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## **The Experiences of Health Services Research and Health Services Research Training in Korea\*\***

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### **I. STATUS OF HSR AND POLICY IMPLEMENTATION IN KOREA**

Health Services Research (HSR), the idea of application of knowledge to improve efficiency and effectiveness of health services is neither new nor unfamiliar. However, it took quite long for HSR to be recognized as a potential tool for health administration, particularly in the field of community health services. So did HSR Training in Korea. Not many people paid attention to the importance of training community health workers and/or community health practitioners up to the seventies in Korea. At this early stage of HSR (HSR Training) recognition, universities played important roles in two ways. One is to examine various study topics of HSR mostly on a small scale basis for the attainment of his or her academic degree. The majority of them were not directly relevant to the formulation of national health policies. The other is to investigate HSR policy questions through the sustained and organized efforts of running health service demonstration programs. For example, Chunseong Community Health Project of Seoul National University, Kangwha Community Health Project of Yonsei University, and Sudong *Myun* Project of Ewha University.

It was in early seventies that the Government recognized the necessity of implementing HSR as a policy guiding instrument. In 1972, at the conference of the International Economic Commission for Korea (IECOK), the Korean delegation submitted a formal request for loan-support to strengthen local health services. This request stimulated subsequent studies of health services in Korea. For example, in November 1973, and AID study team recommended: 1) conducting a survey of national health care needs 2) setting up a low-cost health care system, and 3) establishing a health planning unit/function in the Government.

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Consequently, the Economic Planning Board (EPB) requested a AID loan of US\$5 million, counterparted with a US\$1.67 million contribution from the Republic of Korea, for a large-scale Health Demonstration Project which was to develop field test alternatives for delivering low-cost health services. As a prerequisite to the project, the law of the Korea Health Development Institute (KHDI) was promulgated in 1975. KHDI has launched “Model Community Health Care Programs” in Hongcheon, Okgu and Gunee counties with different policy emphasis for the past five years. This was a good starting point that EPB, for the first time, recommended higher priority to be given to the health sector strategies of the Fourth Five Year Economic Development Plan (1977-1981) to the following kinds of health development objectives:

1. development of low cost health services for the poor in urban and rural areas
2. strengthening preventive health services and environmental sanitation
3. achieving a better distribution of medical facilities among areas

Since then, many HSRs have been funded from the Government, international agencies and private foundations, domestic and abroad. Economists and social scientists, statisticians and system engineers were encouraged to join in interdisciplinary HSR activities. In a sense, HSR has greatly benefitted from the tradition of family planning and population studies where experts in social sciences have collaborated prior to the implementation of HSR policy. Social scientists as well as health scientists assumed the leadership in designing HSR framework, analysis of data and development of HSR topics, etc.

After the five years of successful demonstration of the KHDI research project, the Government accepted the idea of Community Health Practitioners (CHPs) for the provision of health care in medically underserved areas. CHPs are a new category of health personnel to Korea, similar to family nurse practitioners or the Medex in other countries. They are supposed to carry out simple curative services for the common diseases, preventive services including pre and postnatal care and some evaluative and supervisory activities. Currently, about 1,000 CHPs are serving at the remote underserved areas. CHPs are a good example showing that how HSR can contribute to the implementation of health policies. This was a mere beginning of the institutional cooperation between HSR and HPI (Health Policy Implementation) in Korea.

HSR-HPI cooperation has continued in the 1981-1982 research project funded by the Ministry of Health and Social Affairs (MOHSA), called “Development of Health Resources Allocation Model in Korea (KOHFAM)” by KIPH and the Institute of Hospital Services (IHS), School of Public Health.

Seoul National University, Yonsei University and Korea Advanced Institute of Science and Technology (KAIST). This research aimed to develop a model which would allow to make judgement, based on the health demand increase anticipated over the ten years from 1982 to 1991, on medical facility requirements, especially hospitals to be newly built and hospital beds to be newly supplied, along with capital investment requirements involved, and which will furnish methodology for optimal allocation of these facilities.

