



A PRELIMINARY EVALUATION OF THE
KOREA HEALTH DEVELOPMENT INSTITUTE
COMMUNITY HEALTH PRACTITIONER
TRAINING PROGRAM

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TRAINING PROGRAM

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I. A REVIEW OF THE
COMMUNITY HEALTH PRACTITIONER TRAINING PROGRAM

I. A REVIEW OF THE COMMUNITY HEALTH PRACTITIONER TRAINING PROGRAM

The Korea Health Development Institute (KHDI) published in 1978 Background Papers on Health Demonstration Project. Section 4 of that document, "Development of Community Health Practitioner Training Program," should be read carefully by anyone interested in the Korean Community Health Practitioner (CHP) Program. It provides the framework for the following comments.

Goal Setting

The goals of the program are superior; they are both innovative and ambitious. The KHDI might have settled for less comprehensive objectives, such as increasing the skills of categorical health workers (e.g., nurse-aides) or using resources to mobilize village health workers. In fact, each of these goals was accomplished. But, KHDI staff also recognized that a more innovative approach was necessary for long-term success, a new category of health worker had to be created so that comprehensive rural health services could be delivered and the gap between urban hospital care and uncoordinated, categorical community care could be bridged.

It would have been easier for the KHDI to take an academic, purely classroom approach, disregarding the need to link training to both practice and continuing education. Public health nurses (PHNs) could have been recruited and deployed to rural areas after receiving little more than an extended pep talk about the KHDI's expectations of them. To its credit, the KHDI instead set goals to create a new type of health worker, to design a competency-based, practice-oriented training model, to train students to be competent health workers, and to continue upgrading their competency.

KHDI staff would be the first to admit that the methods they have used to reach their goals could be improved. This evaluator respects KHDI staff because they have set the highest goals and have continued working to achieve those goals.

Role Functions

The original AID project paper stated that the role of the CHP was to be primarily curative. The mid-term AID evaluation team, however, stated that services had been over-stressed and that the project must be reoriented to prevention. In fact, as summarized in the background paper, the role functions of the CHP are balanced and realistically defined. The main functions are divided into three categories: curative services, preventive services, and primary health unit management. The KHDI's approach to defining CHP roles is excellent.

A. Curative Services

Psychological research on problem-solving has shown that the skill is problem-specific. This means, for example, that a person who is able to solve a problem related to the gastro-intestinal system will not necessarily have the skill to diagnose and treat a cardio-respiratory problem. For this reason, the curative service role (and curriculum objectives) should be defined in terms of the type of problem(s) seen and not in terms of the steps in the curative process. The curative role might be more clear if defined as follows:

1. Make a general screening examination to identify serious health problems.
2. Evaluate and manage (i.e., diagnose and treat) common ENT and respiratory problems, including URI, TB, etc.
3. Evaluate and manage common gastro-intestinal problems, including parasites, vomiting and diarrhea, appendicitis, etc.
4. Evaluate and manage common skin problems.
5. Evaluate and manage common genito-urinary problems.
6. Evaluate and manage other common medical conditions, including heart pain, fever, toothache, etc.
7. Evaluate and manage common emergencies, including shock, minor trauma, hemorrhage, etc.

Because of the special knowledge and skill required, the following might be added:

8. Prescribe and dispense medication according to the CHP standing orders.
9. Understand and follow CHP protocols defined for data collection, treatment, and referral of above problems.

A team of trainers, public health physicians, and experienced CHPs should define the various illnesses and diseases that should be treated. The number of problems should be kept to the minimum to represent minimal CHP competency. The skill to treat other problems can be acquired through experience and consultation with supervising physicians.

B. Preventive Services

The list of CHP preventive functions gives a better idea of the preventive role of the CHP.

The task "administer immunization" would seem to be appropriate for a community health aide (CHA). This evaluator was surprised that the role was not more comprehensively defined. It might have been stated better as: "Perform well-child care, including immunization and nutritional guidance."

