保健大学院에 入学하는 新入生은 비교적 安定된 分布의 学位所持現況

을 보이고 있다.

Table 2. Prior Training and Work Experience of New Public Health Students, 1974-1979

Prior Training and Work Experience	Academic year (by percentages)				
	1974-75 (N=2980)[1]	1975-76 (N=2708)	1976-77 (N=3317)	1977-78 (N=3427)	1978-79 (N=3735)
Prior Degree(s)[2]					
No Degree	*	1.5	1.5	1.2	1.2
Bachelors	*	88.4	85.7	84.5	83.9
School of Public Health Masters	*	3.4	6.6	7.2	8.0
Other Masters	*	14.5	16.4	16.9	16.4
M. D.	*	10.6	10.2	10.7	10.5
D. D. S.	*	1.2	1.3	1.2	1.5
Other Doctorate	*	3.7	3.8	4.1	4.2
Other Degree	*	3.8	3.4	9.9[3]	9.8[3]
Unknown.	*	0.1	0.2	0.1	0.3
Work Experience					
Health-Related Experience	*	*	53.6	52.1	54.4
Other Work Experience	*	*	*	28.9	28.8
Prior Specialization in:					
Health Sciences	23.9	22.4	27.8	29.1	31.8
Dentistry	(1.3)	(1.0)	(1.5)	(1.2)	(1.6)
Medicine	(8.5)	(8.7)	(10.1)	(10.7)	(10.1)
Nursing	(9.8)	(7.6)	(9.1)	(9.8)	(11.7)
Other Health Sciences	(4.3)	(5.1)	(7.1)	(7.4)	(8.4)
Biological Sciences	3.7	6.4	10.2	10.2	10.9
Math/Statistical Sciences	1.8	1.2	2.8	2.2	2.3
Chemical Sciences	0.9	1.6	2.0	2.0	2.4
Data System Sciences	0.2	1.4	1.5	1.6	1.2
Physical Sciences	0.8	0.5	0.6	0.5	0.4
Social/Behavioral Sciences	3.1	3.3	6.6	7.5	6.2
Environmental Sciences	4.3	4.2	4.7	4.4	4.0
Administration and Planning	5.9	8.1	8.0	7.4	7.8
Education/Health Education	5.4	6.7	6.4	7.1	5.7
Other	23.4	43.2	27.2	26.2	24.7
Unknown	26.6[4]	1.0	2.2	1.8	2.5

Source: ASPH Data Collection Center

1) Data for 1973-1975 were provided by the schools on an aggregate basis and hence some of the tabulations are not available for that year.

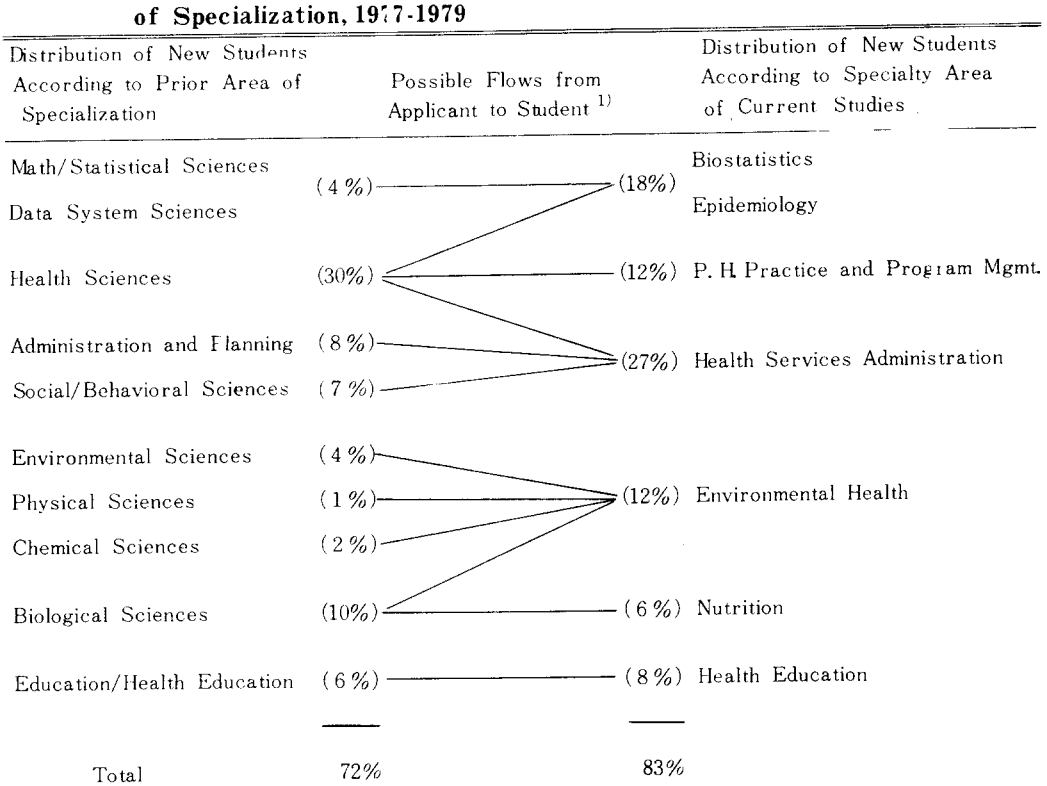
2) Totals do not equal 100% since students may have more than one degree.

3) Nursing degrees were specifically requested during 1977-78 and 1978-79. All respondents indicating a nursing degree were included in "other" degrees.