KIPH is undertaking another research project this year, titled "The Study on Blueprinting the National Health Insurance Programme in Korea," jointly funded from the MOHSA, the Federation of Korean Medical Insurance Societies and the Korean Medical Insurance Corporation." The position of HSR becomes increasingly important in the process of decision making on the formulation and implementation of health policy in Korea.

## II. EXPERIENCES OF HSR TRAINING IN KIPH

### 1. CHP Training Programme

The Rural Health Care Special Law was promulgated in 1981 that aimed to enhance health status of the people in the designated underserved areas. According to the Fifth Five Year Socio-economic Development Plan (1982-1986), 2,000 CHPs will be trained and dispatched to the designated areas during the period. Of 1,555 CHPs trained, 86.4 percent are working as was originally planned (See Table 1).

**Table 1. Status of CHPs Training\***

			(Unit: person)
Year	Number of Workers	Dropouts	Total
1980	9	13	22
1981	280	92	372
1982	296	65	361
1983	391	12	403
1984	367	30	397
Total	1,343	212	1,555

\* In 1978, KHDI trained 25 CHPs at the demonstration program.

## 1) Main Functions of CHP

Their main functions are summarized as follows:

### a) Curative services:

- Deliver primary and ambulatory health care including home visiting
- Identify the most common disease
- Take general medical histories and perform physical examinations
- Provide treatment for a defined range of conditions
- Provide regular follow up of chronically ill patients
- Make efficient referrals of complicated cases

### b) Preventive Services:

- Provide pre and postnatal care
- Attend normal delivery
- Provide child health care including immunization
- Undertake health education
- Carry out family planning
- Control communicable diseases: tuberculosis, venereal disease, etc.

### c) Others:

- Plan and evaluate the health services activities
- Manage medical, health, and administrative supplies
- Educate and lead lower level health personnel
- Support and participate in the community agencies
- Supervise VHVs
- Record and report data with accuracy

## 2) Selection Procedures

The applicants should be registered nurse and/or midwives. They are screened on the basis of personal career and other achievements shown on the documents. Preference is given to residents in the community.

## 3) Training Program

The CHP training program takes 24 weeks. This period is separated into eight weeks of classroom lecture, 12 weeks of clinical practice and four weeks of field practice. The training is carried out at the regional medical centers, health centers and subcenters, etc.

A total of eight weeks of lecture is divided into five major content areas; management of curative care, maternal/child health, community development, related community health maintenance, administrations of PHP. During this phase, the trainees are thus instructed intensively in basic knowledge and skills in order to provide comprehensive primary care services.

Clinical practice is a continual part of preceptorship or internship. Its goal is to learn skills on diagnosis and managing commonly encountered acute, chronic, emergent and health maintenance care problems. The basic framework for the CHP trainees in caring for a patient is as follows: History taking, physical examination, treatment plan, teaching and counselling, referral, follow up including diagnostic studies, medications and other specific treatments.

The field practice for four weeks is carried out in an anticipated recruiting post. They are encouraged to expose themselves as much as possible to apply attained knowledge and skills to an actual field setting in rural community. Main activities provided by CHPs during field practice are as follows: Assessment and treatment of common and minor health problems, emergency care, maternal/child health, health education, participation in conference with the community leaders to give information on PHC councils activities.

## **2. Village Health Volunteers Training Program**

It is generally agreed that community participation and self reliance are vitally important components for planning and developing primary health care programs. To facilitate the community participation, a women who is literate and active is chosen as a VHV by the community. The VHV is trained by the community health practitioner and works voluntarily to take care of her village people.

The scope of VHV activities covers such areas as listed below;

- Home visits conducted
- Villagers consulted with health problems
- Cases refered to CHP
- Various health related information collection
- Attendance to village meetings and relevant educational gathering

Formerly, in the KHDI demonstration program, orientation class for VHVs was carried out for two-five days. They were trained a few hours in the actual village setting. Additionally, a three-five

hours of refresher training was offered every month. Instructors consisted of health center staff, KHDI staff, personnel from voluntary agencies and local authorities concerned.