"Attend normal delivery" is a role that should be considered carefully. The mid-term evaluators were concerned about Korean childbirth practices and recommended that more midwifery training be provided. This evaluator would be particularly cautious about expending resources on midwifery training. Midwifery training cannot be accomplished overnight. Furthermore, it may not be necessary for the minimally competent CHP to acquire this skill. This evaluator has only a limited knowledge of Korean childbirth practices, but he bases his statements on information contained in an article written by an anthropologist with the Yonsei University rural health project. The author points out that Korea has few indigenous midwives. Childbirth is a family affair, attended by mother and grandmother. It is not clear that CHP midwives would be used, even if they were available. Furthermore, many of the childbirth traditions are quite healthy. The apparent causes of infant mortality in Korea should be analyzed. Training resources might be better directed to specific pre- and post-natal care procedures than to midwifery.

The two tasks "provide nutritional guidance" and "undertake public health education" are too general. It should be made clear that health education includes the use of media techniques and involves more than education of the patient in a one-on-one setting.

C. Other Functions

Other functions might fall under the heading "manage the primary health unit." The list of these essential functions, which are important to the CHP role, appeared to be complete and reflected a consideration of the leadership role which we expect a CHP to assume, given her background and responsibility.

Selection of Trainees and Instructors

The trainees came from the regions where they will be assigned to work. They were chosen for their attitude and experience, and not for their academic credentials. Each trainee was required to commit herself to two years service after training. Those who were trained appear to be doing satisfactory work.

The selection of instructors must have presented a problem. Health care is both a science and an art. As an art it can be learned only by imitating role models actively involved in teaching. The competency-based training concept requires that skills be taught and developed in an integrated, progressive process. What is taught in one class must have some relevance to what is taught in another class. What is taught later in the course must be built on the knowledge and skills acquired earlier. The approach requires some instructors who are actively involved in training from beginning to end and actively teaching a variety of subjects. The instructors must be able to define a student's level of skill and coordinate other instruction through the selection and orientation of part-time teachers.

The background paper states that five KHDI staff, including two physicians, were actively involved in planning and running the training course. This choice was excellent. Unfortunately, these same staff were not always available during field practice, and students could not, therefore, go to them for supervision and consultation. Given the difficulty in estimating the resources (staff energy and travel money) that can be consumed by field supervision, the absence of these staff was understandable. The realistic provision of adequate resources for field practice--for all phases of a program--should be considered in future planning.

Training Method

At the risk of over-simplifying the process, one could say that clinical competency is acquired in three stages: through awareness, tentative activity, and application of controlled skill. The student first acquires a basic knowledge of clinical practice, becomes aware of situations, and learns the mechanics of approaching a problem. She then responds, identifying problems and risking decisions. Finally, she acquires complete competency, acting with skill, control, and decisiveness. This three-stage process constitutes the training model for the CHP program.

The model requiring a classroom phase, a hospital phase, and a field practice phase reflects the application of sound educational psychology. Unfortunately, constraints on the implementation of the model negated some of the psychological benefits. The amount of supervision and consultation available for the field practice phase was limited. Furthermore, because of a lack of openings for practice training in hospitals and the need for immediate impact in the field, half the students undertook a field practice assignment before completing the first two phases of training. In effect, the learning program lasted six months instead of a year, and the task of developing full skill and competency was left to those responsible for providing continuing education and field supervision.

It appears that the hospital phase is critical to the successful use of the three-phase model. In the future, this phase must be either strengthened or revised so that appropriate clinical skills can be learned. The field practice phase must be redesigned so that physicians provide continuous consultation and supervision. In all three phases the constant reinforcement and development of preventive skills must be emphasized to maintain a balanced program of curative and preventive health care.

One approach would be to lengthen the hospital phase, which might also include some preventive health and community care experiences. Another approach would be to integrate the two final phases in hospital and field practice and rotate regularly the students between the field and the hospital. A third alternative would be to integrate the didactic and hospital phase, holding classes in a hospital setting, where students could practice the skills they learned the day before.

Curriculum

A. Orientation Phase

The length of the orientation was determined by the fact that half of the students were to be deployed immediately to the field. A feeling of solidarity had to be created. In a competency-based system, the best way to orient and motivate students is to present a set of curriculum objectives that are defined as competencies to be learned. Another effective way to orient students is to give them early field practice experience.