4) Includes total new U. S. enrollees of three schools.

專攻分野別 背景을 보면 保健学에 関聯된 專攻을 가진 者가 30%程度이고 生物学, 経営学, 社会·行動科学의 順序로 나타났다. 또한 現在의 專攻別로 学生들의 分布를 入学前의 專攻과 関聯지어 보면(図2 参照) 대체로 入学前에 가지고 있는 專攻을 그대로 살려 関聯된 專攻을 選択하는 比率이 높은 것으로 나타났다(図表에서 나타난 比率의 Total은 Unknown과 Other를 除外한 것에 해당된다).

Figure 2. Possible Flows of Applicants to Enrolled Students According to Area of Specialization, 1977-1979



1) This figure suggests routes followed by applicants of defined backgrounds into analagous areas of study specialization. No data exist which could in fact establish either the magnitude or direction of the flows.

⑤ 新入生의 專攻分野別 現況(1974~79年)

1974年 以後의 新入生들의 專攻分野別로 그 推移를 보면(表3 参照) Health Service Administration이 계속적으로 最多의 比率을 보이고 Health Practice and Program Management, Epidemiology, Environmental Health의 順으로 많은 比率을 나타낸다.

⑥ 卒業生 現況

学位授与別로 卒業生数의 推移를 보면(表4 参照) 1930~35年에 비해 1975~80年 에는 碩士学位가 약 45倍, 博士学位는 약 8倍가 되었고 지난 50年間 年平均 碩士는 7.9%, 博士는 4.2%의 增加率을 보이고 있다. 또한 性別로 卒業生의 推移를 살펴보면(表5 参照) 1960年代初에 男子가 女子보다 약 3倍이었으나 점점 減少하여 1960年代末에는 2:1의 比率, 1978~79年에는 男子가 女子보다 적은 卒業生(男:1,431名, 女:1,486名)을 나타내고 있었다.

Table 3. Area of Study Specialization of New Students According to Selected Characteristics, 1974-1979

Entering Students' Area of Study Specialization (Detailed List of Specialties)	Academic year (by percentage)				
	1974-75 (N=2980)	1975-76 (N=2708)	1976-77 (N=3317)	1977-78 (N=3427)	1978-79 (N=3735)
Health Services Administration	23.2	34.1	29.5	26.0	25.8
Health Administration	(23.2)	(31.7)	(18.4)	(15.7)	(16.3)
Health Planning	*	*	(5.7)	(5.9)	(6.1)
Hospital Administration	*	(2.4)	(5.4)	(4.4)	(3.3)
P.H. Practice and Program Mgmt.	12.0	9.4	11.2	12.7	12.2
Maternal and Child Health	(4.3)	(4.0)	(6.0)	(5.3)	(6.1)
Public Health Nursing	(4.8)	(3.0)	(2.4)	(2.6)	(3.0)
Mental Health	(1.7)	(1.4)	(1.6)	(3.1)	(1.6)
Dental Public Health	(1.2)	(0.7)	(0.9)	(1.0)	(1.1)
Gerontology	*	(0.3)	(0.3)	(0.7)	(0.4)
Epidemiology	9.1	14.2	14.3	12.5	11.9
Environmental Health	10.9	9.8	11.6	11.0	11.4
Health Education	6.5	6.4	7.8	6.8	7.5
Biostatistics	5.2	5.0	5.9	4.7	5.4
Nutrition	5.4	4.3	5.8	6.5	5.5
Biomedical Laboratory Sciences	*	*	*	3.3	3.0
Occupational Safety and Health	1.4	2.7	2.8	3.9	4.4
Other and Multiple Specialties	5.5	6.4	8.3	9.9	9.1
Behavioral and Social Sciences	(1.2)	(1.1)	(3.1)	(3.1)	(2.5)
Population Studies	(4.3)	(5.3)	(4.1)	(3.9)	(2.2)
International Health	*	*	(1.1)	(2.9)	(4.3)
Unknown/Other	20.8	7.7	2.8	6.0	7.0
Total	100.0	100.0	100.0	100.0	100.0

Source: ASPH Data Collection Center

Table 4. Graduate Degrees Awarded by Schools of Public Health by Type of Degree and Five-Year Cohorts of Graduates, 1930-1980

Period	Type of degree		Doctorate as percent of Masters and Doctorates
	Masters	Doctorate	
1930 – 1935	283	153	35.1
1935 – 1940	746	98	11.6
1940 – 1945	1,053	96	8.4
1945 – 1950	2,811	102	3.5
1950 – 1955	(3,478)	(130)	(3.6)
1955 – 1960	(3,493)	(157)	(4.3)
1960 – 1965	4,352	211	4.6
1965 – 1970	6,588	505	7.1
1970 – 1975	9,472	880	8.5
1975 – 1980	(12,699)	(1,206)	(8.7)
Total	44,975	3,538	7.3

Source: The values given in parentheses include one or more years for which estimates were made of the number of graduates: for the years 1953-1954 through 1958-1959 interpolations were made; for the period 1975-1980 the last year is an estimate, and assumes the same number of graduates as for 1978-1979. The 1960s include graduates from the two Canadian schools.