### **3. The Orientation Workshop for HSR**

In order to disseminate the idea of HSR which was adopted by the WHO Western Pacific Regional Task Force in 1976 (HSR as an integral part of health services development, and defined as any group activities which involve the generation of information or the application of knowledge on a scientific basis with a view to providing more effective, efficient, and equitable health care for defined populations), a national orientation meeting was held in Chuncheon from 13 through 16 October 1980. This workshop was preceded by the designation of KHDI as one of the WHO collaborating centers in Korea. Thirty six participants attended the Workshop, recruited from research institutions, academic circles and the authorities concerned. Dr. Lawrence Wasserman, technical officer from the Western Pacific Regional Office, helped preparing this workshop.

#### 1) Topics Discussed

This Seminar was proceeded in the order of three keynote addresses and seven technical paper presentations with subsequent panel discussions.

#### — Keynote Addresses

- (1) Role and Function of HSR in the Formulation of National Health Care Policy
- (2) Status of HSR in Korea, Past and Present
- (3) Policy Issues for HSR in Korea

#### — Technical Paper Presentations

- (1) Research Directions for Economics and Finance Components Related to HSR in Korea
- (2) Research Directions for Institutionalizing Health Service Information System and Primary Health Care
- (3) Research Directions for the Component of Health Resources Related to HSR in Korea
- (4) Research Directions for the Behavioral Component Related to HSR in Korea
- (5) Staff Training and Manpower Development Requirement for Implementing HSR Programs.
- (6) Guide to the Protocol in Conducting a HSR Project

**Table 2. Summary of the Workshop Evaluation Sheets**

Items for Comments	Very Adequate N (%)	Adequate N (%)	Inadequate N (%)	Extremely Inadequate N (%)
1. Selection of Topics	9 (45.0)	11 (55.0)	—	—
2. Contents of Presentation	2 (10.0)	18 (90.0)	—	—
3. Time Allocation for Presentation	2 (10.0)	18 (90.0)	—	—
4. Presentation Format for Summary of Discussions	2 (10.0)	13 (65.0)	5 (25.0)	—
5. Format for Summarizing Discussion	2 (10.0)	14 (70.0)	4 (20.0)	—
	<u>Too many</u>	<u>Adequate</u>		<u>Few</u>
6. Number of Topics	2 (10.0)	18 (90.0)		—
7. Number of Participants	—	11 (55.0)		9 (45.0)
	<u>Too long</u>	<u>Adequate</u>		<u>Short</u>
8. Duration of the Workshop	15 (75.0)	5 (25.0)		—
		<u>Adequate</u>		<u>Inadequate</u>
9. Site of the Workshop		19 (95.0)		1 (5.5)
	<u>Sufficient</u>	<u>Fair</u>		<u>Poor</u>
10. Individual's Opportunity to Participate in the Discussion	8 (40.0)	8 (40.0)		4 (20.0)
	<u>Very high</u>	<u>High</u>	<u>Low</u>	<u>Very low</u>
11. Contents of Topic Presentation in Terms of;				
Research Feasibility	2 (10.0)	12 (60.0)	6 (30.0)	—
Magnitude of Problems	1 ( 5.0)	17 (85.0)	2 (10.0)	—
Extent of Minute details	1 ( 5.0)	15 (75.0)	4 (20.0)	—

**Table 2. Continued**

Items for Comments	N (%)
12. Topics Presented are:	
a. Greatly related to your specialized field and work	17 (85.0)
b. Least related but areas of your interest	3 (15.0)
c. Neither related nor areas of interest	— —
13. Your Preferred Subjects in the Future Workshop	
a. General one like the current HSR	5 (25.0)
b. More specific area of HSR (eg., MCH)	15 (75.0)

(7) The Future of HSR in Korea

2) Workshop Evaluation

The result of evaluation is based on the opinions of those who remained to the end of the workshop. The result is shown on the Table 2.