B. Theoretical Phase

If the three-phase approach is used in the future, each phase should have its own set of "enabling" objectives. The objectives for the theoretical phase should be stated as "review basic knowledge of..."; "become aware of...."; "learn sequence and technique for...."; and "understand the method or process of...." All of the appropriate content areas appear to have been listed. This evaluator was unable to determine to what extent and in what depth each topic was covered. The following questions should be asked about each topic:

1. How does this relate to final competency?
2. Is this needed to prepare the student for Phase 2?

C. Clinical Phase

The clinical phase is when the students awkwardly but carefully apply their knowledge in practice. The enabling objectives for the completion of this phase should be stated as "collect appropriate data for...."; "recognize the difference between...."; "identify the following problems...."; and "choose the appropriate course of action for...."

At this point, clinical evaluation becomes critical. The evaluation form presented in Appendix C should be used for a specific problem. It covers the major competencies and is short enough to be functional. A separate form (similar to that used to evaluate students in Ob/Gyn) might be used to evaluate

students assigned to the emergency room. This evaluator endorses the efforts of KHDI staff to ensure that hospital preceptors teach well and that remedial work is arranged when clinical work is unsatisfactory.

D. Field Practice Phase

The objectives for this phase are the terminal objectives for the program. During the field practice phase, a student "sinks or swims." Students who are sent into the field without having learned physical diagnostic skills will not learn them at this time. They will merely avoid attempting physical exams. If they are sent into the field without experience in providing pre-natal care, they will find other things to do. No student should enter the field practice phase unless he has acquired the competencies needed to practice independently or with little supervision. This evaluator's experience has been that many programs have failed to realize the importance of adequate preparation and, consequently, students have not performed well. Only KHDI staff know whether or not students have been prepared adequately for field work.

Well prepared students can, however, pose problems for training staff. Students who are actively prepared to practice their skills will ask numerous questions. They will request and expect to receive consultation, continuing education, and reassurance that they are acting correctly. This is the primary role of the supervising rural physician, but a secondary role of training staff. The difference discernible in a trainee during and after field training is only a matter of degree.

Every CHP should have phone contact with a physician-consultant. Every CHP should spend time working in a clinic with a supervising physician. Every CHP should be visited regularly by a member of the training staff or by a supervising physician to receive consultation and advice. During field training, the CHP should devote 20 percent of his time to work with a physician. After training, this time could be reduced to one or two days a month.

Field supervision is and always will be a problem, because of environment, the personalities of the student and preceptor, and the time and energy available for training staff to take remedial action. No matter how well a program is planned, problems will arise. All problems cannot be anticipated, nor can all be resolved quickly. KHDI staff should not become discouraged because of problems during the field practice phase. Problems can and should be expected whenever staff try to provide competency-based training in a realistic environment.

At this time, KHDI staff should evaluate CHP field supervision and try to set a minimum, realistic standard for future training. For instance, a student could be required to log "X" hours of time in one-on-one work with a physician or senior CHP, or the supervising physician could be required to sign a checklist to certify the student's competency in handling specified problems. If cooperating physicians are unavailable, the student would have to return to the training hospital for special training and evaluation.

The KHDI should define the minimum standards for supervision during the field practice phase, determine whether these standards were met in all cases, and decide whether or not the standards are adequate.

Preceptorship and Field Work

The evaluator made a visit to Hongchon Gun, where he observed CHPs at work. Unfortunately, he was unable to visit two other demonstration areas because of the political situation. The evaluator spent two days in Hongchon, visiting the country health center and four rural primary health units (PHUs). He interviewed four CHPs, their associate CHAs, and one VHA. One group of five medical doctors is practicing in a private clinic in Hongchon City. These are the only fully licensed physicians in the county. In addition, there are two resident physicians at the public health center; they each spend six months there to fulfill their residency requirements. The county health director position is vacant, although an administrator is serving as acting director. In the rural areas there are six "community physicians" --medical doctors with a license to practice limited medicine. These doctors were trained by the Japanese or in North Korea in Western medicine, and their educational background is foreign to modern Korean medicine. For this reason, continuous supervision of the CHPs in the county is impossible.

The CHPs actively refer patients to the private clinic in Hongchon and to the provincial hospital in Chuncheon, where they were trained. Because they have no physician-supervisor to represent them, CHPs must be able to make appropriate referrals and demonstrate good diagnostic ability. CHPs who do not possess such skills damage the reputation of CHPs in general, and give the Korean Medical Association a legitimate reason to continue opposing the rural primary care movement. If referrals are appropriate, physicians may begin to realize the value of CHPs and eventually support their training.