Table 5. Graduates by Sex, 1960-1979

Period	Male	Female
1960 – 1965	3392	1171
1965 – 1970	4728	2365
1970 – 1975	6427	4079
1975 – 1979	5889	5567

Source: ASPH Data Collection Center

Table 6. Short List of Specialty Areas for Graduates of the Class of 1978-1979 by Nationality

Specialty Area	U. S. (N =2,609)	Foreign (N =308)
Health Administration	27.2%	16.6%
Environmental Health	15.9	10.4
Epidemiology	11.3	19.8
P. H. Practice/Program Mgmt.	9.9	13.0
Public Health Education	6.4	3.2
Nutrition	5.7	3.6
Biostatistics	4.3	7.5
Biomedical Lab. Sciences	2.7	6.2
Occupational Safety/Health	0.9	0.2
Other	15.7	19.5
Total	100.0	100.0

Source: ASPH Data Collection Center

⑦ 卒業生의 專攻別・国籍別分布(1978～79年)

美国国籍을 가진 卒業生의 경우 Health Administration이 27.2%로 가장 많고 Environmental Health, Other의 順으로 나타났으나(表6 参照) 外国人留学生의 경우 Epidemiology가 19.8%로 最多를, Other가 19.5%, Health Administration이 16.6%의 順으로 나타나고 있다.

위에서 보는 바와 같이 美国国籍의 卒業生과 다른 分布의 專攻別 卒業生의 比率을 보이는 것은 開発途上国에서 온 留学生들이 대부분 本国의 特性 및 卒業後 本国에서의 必要性 等을 고려한 것이 아닌가 생각된다.

2) 教育 및 教科課程

① 專攻課程 및 学位制度

1960年代에 美国内 14～18個의 保健大学院에서 23가지의 이름을 달리하는 專攻課程이 運営되었으나 1978～79年에는 21個 保健大学院에서 運営되고 있는 專攻 課程은 46種類인 것으로 美国保健大学院協会(ASPH-Association of Schools of Public Health)에 의해 分類되고 있다. 그러나 비슷한 專攻名으로 運営되고 있는 것이 많아 ASPH特別委員会가 專攻課程別로 大分類를 위한 作業을 하여 1979年度 ASPH執行委員会에서 承認된 專攻課程은 아래와 같이 10가지로 大分類되고 있다.

Area of Specialization

① Biomedical and Laboratory Practice
② Biostatistics
③ Environmental Sciences
④ Epidemiology
⑤ Health Education
⑥ Health Sevices Administration
⑦ Nutrition
⑧ Occupational Safety and Health
⑨ Public Health Practice and Program Management
⑩ Other

또한 各 專攻課程別 特性 및 卒業後 就職과 関聯된 説明을 보면 Appendix 2와 같다. 最近 美国 保健大学院에서 使用된 学位種類는 26가지의 다른 名称으로 分類되었으나 ASPH에 의해 크게 나누어진 学位制度別 分類를 보면 아래와 같다.

① Master of Public Health(MPH)
② Master of Science of Public Health(MSPH)
③ Other Masters
④ Doctor of Public Health(Dr.PH)
⑤ Doctor of Philosophy(Ph.D)
⑥ Other Doctorate
⑦ Non-degree Program

以上의 学位制度에서 보면 博士学位에 해당하는 Dr.PH와 Ph.D의 区別은 그 分類가 前者는 専門職業的学位(Professional Degree)로서, 後者는 学問的学位(Academic Degree)로서 区別된다. 따라서 学位의 名称에 있어서도 Dr.PH는 保健学博士로, Ph.D는 專攻分野別로 細分되어 飜訳되는 것이 妥当하다고 생각된다 (例 : Ph.D in Biostatistics는 保健統計学博士). 또한 Non-degree Program은 一般的으로 現在 專門職에 従事하거나 또는 学位所持者가 学位는 필요치 않고 다만 필요한 教科目을 聴講하거나 修錬받는 制度라 할 수 있다.

以上의 学位制度外에 博士学位 取得後 1～2年間 修錬을 받는 制度로써 Postdoctoral Fellowship이 있다. 그러나 이 制度는 各保健大学院마다 特定 專攻分野에 限해 주어지고 있어 韓国에서 保健学博士学位를 取得한 後 美国内 保健大学院에서 Postdoctoral Fellowship을 받기란 매우 어려운 立場인 것으로 생각된다. 近来 美国内 保健大学院에서 Post-

doctoral Fellowship이 주어지는 專攻課程을 보면 Epidemiology(특히 Cancer), Occupational Health(特히 M. D.를 위한), Toxicology에서 主流를 이루고 있어 그나마 現実的으로 惹起되는 学問的要請에 의한 것이라 할 수 있다.

② 入学資格 및 選抜基準

美国의 保健大学院에 入学하려는 外国人学生은 누구나 TOEFL成績 및 GRE成績(大学 및 科에 따라 다르나 最近에는 대부분의 大学에서 要求함)을 提出하도록 되어 있으며 大学院의 成績 및 2통 이상의 推薦書를 要求하고 있다. 물론 留学하려는 者의 地位나 過去 研究経歴을 選抜基準에 参考로 하고 있으나 TOEFL成績은 550点以上, GRE成績은 Aptitude Test에서 1,100点以上을 받는 것이 入学資格으로나, 入学後에도 有利할 것으로 생각된다. 특히 志願하려는 科에 따라 大学 및 大学院의 成績中 그 科에 関聯된 科目은 B 以上이어야 할 것은 두말할 것도 없다 (例를 들어 Department of Biometry에 志願할경우 大学 및 大学院에서의 数学과 統計学의 점수가 좋아야 한다).

③ 在学中의 教科課程

入学이 決定되면 동시에 指導教授(Advisor)가 指定되는 것이 常例이다. 따라서 在学中 수시로 指導教授와 每学期마다 필요한 履修科目 및 選択科目을 상의하여 듣도록 한다. 많은 教科目의 講義内容이 視聴覚教育 및 세미나式으로 教授 및 学生 개개인이 講義에 모두 参加할 수 있는 内容으로 이끌어가고 있다.