The item 7 indicates that the number of participants were too limited. However, the Workshop resulted in hot discussions, which brought out serious HSR-HPI Interaction among the participants. The workshop became a milestone for HSR activities in Korea, and the least explored areas of HSP—the behavioral, economic and financial components—were brought to the attention of all concerned. The participants expected more specific topics of HSR in the future workshop.

#### 4. The National Workshop on Biomedical Research Methodology

This workshop was planned for health scientists in biomedical research (BMR) areas as a trainer's training course. Thirty three health scientists were recruited from the medical schools, research institutions, general hospital with BMR division, and the public authorities concerned. The National Organizing Committee was established to deal with the Workshop preparations and



allocation of budget, etc. Dr. Y.H. Paik, Dr. K.M. Patwary and Dr. M.S. Lye, WHO consultants from WPRO worked together with the Korean counterparts. The workshop was held in Chuncheon from October 20 to October 28, 1983 (9 days).

## 1) The Workshop Objectives

### (1) General

To develop a framework for the training of biomedical scientists and clinical investigators in research design and methodology which is scientifically sound and appropriate to the needs and resources.

To promote proper methods in the preparation of research proposals.

### (2) Specific

At the conclusion of the workshop the participants are expected to be able to carry out training courses, seminars or workshops on research methodology at their own institutions. The participants should be able to train junior scientists to;

- have a better understanding and appreciation of the scientific method as it applies to biomedical and clinical research;
- be able to give a precise statement of the problems to be investigated and of the objectives of research into these problems;
- be able to frame the pertinent hypotheses, which can then be tested by scientific methods to produce valid and useful results;
- be able to construct a research proposal by selecting and applying the appropriate study design and methods, taking into account characteristics of the study population, sampling selection of controls, bias, confounding, variables to be measured, limitations of testing, availability of resources and time;
- be able to execute the research within the guidelines of the proposal, using proper experimental design and methods of data collection, processing, analysis, and considering on-line monitoring and end-evaluation of the research;
- be able to properly interpret and effectively present the results to fellow scientists and investigators, policy makers and administrators, and the public.

## 2) The Methods of the Workshop

### (1) Working approach

The approach of the workshop was broad-based and provided a forum for discussions in

general of the concepts, designs and methods of research as it applied to basic medical scientists, epidemiologists and clinical researchers. It made extensive use of group participation in exercises and presentations as well as limited didactic materials in constructing a practical training framework.