The evaluator's general impression of the work of each primary health unit was positive. The CHPs seem to be mature and professional. The clinics are isolated. One had a telephone; two had access to a telephone in a building next door. The most isolated clinic was situated at the end of a difficult road traveled by two buses a day, but only in good weather. The phone was 300 meters away in the village center. Most PHUs are near primary schools. (A primary school is a natural catchment area or "hub" for a local population.) Every clinic has electricity, a refrigerator, exam table, autoclave, medical supplies, and diagnostic instruments. The facilities are new, well lighted, and clean. The only tests generally performed are urine dip stick and hemoglobin.

The patient chart system is ideal. A family health record exists for every family in the PHU area. The charts are color coded by preventive health need (TB, family planning, pregnancy, new-born, immunization, etc.). Each PHU maintains 600-900 family charts, which are accessible to both CHAs and CHPs. All the CHAs are young and recent graduates of nurses' aide training programs. As assistants and outreach workers for the PHUs, they clearly fulfill an important role.

In addition to the preventive health charts, each CHP maintains a separate set of medical records. A medical record is kept on every patient seen in the PHU. On the first visit, a general health history is taken. Subsequent visits are recorded in the SOAP format. An inspection of the records showed that CHPs maintain complete charts. They record the findings, diagnosis, and medications given. The evaluation of CHP performance is based on a review of the records they keep.

In observing CHP performance with a very limited number of patients, this evaluator concluded that CHPs do a good job, although they could be more thorough and systematic when taking a history or making a physical diagnosis. At times they make a diagnosis too quickly and prescribe too many medicines for minor illnesses. For example, one CHP prescribed a two-day supply of five medicines, including an antibiotic for possible flu, without examining the child's throat. The medicines may not have hurt the patient, but the CHP's treatment did not seem to be the most appropriate intervention.

Each CHP was asked about her work and the strengths and weaknesses of her training. All agreed that medical (curative) care, including physical diagnosis and systematic diagnosis and treatment, was the most important new skill learned. Two CHPs added that an understanding of rural community organization and rural health needs was also valuable. When asked how training could be strengthened, the CHPs recommended lengthening the hospital phases of training and using a more problem-oriented format in training and classroom materials (i.e., make materials more realistic). Several CHPs recommended that the KHDI:

- o Provide more preparatory training, supervision, motivation, and support for field work.
- o Adequately prepare CHPs for clinical management and administration.
- o Integrate the theory and hospital phases.
- o Place more emphasis on dermatology and pediatrics in the theory phase and in the clinical phase.
- o Require more practical course work in obstetrics.

Training Materials and Aids

Three substantial Korean language texts have been prepared for CHP students. These texts cover internal medicine, surgery, and preventive health care. They have been supplemented with three smaller manuals on clinic administration, emergency care, and pharmaceuticals. The materials were prepared by Korean medical personnel who adapted Medex, Thai, and other health practitioner training materials to Korean needs. The texts contain diagnostic protocols for reference. In addition, a manual on patient management protocols is being prepared as a reference for CHPs. These materials constitute an important training resource. Obviously, a great deal of effort was required to complete them.

The diagnostic protocols described in KHDI texts are strongly endorsed by many international experts in Medex and medical assistant training. This evaluator, however, believes the protocols are more suitable for CHAs than CHPs. They may be more useful to someone who must make a quick decision on the spot or who lacks the knowledge required to make a systematic decision. The preparation and approach of a CHP should differ from the preparation and approach of a CHA. One CHP remarked, for example, that she desired more practical text materials. One protocol referred her to a second protocol (and this may have

referenced still another protocol). The CHP needed a single-page reference that identified the history of the problem at hand, the required or recommended physical exam, and alternative diagnoses and treatments. She did not need a flow chart. Similar references on preventive care are needed. One CHP recommended that training include practical rules for performing a pre-natal exam or for solving medical problems. She and other CHPs wanted a "more problem-oriented approach in training."