学期末이되면 科目의 成績評価를 위한 試験 및 課題物이 주어지는데 그 結果는 学校에 따라 대부분이 A, B, C의 等級으로 나누어졌으나 近来에는 Pass 또는 Fail의 두가지 方法으로 나누는 大学도 增加되고 있다. 이 경우 Fail을 받은 学生은 成績이 教務課에 提出되기 前에 担当科目教授로 부터 通報를 받아(안받는 경우도 있음) 그 科目을 成績에서 뺄 수 있는 資格을 갖기도 한다. Incomplete를 받았을 경우 学生은 教授가 要求한 課題物이나 試験에 만족할 答을 냈을 경우에는 즉시 Pass로 바뀔수도 있다.

대부분의 大学에서 実施하고 있는 3学期(여름은 제외) 制度(Quarter system)는 실제로 1学期当受業日数는 8～10週 정도에 지나지 않으나 많은 課題物 및 科目에 따라 每週 보는 試験등으로 특히 外国人学生은 철저한 準備가 세워져야 한다.

在学中에 最少限의 生活費補助가 필요할 경우 名種奨学制度가 있으나 留学生 으로서는 教授의 研究補助等으로 약간의 恵沢을 받을 수 있다. 保健大学院에서는 外国人入学生이 入学時에는 어떠한 財政補助도 거의 주지 않고 있어 일단 入学後에 그 方案을 찾도록 함이 바람직하다.

참고로 1980～81年度 3学期동안 Texas大学校 保健大学院에서 開設된 講義内容중에서 保健統計를 專攻으로 하는 学生이 必修的으로 들어야 할 Course는 表7과 같다. 한 学期에 Full time student인 경우 4科目까지를 申請할 수 있어 表7에 나와있는 Course를

다 들는데도 2年以上이 걸린다고 할 수 있다. 各科目当 3学点으로 1週日에 2回의 講義(1回 2時間)가 주어지며 MS, Ph.D課程에 있는 学生은 專攻必須科目外에 副專攻(MS-1, Ph.D-2)의 Course를 각각 4～6個씩을 들어야 한다. 대체로 基礎的인 数学및 統計知識을 바탕으로 中級의 統計理論을 거쳐 高級의 統計理論 및 多変量解析, 確率過程理論, 線型Model理論은 각각 Ⅰ에서 Ⅲ까지로 1年내내 連続的으로 講義内容을 進行시키고 있다. 물론 学生의 專攻背景 및 研究経歴에 따라 科目選定을 指導教授와 상의하여 빠르게 進行시킬 수도 있다.

Table 7. Courses in Biometry as a Major, 1980-81

Elementary	Introduction to Biometry I-II
	Introduction to Data Processing
Intermediate	Intermediate Biometric Methods I-III
	Fortran Programming
	Statistical Methods in Epidemiological Research
	Demographic Analysis
	Applied Regression Analysis
	Sampling Techniques for Health Survey
	Distribution-Free Statistical Methods
	Operation Research, A Decision Making Process
Advanced	Statistical Theory in Biometry I-III
	Bioassay
	Quantitative Methods in Health Service
	Multivariate Analysis I-III
	Stochastics Process in Biostatistics I-III
	Linear Models I-III
	Categorical Data Analysis
	Compartmental Models

Source: UTSPH, Course Schedule

④ 卒業 및 学位授与基準

대부분의 保健大学院이 MPH는 3学期(9個月)以上, MS는 1年내지 1.5年以上의 Full time으로서 resident를 요구하고 있다. 또한 Dr. PH는 MPH修了한 者(또는 이와 동등한 者)가 1年내지 1.5년以上, Ph. D는 2年以上의 Full time으로서 resident를 要求한다. 그 기간동안 充分한 教科目을 履修했다고 認定되면 個個 学生마다 入学時부터 定해진 Advisor와 教科課程의 指導委員－Committee member(보통 3～5人)－에 의해 資格

試驗을 치르는 여부가 決定된다. 이 資格試驗은 MPH는 없고 学校에 따라 MS가 있고 博士課程의 学生(Dr.PH.Ph.D)은 누구나 이 資格試驗을 치루어 合格해야 한다. 이 資格試驗을 合格한 후 学校에 따라서는 論文指導委員会(Dissertation Committee)를 再指定할 수 있다.

대체로 1～2年内에 論文委員会와 수시로 接触을 하며 論文을 쓴 후 予備口頭試驗을통과한 후 수차에 걸쳐 修正, 発表할 機会를 가진 후 最終的으로 論文審査를 받게 된다. 上述한 筆記에 의한 論文資格試驗은 Ph.D는자신의 専攻(Major)外에 2個以上의 副専攻(Minor)을 選択하도록 되어 있어 Ph.D博士課程 동안에 충분한 專攻 및 副專攻에 대한 教科目의 履修가 要求되고 있다.

⑤ 教授人力 및 施設

美国内 東, 西, 南, 北部에 位置한 保健大学院中 任意로 選択한 4個校의 教授人力現況을 보면 表8과 같다.

教授1人当 学生数의 比率을 보면 2.4名에서 5.7名으로 나타내고 있다. 教授의 学位所持状況을 보면 全教授要員의51.9～63.9%가 Ph.D의 所持者이고, MD와 MD所持者가 다른 博士学位를 가진者를 合한 比率은 21.7～33.7%에 이르고 있다.