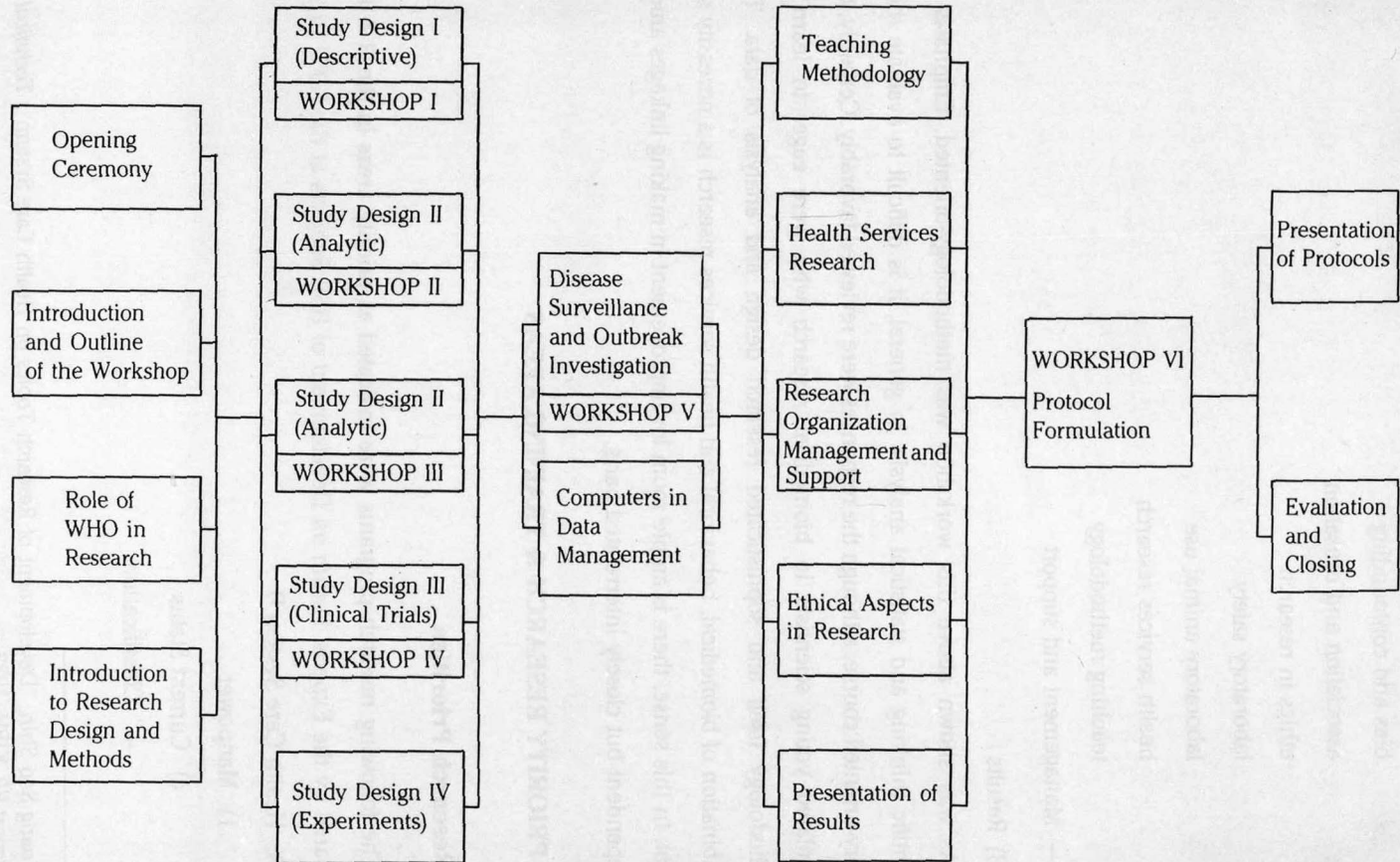
(2) Research methodology training components

These consisted of:

- Research and scientific method definition, role and scope of research inference, and hypothesis generation, scientific proof and probability
  
- Programme planning in research
  - national health research programme planning, the role of WHO in health research
- Study designs
  - Surveys
  - case-control studies
  - cohort studies
  - clinical trials
  - experiments
- Statistics in design and analysis of research
  - fundamentals in support of descriptive, analytic and experimental studies
  - hypothesis testing
  - sampling and sample size
  - correlation and regression analysis
- Data management
  - collection and processing of data
  - organization and presentation of data
  - computer systems in data management
- Disease surveillance and outbreak investigation
- Protocol proposal preparation
  - principles
  - formulation of proposals
  - presentation of proposals

National Workshop on Biomedical Methodology, Republic of Korea, 2-29 October, 1983

Research Methodology Training Framework



- Ancillary considerations
  - bias and confounding
  - association and causation
  - ethics in research
  - laboratory safety
  - laboratory animal use
  - health services research
  - teaching methodology
- Management and support

### 3) Results

As was shown above this workshop was methodology-oriented. Emphasis was laid on scientific thinking and statistical analysis. In general, it is difficult to evaluate the outcome of theory-oriented course, although the responses were reviewed favorably. Certainly, the workshop stimulated young scientists in biomedical research who were eager to learn more about methodology itself and sophisticated research design and analysis of data. The fact that combination of biomedical, behavioral and health services research is a necessity should not be forgot. In this sense, there is ample room for improvement in making linkages among the three independent but closely interrelated parts.