This evaluator's impression was that CHPs tend to jump to conclusions when evaluating problems. This is the logical result of protocol-based training. Good medical decisionmaking requires that a person carefully consider alternatives and collect the data (s)he needs to make a reasonable decision. For example, for any ENT or respiratory complaint, a standard history should be taken and a physical exam made. The findings should be studied carefully. The CHP should be aware of major diagnoses and the criteria for making the diagnoses, and know what standard treatment is given for each diagnosis. Such information should be made available to all CHPs through a system that might be called a protocol system; the protocol would, however, be a problem-oriented list of criteria, not a flow chart. The following references might be useful in preparing medical texts for CHPs:

- o Wasson, Walsh, et al. Common Symptom Guide. McGraw-Hill, 1975.
- o Whitaker, et al. Guidelines for Primary Health Care in Rural Alaska. U.S. Government Printing Office, 1976.
- o Komaroff, et al. Common Acute Illnesses. Little, Brown and Co., 1978.

Financial Resources and Physical Facilities

Both facilities and resources appear to have been adequate. Training should be institutionalized in a clinical environment (e.g., a provincial hospital).

Student Evaluation

The format for the student evaluation appears to be functional and well designed. It is performance-based, compatible with the model of training for competency. Thirty percent of a CHP's final grade is based on the results of an objective test taken during the classroom phase; 30 percent is the hospital preceptor's ratings of CHP performance during the clinical phase; and 40 percent is the field supervisor's or training supervisor's rating of the CHP's demonstration of clinical skills in the field. Thus, 70 percent of the final evaluation grade is based on clinical performance ratings. During the clinical (hospital) phase, a point score of 1 to 5 is given for each skill identified; the total score is then added and a percentage of the highest score possible is determined.

Percentages on each of the six rotation experiences are averaged (they have equal weighting) to obtain a final percentage score for the clinical phase.

The rating system seems to be objective, based as it is on the opinions of six different preceptors. But, how critical are the hospital preceptors? Apparently, KHDI staff spent a considerable amount of time orienting the preceptors and discussing with students their strengths and weaknesses to facilitate their formative development. This staff activity was an important part of the hospital phase. In the field phase, apparently only one final rating score is used, determined in the same way that hospital ratings are determined, except a field evaluation form is used. The validity and comparability of a single rating are questionable. The evaluation is not specific and is made by a variety of individuals, each of whom is responsible for a small number of students.

II. A REVIEW OF CHA AND VHA TRAINING

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CHA Training

Community health aides, a primary care resource, were active in Korean rural health programs before this demonstration began. They are nurse-aides. After completing a nine-month training program, they are employed as categorical health workers and supervised by a public health nurse stationed in a country health center. When CHPs were deployed under the demonstration project, some nurse-aides were then on the scene, in a regular government position and receiving a government salary. The turnover rate for CHAs has been high. Those with whom this evaluator spoke were young women who had been working less than one year. They had attended a brief, three-day orientation in training given by county health center staff and were studying the role of the multi-purpose outreach worker, who is under the direction of health center supervisors, but supported and supervised daily by a CHP. None of the CHAs who were interviewed had completed the KHDI training program for CHAs.

The CHAs supplement the staff of PHUs. Without CHAs, the CHP would be solely responsible for health care. CHAs are valuable also for outreach work. The KHDI employs young women who are recent graduates of nurses' aide training programs. A high turnover rate is expected. If a different manpower pool (e.g., mature village women) did the CHA's work, an extensive training program might be needed to develop necessary skills. The amount of training a CHA should have is debatable. The KHDI designed an initial eight-week training course and then presented for a second group a four-week course. Rapid turnover continues. New CHAs may need another course, perhaps a one- or two-week course. Because a CHP is available to help a young CHA in her work, limited training with systematic supervision and continuing education seems to be an appropriate approach to preparing a CHA for the field.

The CHAs who were interviewed felt that additional training was needed to prepare them for their multi-purpose role. One CHA complained that it was unreasonable to expect CHAs to travel on foot to distant villages where they had to stay overnight in a stranger's home. This was an apparently reasonable objection, given the woman's age. The evaluator asked her how she would solve the problem. The CHA replied that a motorbike should be provided. The new "mopeds" would seem to be essential for CHAs assigned to the more isolated villages. The mopeds cost little more than a refrigerator and are easy to operate. Both CHAs and CHPs could make good use of them.

Korea was recently awarded a substantial IBRD loan to train categorical health workers for multi-purpose roles. This is in line with the WHO policy of training basic-level health workers for primary care. Adequate attention must be given to the mid-level workers who are needed to guide and support the lower-level providers. Given the KHDI's perspective on the role and responsibilities of CHAs, Korea should consider using part of the loan to train and develop CHPs. This would be a sound investment of funds.