Table 8. Some Characteristics by Selected Schools of Public Health

		Berkeley	Michigan	Johns Hopkins	Texas
Established Year		1948	1941	1916	1967
Faculty	Total	92	184	276	97
	Professor	31	81	83	35
	Assoc. Professor	8	33	51	28
	Assist. Professor	19	40	65	24
	Lecturer	34	30	77	10
	Ph. D	48	115	143	62
	MD	29	33	72	23
	MD+Other	2	7	19	1
	Dr. PH	4	7	12	2
	Non-Doctoral	9	22	30	9
Total Enrolled Student (Fall, 1978)		415	704	653	555
Tuition (Per/Quarter)					
Resident		275	934	1,268.75	33
Non-resident		1,075.50	2,044	1,395.63	320
Source: 各大学의 bulletin		1980-81	1980-81	1978-79	1979-81

그밖에Dr. PH만을 가진 者는 4.3%미만을 나타내고 있다. 또한 博士学位를 所持하지 않은 者는 10%内外로 대부분 Lecturer로서 從事하는 教授要員으로 判明되었다. 또한 최근 미국내의 各種 政府予算削減으로 Public Health Traineeship 등이 줄어들고 있고 登録金의 인상이 予想되고 있다. 州立大学의 경우 州居住者(resisdent－보통 그 대학이 속한 州에서 1年以上 살아야 resident로서 認定을 받음)와 非居住者의 Tuition의 差가 꽤 크다고 할 수 있다. 外国人留学生의 경우는 非居住者에 속하므로 처음에는 많은 経費가 所要됨을 알 수 있다. 施設面에 있어서는 各大学院이 自体内의 図書館을 具備하여 保健学과 関聯된 많은 雑誌와 図書를 備置하고 있다. 또한 충분한 実験·実習을 위한 施設 및 奨備를 確保하거나 여의치 않을 경우 인접된 Medical Center内의 他機関과 상호 協助下에 補完하고 있다. 또한 基礎保健統計의 講義 및 課題物이 Computer의 Terminal을 利用하여 進行되도록 갖추어져 있어 研究資料分析은 물론 Computer 에 관한 一般知識까지도 培養 하도록 되어있다.

4. 考　　察

以上에서 最近 美国内 保健大学院의 特性 및 教育, 教科課程을 検討하였다. 近間 우리나라에서는 保健大学院의 新設이 増加되고 있으나 그에 앞서 教科課程의 충분한 編成및 運営을 위한 教授人力 및 施設의 確保위에 理想的인 保健大学院에서의 大学院教育이 実現되도록 해야 할 것이다. 또한 学生数(新入生및 卒業生)에 있어서도 地域人口 및 장래 우리나라에 필요로 하는 専門保健人力을 推計하여 그 規模를 決定해야 한다. 특히 学生対 教授 要員의 比率에 있어 서울大学校 保健大学院이 11.6 : 1인것을 減案하면 美国의 그것에 비해 2倍이상이 많은 것으로 이는 講義 및 研究에 있어 지장을 초래할 것으로 생각한다. 学生이 専攻分野를 選択하는데 있어 指導教授와 충분한 상의후에 学生의 専攻背景 및 経歴을 考慮하여 가능한 学生이 원하는 専攻을 選択하여 자유롭고 自身의 能力을 발휘할 수 있도록 해야 한다.

장래 保健学에 있어서도 専門化가 要求될 것으로 생각되어 専門的인 学者를 養成 하기 위한 教授人力의 確保 및 教科課程의 設立이 要求되고 있다. 教科目의 選定에 있어서도 専攻教科目의 増設이 要請되며 이의 準備에 앞서 関聯되는 科目을 서울大学校内의 他大学 및 大学院에서라도 듣도록 하는 것이 바람직하다. 또한 保健学碩士課程 1部, 2部로 나누어져 있는데 博士課程에서도 美国에서의 Full time, Part time student의 区別과 같이 나누어 学生의 博士課程期間을 教科目取得数, 個人의 能力여하에 따라 달리하도록 하는 것이 바람직 하다.

教授人力, 教育施設, 教科課程이 충분히 完備됨에 따라 保健学博士課程도 専攻에 따라

Dr.PH 및 Ph.D의 区分을 하는 것도 바람직 하다.

学生의 現職業 및 経歴, 장래 学位取得後의 計劃에 따라 専門的学位와 学問的学位의 필요성이 요구되고 있다. 著者의 主観的인 経験으로 보면 日本東京大学에서의 保健学博士課程은 学部 4년을 通해 충분한 基礎的 保健学知識을 익힌 후 碩士課程에서 専攻別로 基本的 実験・実習을 연마한 다음 博士課程에서 学生의 自律的 研究機会를 増進시키는 것으로 判断되었다. 이에 反해 美国의 保健大学院에서는 대부분이 学部에서 각각 다른 学問的背景을 가진 者가 碩士課程에 入学하므로 碩士課程에서는 基本的인 保健学 및 予備専攻科目을 익힌 후博士課程에서 専門的으로 나눈 教科課程을 履修해야만 된다. 따라서 美国 保健大学院의 경우 우리나라 実情에 맞게 日本 및 기타 外国의 것을 加味하여 応用하면 保健学에 있어서 大学院의 教育이 向上됨은 물론 장래 필요로 하는 保健専門要員을 養成하는 機関으로서 이바지 할 수 있다 하겠다.