## III. PRIORITY RESEARCH & TRAINING AREAS

### 1. Research Priorities

The following research programs were indicated as priority areas in the R & D framework prepared by the Experts' Forum on Development of HSR Subjects at the KIPH in 1982.

#### A. Health Care System <sup>1)</sup>

##### 1) Manpower

##### a) Current Status

- Classification

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1) Young Soo Shin, "Development of Research Topics on Health Care System", *Technical Consultants' Report (II)*, KIPH, 1983.

- distribution
  - work pattern & productivity
  - remuneration
  - b) Demand Projection
    - type of manpower
    - area
    - pattern of delivery
    - determinants
  - c) Manpower Production & Training
    - educational system
    - continuing education
    - preparation of instructors
- 2) Medical Facilities
- a) Current Status
    - classification (capacity, function)
    - inventory (equipment, etc.)
  - b) Regional Planning
    - methodology (optimum allocation)
    - demand projection (short, medium & long-term)
  - c) Architectural Facilities
    - standardized criteria
    - cost saving measures
    - management
    - domestic production
  - d) Investment
    - optimization
    - financing
- 3) Medical Expenditures
- a) Accounting System
  - b) Remuneration System
    - optimum price

- rational-pricing system
- c) Payment Method
- 4) Organizational Management
  - a) Organization
    - efficiency & standardization
  - b) Manpower
    - optimum allocation
    - evaluation
  - c) Management
    - productivity
    - control
    - information system
  - d) Education & Training
- 5) Quality Assurance
  - a) Utilization Review
  - b) Methodology
- B. Financing & Medical Security <sup>2)</sup>
  - 1) Estimates of National Health Expenditures
    - a) Methodology Development
    - b) International Comparison between Health Expenditures and GNP, GDP, National Income
    - c) Health Expenditures by Sources
    - d) Composition of Health Expenditures
    - e) Investment
  - 2) Determinants of Supply and Demand for Medical Care
    - a) Measurement Tools
    - b) Characteristics in Balance and Change
    - c) Determinants

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2) Ha Cheong Yeon, "Development of Research Topics in Finance and Medical Security", *op. cit.*, KIPH, 1983.

- a) Efficient Utilization of Health Resources
  - a) Distribution Pattern
  - b) Productivity Analysis
  - c) Benefit Cost Analysis
  - d) Better Utilization Measures
- 4) Economic Values of Health Care Improvement
  - a) Effects of Diseases and Mortality
  - b) Benefits of Health Improvement
  - c) Evaluation of Investment Effect
- 5) Optimization of Medical Care Price & Payment Methods
  - a) Estimates of Income & Expense of Medical Facilities
  - b) Analysis of Medical Care Price
  - c) Payment Methods
- 6) Financing of Medical Security System
  - a) Financial and Operational Effect of Health Insurance System
  - b) Efficiency of the Medical Care Assistance Program
  - c) Cost Containment
- C. Behavioral Aspect of Health<sup>3)</sup>
  - 1) Health Education
    - a) Deveopment of Effective Health Education Channels in the Rural Areas and for the Urban Poor
    - b) Exploration of Health Terminologies for Lay Men
    - c) Test of Effectiveness of Various Health Slogans
  - 2) Community
    - a) Decision-making Mechanisms in Communities
    - b) Health Norms and Utilization Pattern
    - c) Indicator Development to Measure the Level of Community Participation
    - d) Strategies of Effective Use of Mothers' Clubs in Primary Health Care.

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3) Kyung Kyoon Chung, "Priority Research Projects in Health Behavioral Aspects Related to Policy Issues in Korea, 1980", *Report of the National Meeting on Health Services Research*, KHDI, 1980.