VHA Training

The funds needed to train and support VHAs are appropriated from the county budget. The KHDl provides technical assistance. WHO's publication, The Primary Health Worker, was translated into Korean and substantively revised and is now used as a training manual for VHAs.

This evaluator could not examine the VHA program in detail. The basic system appears to be sound. A large number of VHAs, who are volunteers, has been recruited and trained. Turnover has been low. The evaluator was unable to determine how actively involved the VHAs become after they are certified.

The evaluator interviewed only one VHA, who presented a model picture of her role, which involved extensive case-finding for the health center. Another VHA was observed with a group planting rice. She wore her VHA badge and cap, which, apparently, helped her to maintain her identity as a VHA. One CHP reported that she and the other CHP in her district (Myoung) recently sponsored a one-day conference for local VHAs at the home of one of the VHAs in that district. This demonstrates that CHPs can and do actively support and direct the work of VHAs.

III. DESIGN FOR A TASK-PERFORMANCE EVALUATION

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Project staff have collected data on the Korean population (see 1976 baseline survey and 1979 post-evaluation survey) and on the clinics in the country. Clinical data are published in monthly activity reports (service contacts) and quarterly record surveys. A time-motion study of CHP and CHA performance in each of the three county demonstration areas also contained useful information on clinics in the country. These data should be studied carefully and, if appropriate, used to evaluate CHP performance.

In evaluating CHP performance, KHDI staff should try to answer the following questions:

1. What do CHPs do? What curative problems do they see? What preventive problems? For what clinical management tasks are they responsible?
2. How much time do CHPs spend on each task?
3. How many patients do CHPs see? To what extent do they serve the entire district to which they are assigned? To what extent is their role limited in the village they serve? How many males receive care? How many females receive care?
4. What is the quality or effectiveness of CHP care?

Task List

An accurate list of CHP tasks is needed for an evaluation and for planning future training. The basic data contained in the time-motion study and other surveys can be collated and the tasks categorized as "curative," "preventive," and "clinical management." The time-motion study was problem-specific and described clearly the CHP's preventive and administrative roles. The curative role is not defined well. Common problems can be identified by examining service contact records. These records show the percentage of time CHPs spend on respiratory problems, gastro-intestinal problems, emergencies, etc. This information can be used to prepare a detailed list and a grid that relates tasks performed to the percentage of time spent on each task and to the patient population served per task.

Quality of Care

The quality of care is difficult to determine. Some outcome measures can be found in the population surveys. For example, a significant change in the number of illnesses prevented through immunization is an indicator of effective-

ness . If an outcome is unclear, process indicators should be sought for each major task identified in the task list. For instance, whether or not outcome measures exist, an effective immunization process (i.e., high percentage of immunizations completed for a target population) would be a good indicator of quality preventive care. No measures of the quality of CHPs' curative care are available, although the time-motion study reveals, for instance, that little time is spent on data collection (history and physical exam) but a considerable amount of time is spent measuring and dispensing drugs.

Physicians can provide useful information about the quality of CHP care. A random sample of one-third to one-half of the PHUs should be selected and each site should be visited. Records for the previous week should be examined and the adequacy of the SOAP data determined. CHPs should be observed treating patients. A fairly accurate assessment of the quality of CHP care could then be made.

IV. FORMULATION OF REVISED CHP TRAINING PROGRAM

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Revision of Curriculum Model or Framework

The hospital training phase is the most important component of CHP training. Plans for future training should, therefore, emphasize a well designed hospital phase. The size of a class and the number of programs will depend on the resources available for training. The length of the hospital phase will depend on the type of training; competency-based training may, for example, require a longer period of hospital training than another approach. Other phases will be revised after plans for the hospital phase have been completed. The length of the field phase will depend on the number of faculty who are available to supervise and support students; the length of the theoretical phase will depend on the amount of time required to prepare students for hospital training.

The following steps constitute a systematic approach to revising the hospital phase of training.