5. 総括 및 建議

우리나라 保健大学院에 있어서 保健学教科課程의 質的・量的向上을 摸索하기 위한 方案으로 美国 保健大学院의 学校 및 教科課程의 最近 現況을 資料로 提供하고자 하였다. 이에 美国 保健大学院協会情報収集센터가 分析한 資料 및 各保健大学院의 最近 要覧을 蒐集한 結果를 総括하였다.

主要結果 및 提案된 建議事項은 다음과 같다.

1) 1981年 9月 1日 現在 美国内에는 21個의 保健大学院이 散在되어 있고 7,722名(1978年 Fall현재)의 学生이 在学中이었다.

2) 美国 保健大学院에 入学하는 新入生의 경우 약 40%이상이 碩士 및 博士学位所持者로 나타나고 있다. 우리나라에서도 新入生의 質的水準向上을 꾀하며 専攻選択에 있어서도 学生의 専攻背景 및 専攻選択의 자유를 考慮해야 한다.

3) 博士学位制度에 있어 장래에는 専門的学位(Professional Degree)와 学問的学位(Academic Degree)의 Dr.PH와 Ph.D의 区別이 要求된다. 또한 学生의 教科目履修 資格을 個人의 能力 및 時間的制約등에 따라 Full time 또는 Part time(or Half time) 으로 나누어 博士課程期間을 다르게 나눔이 바람직하다.

4) 専攻科目의 多様化와 専門化를 위하여 保健大学院에 設定되어 있지 않은 科目은 大学 및 大学院間의 学点転用制度를 活用하여 충분히 履修토록 하여야 한다.

5) 保健分野에서도 어느 特定 専門人을 要求할 것으로 予想되어 専門分野의 教授人力確保 및 専門的 保健人力의 養成에 힘써야 한다.

6) 学問의 情報化와 時代的要請에 副応하기 위하여 保健学에 있어서도 各 専攻分野의

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University of Hawaii School of Public Health, 1960 East-West Road, Honolulu, HI 96822 (Dean-Jerrold M. Michael, MSE, 1980-81

University of Illinois School of Public Health at the Medical Center, Post Office Box 6998, Chicago, IL 60680 (Dean-Viron Diefenbach, DDS, MPH) 1984-85

The Johns Hopkins University School of Hygiene & Public Health, 615 North Wolfe Street, Baltimore, MD 21205 (Dean-Donald A. Henderson, MD, MPH) 1983-84

Loma Linda University School of Health, Loma Linda, CA 92354 (Dean-Andrew Haynal, MD, MPH) 1981-82

University of Massachusetts Division of Public Health, School of Health Sciences, Amherst, MA 01002 (Dean-William A. Darity, PhD) 1982-83

University of Michigan School of Public Health, 109 Observatory Street, Ann Arbor, MI 48109 (Dean-Richard D. Remington, PhD) 1984-85

University of Minnesota School of Public Health, 1360 Mayo Memorial Building, 420 Delaware Street, S.E., Minneapolis, MN 55455 (Dean-Lee D. Stauffer, MPH) 1984-85

University of North Carolina School of Public Health, Rosenau Hall 201 H, Chapel Hill, NC 27514 (Dean-Bernard G. Greenberg, PhD) 1980-81

University of Oklahoma School of Public Health, College of Health, Health Sciences Center, Post Office Box 26901, Oklahoma City, OK 73190 (Director, Paul S. Anderson, PhD) 1980-81

University of Pittsburgh Graduate School of Public Health, 111 Parran Hall, Pittsburgh, PA 15261 (Acting Dean-M. Allen Pond, MPH) 1980-81

University of Puerto Rico Faculty of Biosocial Sciences and Graduate School of Public Health, Medical Sciences Campus, G.P.O. Box 5067, San Juan, Puerto Rico 00936 (Dean-Gilberto Cardona, MD) 1982-83

University of South Carolina School of Public Health, College of Public Health & Communicative Disorders, Columbia, SC 29208 (Dean-Winona B. Vernberg, PhD) 1983-84

University of Texas-Houston School of Public Health, Health Science Center at Houston, Post Office Box 20186, Houston, TX 77025 (Dean-Reuel A. Stallones, MD, MPH) 1982-83

Tulane University School of Public Health & Tropical Medicine, 1430 Tulane Avenue, New Orleans, LA 70112 (Dean-James E. Banta, MD, MPH) 1980-81

University of Washington School of Public Health & Community Medicine, F356d Health Sciences Building, Mail Drop SC-30, Seattle, WA 98195 (Dean-Robert W. Day, MD, PhD) 1982-83

Yale University Department of Epidemiology & Public Health, School of Medicine, 60 College Street, New Haven, CT 06510 (Chairman-Robert W. McCollum, MD, DPH) 1984-85

School of Public Health Preaccredited by CEPH

Boston University School of Public Health, at *the School of Medicine,* 80 East Concord Street, Boston, MA 02118 (Director-Norman A. Scotch, PhD) 1982-83

Graduate Programs in Community Health Education

California State University-Northridge Department of Health Science, Northridge, CA 91324 (Chairman-Seymour Eiseman, DrPH) 1981-82

Hunter College Community Health Education Program, School of Health Sciences, 440 East 26th Street, New York, NY 10010 (Director-Gilbert M, Shimmel, EdD, MPH) 1980-81

University of Missouri Division of Community Health Education, Department of Family & Community Medicine, TD-3W, Room 137, School of Medicine, Columbia, Missouri 65212 (Director-Michael C. Hosokawa, EdD) 1980-81