- 3) Knowledge and Norms
  - a) People's Knowledge and Norms in Health
  - b) Physicians' Expectation and Attitudes towards the Clients
- 4) Utilization Behavior
  - a) Utilization Behaviour of the Medical Recipients
  - b) Differential Utilization Behaviour by Social Strata
- 5) Social Welfare
  - a) Health Services for the Urban Poor
  - b) Health Services for the Aged

## **2. Training Priorities**

The development of a successful HSR Programme requires a recognition that personnel capable of undertaking the work must be trained. This is a natural requirement and by doing, so called multiplier effect is obtained. There is a recognition that skilled personnel whose training may take 3 to 5 years is essential to the goals of primary health care. Thus, it is conceivable, if circumstances permit, to have a training team to train the potential trainers.<sup>4)</sup> This is one of the top priority items.

The next priority should go to the item where the magnitude of deficiencies in terms of HSR Training is the biggest. In other words, whose need for HSR information being the biggest is the key. Policy decision makers and programme managers are the end-users of the HSR products. Thus, they need a general orientation to the principle of HSR and HSR management related information.

Third priority relates to the function of the lower level field workers. They are the service producers, distributor and HSR information collectors. The quality of HSR depends upon the capabilities of the front-line health service workers. Furthermore, the greatest difficulty is to identify the people who know the problems from personal experience. They are the lowest level field workers. Thus, they need training in technical aspects of HSR.

The next come the researchers. They are the experts who would be able to propose a range of alternative solutions to the problems encountered. HSR requires that both administrator and

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4) Development of Basic Community Services through Primary Health Care: A Training Approach, U.N. ST/ESCAP/227. Health Technical Paper #60/BCS 11.



researcher communicate more frequently and share views honestly. HSR requires to bringing together the people who know the problem and are responsible for implementing solutions and those who can apply appropriate research methods. In this sense, the role of researcher is crucial as a linking pin. However, HSR requires researchers to be oriented toward so called practical research.

The last, but certainly not the least important is people themselves. This is the level where HSR and social development in broad sense takes place. Nonetheless, community participation is far from the primary health care ideology. To be successful, HSR Training includes the peoples participation as a necessity.

#### **IV. PROSPECTS OF HSR TRAINING IN KOREA**

It is a pity that the previous the HSR workshops have not resulted in any follow-up activities. Truly, not much has been achieved in HSR training field in Korea except the training of CHPs. Even, the idea of CHPs in urban setting encounters the barrier of the Korean Medical Association's opposition. At this moment of time, we should remind of the fact that it is neither physicians nor CHPs, but a primary health care team that can carry out the mission of PHC.<sup>5)</sup> Thus, medical doctors should be trained to believe that non-physician middle health manpower would broaden physician's functions and serve the need of people cooperatively rather than competitively.

CHPs in remote rural areas are not free from the faults. In contrast to their original idea of CHPs as a comprehensive health care worker, they are motivated in practice only as a simple curative service workers. Prevention-oriented comprehensive care should be restored through refresher training and through the reform of working conditions like the setting of single worker organization.

Up until now, the HSR training opportunities to the non-researchers have seriously been limited. Nor have had the chances of HSR training in regional level. Nevertheless, the prospects of HSR Training is quite promising. As mentioned previously, change is coming through the recognition of the importance of HSR by policy makers and programme managers. As the performances

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5) Ok Ryun Moon, "Utilization of Intermediate Health Workers As on Alternative Health Care Provisions in Korea: Alternative Health Care System, Is It Cheaper?", *The Korean Jr. of Public Health*, No. 33, 1982.

of the HSR-HPI cooperation are increasing, the possibility for training HSR is also soaring up.

The main reasons for the current lack of HSR and HSR Training are the scarcity of appropriately trained people in one hand and the absence of institutional machinery dealing with HSR and HSR training. In order to overcome those problems and other problems such as identifying the need for HSR and selecting participants and trainers etc., a few study members submitted a draft proposal to the Government concerning the establishment of the Korean Council on Health and Medical Research (KCHMR) either within the umbrella of KIPH or directly under the Ministry of Health and Social Affairs as an independent organization. No one believes that these changes are sufficient to solve the problems of HSR and HSR Training. These are mere good beginnings for HSR and HSR Training in Korea.