1. Prepare a list of CHP tasks. (This is the starting point for any competency-based training effort.)
2. For each task, prepare a list of minimal skills which students should have before entering the field phase. These "enabling objectives" are the terminal objectives for the hospital phase of training.
3. Formulate a "skill list" for each rotation. (The rotations available during the hospital phase should be considered and the hospital phase objectives (skills to be learned) apportioned among the various rotations.) The skill list must identify exam techniques to be practiced, pathology that must be learned to recognize disease, treatment skills to be practiced, etc.
4. Use the rotation skill list and draw on past experience to determine the normal amount of time a student must spend in each rotation.
5. Determine the minimum length of the hospital phase by summing the length of each rotation (Step 4).
6. Determine which class size will depend on the size of the hospital and the number of students it can absorb in each rotation. This will vary from province to province.

Example: Each student may be required to spend four weeks in internal medicine to practice exam techniques A, B, and C; to learn to recognize pathologies G, H, and I; to learn to identify diagnoses L, M, and N; and to implement treatment plans R, S, and T. The internal medicine department in Provincial Capital X

may have a patient load and sufficient staff to handle four or five students in any one period. Thus, in a four-month period, approximately 20 students could be trained well. This might be the critical rotation, since other rotations would require less time or be able to handle more students. The required time for the hospital phase of competency-based training would be four months and the class limited to 20 students. In another province, where the provincial hospital is larger, a class of 30 might be accommodated. For a small hospital, the class might be limited to 12 students.

Two questions remain. How do we determine the length of the theoretical and field phases? If the ideal class size for Province X is 20, but the provincial government requires 80 CHPs as soon as possible, how will the additional students be trained?

Using a problem-oriented approach, the time required for the theoretical phase can be determined as follows: The students need X days to review interview skills and learn a general screening exam; two days to evaluate this skill; Z days to learn the GI system and its exam; one week to learn the ENT system; four days to study dermatology; one week to understand cardio-respiratory systems; two weeks to learn about pediatrics; etc. The total estimated time to complete Phase 1 might be 10 weeks. Two months might be sufficient time in which to adapt the students to independent rural practice and to complete the faculty's two evaluation visits. Approximately nine months ($2\frac{1}{2} + 4 + 2 + \frac{1}{2}$ (vacation)) of training would be required before a CHP could be considered minimally competent.

There are other problems in revising and expanding CHP training. Teacher training and standardized evaluations are major issues. Competency-based training methods may be applied easily to the curative role because individual skills seem to be more discrete. Preventive and clinical management skills are acquired through affective and interpersonal training (social behavior as opposed to psychomotor behavior). For this reason, field practice and small group work should be required and included in the training program whenever possible to ensure that students continue to develop their preventive skills and to prevent students from concentrating solely on curative medicine.

Limitations on class size will be a problem if a province needs more CHPs than can be trained. Class size can be increased by combining the hospital and field phases and rotating students between the field and the hospital, but this is not an ideal solution, and the length of the hospital phase should not be reduced. The only real way to train 80 students instead of 20 is to find four times as many hospital facilities. Those officials who do not understand competency-based training will try to exert pressure to increase class size. If they succeed and the size of a class is increased, the training students receive will be ineffective.

V. CONCLUSIONS AND RECOMMENDATIONS

V. CONCLUSIONS AND RECOMMENDATIONS

Summary and Conclusions

In August 1980, several outside consultants will make a final evaluation of the CHP training program. The purpose of this review was to raise questions and suggest topics for consideration, not to offer final conclusions or recommendations.

Some important developments have occurred in recent weeks, and these may affect the outcome of the final evaluation. The Health Secretariat in the Korea Health Development Institute, which represents the staff of the National Economic Planning Board, has favorably evaluated the demonstration project and recommends that the training and placement of community health practitioners continue during the next five-year plan, which begins in 1982. The number of persons who will be trained in this period has not been specified, as many as 120 to 150 CHPs may be trained each year and deployed to high-need rural areas.

Under the current five-year plan, the Ministry of Health has assigned internal planning and evaluation to the KHDI and has announced in the Korea Medical Association Bulletin and in the public newspapers that it has accepted the primary care approach and will place CHPs in rural areas in 1981. The number to be trained and placed is higher than the annual number now being considered for training under the 1982-1986 five-year plan. A budget will be submitted to the National Assembly to implement this training. It is hoped that a regular civil service position will be created for CHPs following action on the budget.