New York University Department of Health Education, School of Education, Health, Nursing and Arts Professions, South Building, Fifth Floor, Washington Square, New York, NY 10003 (Chairperson-Marian V. Hamburg, EdD) 1980-81

San Jose State University Department of Health Science, School of Applied Sciences and Arts, San Jose, CA 95192 (Chairman-Sam F. Radelfinger, EdD, MPH) 1981-82

University of Tennessee Health & Safety Department, College of Education Knoxville, TN 37916 (Chairman-Robert H. Kirk, PhD) 1981-82

Preaccredited Graduate Programs in Community Health Preventive Medicine-Granted Pre-Accreditation Status in April 1978

Emory University Master of Community Health Program, School of Medicine, 1518 Clifton Road, Atlanta, GA 30322 (Director-Constance C. Conrad, MD, MPH) 1980-81

University of Rochester Master of Science in Community Health Program, School of Medicine & Dentistry, 601 Elmwood Avenue, Rochester, NY 14642 (Director-James G. Zimmer, MD) 1980-81

University of Utah Master of Science in Community Health, Department of Family & Community Medicine, Medical Center, 50 North Medical Drive, Salt Lake City, UT 84132 (Director-Charles C. Hughes, PhD) 1980-81

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– Appendix 2 –

Areas of Public Health Specialization

AREA OF SPECIALIZATION	DIFFERENTIATING CHARACTERISTICS (Pertaining to the Area of Specialization and Illustrative Ways it Contributes to Improved Health)	ILLUSTRATIVE JOBS AND JOB SETTINGS (For Graduates of the Area of Specialization)
Biostatistics Biostatistics involves the application of statistical procedures, techniques, and methodology to characterize or investigate health problems and programs.	The specialty is concerned with such activities as the collection, organization, retrieval, and analysis of data; design of experiments; comparison of different population subgroups; and the application of techniques of inference and probability to the examination of biologic, social, and environmental data. Biostatistics closely interacts with the field of Epidemiology, while also extending into the congruent areas of vital statistics and demography, computer systems, programming and analysis, and program planning and evaluation. The specialty helps to anticipate needs and improve decision-making with regard to health problems, programs, and technologies through the: development and operation of ongoing statistical information systems concerned with vital events, health status, and program operation; proper design and conduct of studies, and the analysis and interpretation of data obtained from such studies.	In local and state agencies, employment in the collection, tabulation, and analysis of statistics bearing on all aspects of health problems and programs. In state, federal, and academic settings providing assistance to investigators in the design, conduct, and data analysis of research on health problems and programs. In academic institutions, training health workers in the use and interpretation of statistics and carrying out research to discover improved ways of using statistical measures and procedures.
Epidemiology Epidemiology is the science devoted to the systematic study of the distribution and determinants of disease or disability.	As the intelligence arm of public health programs, epidemiology determines disease frequencies and trends in populations, and those factors which augment or reduce disease and disability. Epidemiology has both a descriptive and analytic role. In the former, and in conjunction with the field of Biostatistics, it makes use of the statistical methods to determine morbidity, mortality, prevalence, incidence and case fatality rates, and estimates of the risk of developing specific diseases in a given population. In its analytic role, epidemiology uses a variety of techniques to examine and evaluate data which seek to identify predisposing, precipitating, and prolonging factors bearing on disease and disability. By developing new or improved information on the distribution and determinants of disease, epidemiology helps the health system design better ways to prevent, detect, and treat disease and disability.	In health agencies at all levels epidemiologists are employed in the design and execution of studies or information systems concerned with determining the distribution and determinants of disease or disability. In academic settings epidemiologists teach, do research, and assist clinical investigators in the study of disease and in the evaluation of new or improved measures for disease prevention, therapy, and rehabilitation.

AREA OF SPECIALIZATION	DIFFERENTIATING CHARACTERISTICS (Pertaining to the Area of Specialization and Illustrative Ways it Contributes to Improved Health)	ILLUSTRATIVE JOBS AND JOB SETTINGS (For Graduates of the area of Specialization)
Health Services Administration Health Services Administration is concerned with the application of specialized knowledge and skills in resource management in order to accomplish the effective and efficient delivery of health services.	Areas of expertise relevant to this specialization include those of planning, organizing, directing, controlling, policy formulation and analysis, financial management, economics, accounting, and operations research. Faculties of health services administration programs tend to be specialists in one of the administrative knowledge base areas, either as a basic discipline or from later specialization and research. While persons with prior professional degrees are not uncommon, students in specialized programs of health services administration tend to have recent bachelor's degrees or have been practicing administrators without other advanced training. Health Services Administrators seek to ensure that the resources available for the promotion, protection, and restoration of health are applied as effectively and efficiently as possible, consistent with the scientific knowledge base that exists about health and disease.	Health Services Administrators are employed at all levels of government and in the private sector to plan, implement, manage, coordinate and evaluate programs for the delivery of health care, and to design administrative systems appropriate for the needs of the population being served.
Public Health Practice and Program Management Public Health Practice and Program Management involves the application of specialized knowledge and skills to the planning, implementation, management, and evaluation of activities carried out relevant to selected types of health professional disciplines.	This area of specialization encompasses many of the identifiable public health programs and activities, some of which are organized according to the demographic characteristics of the target population (maternal and child health, gerontology), others according to the health problem or organ system involved (mental health, dental public health), and still others according to professional discipline (nursing, social work). Specialists in each of these programmatic areas usually have a prior professional degree in one or more health disciplines in addition to specialty training relevant to their field of choice. They seek to integrate the body of knowledge of the basic discipline (medicine, nursing, etc.) with skills relevant to public health practice (planning, program development, etc.) in order to design and implement programs appropriate to specific health needs.	Employed at all levels of government and in the private and educational sectors, these specialists assume leadership roles in community-based health care programs and systems; apply technical expertise to planning, implementation, and evaluation of technical programs within a defined organizational framework; and carry out training and research activities.

AREA OF SPECIALIZATION	DIFFERENTIATING CHARACTERISTICS (Pertaining to the Area of Specialization and Illustrative Ways it Contributes to Improved Health)	ILLUSTRATIVE JOBS AND JOB SETTINGS (For Graduates of the Area of Specialization)
Health Education Health education is concerned with the process of influencing health-related social and behavior change in human populations.	Health education specialists use specific methods, skills and program strategies to help people change to healthier life styles, to make more efficient use of health services, to adopt self-care practices wherever possible, and to participate actively in the design and implementation of programs that affect their health. Skills in the social and behavioral sciences, communication dynamics, educational theory, and community organization as well as other fields are all highly relevant to this area of specialization.	Employment is available in many different types of agencies in both the public and private sectors to identify social and health needs of population groups, adapt the health care delivery system to the needs of individuals and communities, develop and implement patient education in health care and community settings, and utilize the media effectively as a means of achieving the above.
Environmental Sciences Environmental Sciences encompasses those specialties which are concerned with the identification and control of factors in the natural environment which affect health.	Environmental Sciences specialists are concerned with the interrelationships between the characteristics of the natural environment (air, water, soil, chemicals, etc.) and man's mental and physical health. This information is used to establish limits on pollutants which the environment can absorb without detrimental effects, to develop control technology, and to implement controls as necessary for the benefit of human and animal populations. The educational background of most environmental scientists usually includes disciplinary training in one or more of the natural sciences plus advanced courses in those aspects of environmental health relevant to their primary discipline.	Employment is available at all levels of government, public and private organizations, and industry to provide technical knowledge and methods in the investigation, planning, controlling, and regulation of matters pertaining to environmental health hazards. In addition, they carry out basic and operational environmental research in education and research institutions, and provide training to community workers and interest groups in methods and techniques of environmental protection.
Occupational Safety and Health Occupational Safety and Health is concerned with the identification of health and safety hazards related to work and the work environment, and with their prevention and control.	In collaboration with many disciplines such as medicine, nursing, statistics, engineering, psychology, this area of specialization seeks to minimize ill-health, injury, and maladjustments to work that may arise as a result of man's association with work and the work environment.	In industry, occupational safety and health specialists are concerned with establishing the causes and effects of industrial health problems and the implementation of acceptable control programs. In government, they are involved with monitoring morbidity and mortality associated with the work environment, formulating and enforcing safety standards, investigating specific health and safety problems, and with the planning and implementation of appropriate health programs. Those employed by academic institutions are involved with the training of specialists in this field and with research.

AREA OF SPECIALIZATION	DIFFERENTIATING CHARACTERISTICS (Pertaining to the Area of Specialization and Illustrative Ways it Contributes to Improved Health)	ILLUSTRATIVE JOBS AND JOB SETTINGS (For Graduates of the area of Specialization)
Nutrition Nutrition is concerned with the study of the interaction between nutrients, nutrition and health, and with the application of sound nutritional principles and maintenance of good health.	This broad area of specialization can be divided in two main component parts, one which is concerned primarily with the scientific study in laboratory and clinical settings of the effects of nutrients or their lack of growth, development, and health; and the other with the application of specialized nutrition knowledge and skills to improve or maintain the health of target population groups. In the former category are found persons with basic preparation in biochemistry, medicine, and related sciences; while in the latter are persons with training in dietetics, clinical nutrition, and related fields.	Employment opportunities for specialists in nutrition exist at all levels of government and in private agencies, institutions, and industry. Examples of typical job activities include the assessment of nutritional problems in individuals and population groups, development and implementation of programs which will change patterns of food consumption, and fundamental research into human and animal nutrition.
Biomedical and Laboratory Practice Biomedical and Laboratory Practice encompasses various specialty disciplines which use laboratory techniques for the diagnosis and treatment of disease, and for the investigation of conditions affecting health status.	The two main defining characteristics of this broad area of specialization are 1) the type of facilities and equipment used; and 2) the fact that it is concerned with the scientific investigation in individuals of biological and biochemical processes which affect or reflect health status. Specialists working in this area may be primarily concerned with developing new knowledge or with the application of existing laboratory-based techniques for the maintenance of health and for the prevention, early detection and treatment of disease, both in individuals and in mass screening and prevention programs.	Those trained in this area of specialization are employed at all levels of government, in medical and academic institutions, and in public and private labroatories. Illustrative job opportunities include laboratory research for the detection and treatment of disease, the planning and operation of laboratories, and the operation of training programs concerned both with the basic training of laboratory personnel as well as their needs for continuing education.
Other This last category encompasses a diverse group of specialities which, while not fitting within any of the preceeding, nevertheless make important contributions to the health of the public and are offered by at least some of the schools of public health. These specialities are defined in different ways such as by disciplinary background (e.g., behavioral and social sciences), by the kinds of phenomena under consideration (e.g., the study and treatment of health problems in an international setting).		Employment opportunities exist primarily at the federal and state levels, academic institutions, and in some private agencies and foundations. Skills of particular relevance to this broad area of specialization include the collection and analysis of data pertinent to the health status of defined populations; and the planning, development, and operation of programs designed to deal with particular health needs.