Given the apparent political success of this demonstration project, board expansion of the training program may be premature. One might ask whether the new CHP role is stable and substantive enough to become a permanent component of rural Korean primary care. The preliminary findings are positive. With little external technical assistance, the KHDI has made significant progress. It has defined the CHP role, designed a training methodology, and deployed CHPs to rural areas where their services are most needed. The CHPs who have been trained appear to be mature, responsible professionals who are capable of working on their own. They provide curative medical care where none existed before, and they oversee and support a preventive health system that includes outreach workers (CHAs) and village health workers in a comprehensive primary care program that provides MCH care, controls tuberculosis, and delivers family planning services.

General Recommendations

1. In addition to providing information on the number and type of services delivered, the final training evaluation should include sample estimates of the quality of preventive and curative services. These data will be useful in improving training.

2. In view of the anticipated expansion of CHP training, the final external evaluation team should include experts in mid-level health manpower training.
3. The large-scale training and deployment of CHPs will require a more sophisticated technology than is now used to implement the program. Management and supply systems must be created. Additional curricular materials, audio-visual aids, and instructor manuals must be prepared. Trainers must be trained and evaluation methods standardized. Korea has the basic expertise to fulfill these tasks, but may require some technical assistance and international support. Donors have a good opportunity to invest in Korea's future by responding to requests for assistance.
4. USAID should take urgent steps to make additional technical assistance available to the KHDI. (See Recommendation 3.) USAID is in a unique position to provide such assistance because of detailed knowledge of this project. Failure to act expeditiously could jeopardize the long-term success of this important program.

Appendix A
ITINERARY AND PERSONS CONSULTED

Appendix A

ITINERARY AND PERSONS CONSULTED

Sunday, May 18, 1980

Arrive in Seoul

Monday, May 19, 1980

AM Briefing, USAID

William Paupe, AID Mission Chief

Neboysa Brashisch, Program Officer

PM Review, AID Project Files

Tuesday, May 20, 1980

AM Briefing, KHDI

Ryu, Younghat, M.D., President

Chung, Chong-Myun, Secretary-General

PM Review, KHDI Divisional
Operations

Yoone, Kil-Byoung, Manpower Director

Lee, Sung Woo, M.D., Health Projects
Director

Kim, Chu Hewan, M.D., Planning and
Evaluation Director

Chung, Woo Taek, General Affairs
Director

Wednesday, May 21, 1980

Holiday

Thursday, May 22, 1980

AM Review, CHP Training

Yoone, Kil-Byoung, KHDI

Nam, Chul Hyun, KHDI

Kim, Jin Soon, KHDI

PM Review, Evaluation Methods
and Data

Song, Kun-Yong, KHDI

Friday, May 23, 1980

AM, Korea Health Development
Institute, Health
Secretariat

Park, Chong-Kee, Director

Yeone, Ha Cheong

Min, Jae Sung

Friday, May 23, 1980, cont.

PM, Further review of CHP training

Lee, Kae Yong, M.D., KHDI

Saturday, May 24, 1980

Review KHDI documents

Sunday, May 25, 1980

Prepare preliminary draft of report

Monday, May 26, 1980

Ad hoc consultation with KHDI staff

Tuesday, May 27, 1980

Field trip to Hongchon Gun; visit
health center and two PHUs

Yoone, Kil-Byoung, KHDI

Kim, Kong Hyun, KHDI

Wednesday, May 28, 1980

Continue field trip; visit two
additional PHUs and VHA home

Thursday, May 29, 1980

Draft first section of report

Friday, May 30, 1980

AM, Review Findings with Manpower
Division staff

PM, Review Findings with AID Mission
Chief

Saturday, May 31, 1980

Present and discuss findings with KHDI staff;
leave for Seattle at 4:45 PM

Appendix B
DOCUMENTS REVIEWED

Appendix B
DOCUMENTS REVIEWED

AID Documents

Korea Health Development Project, AID-DLC/P-2093, 1975. (Project Paper)

Joint AID/ROK Mid-Term Review, Korea Health Development Institute,
July 20-28, 1978.

Progress Reports (1-16), Korea Health Development Institute. (Submitted
to AID; cover period to March 31, 1980)

AID Project Files

AID File on Honchon Gun Demonstration Area, including:

- a. Site Visit Memo, Ken Smith, USAID, August 22, 1977.
- b. Site Visit Memo, Ken Smith, USAID, January 23, 1978.

AID File on Gunse Gun Demonstration Area, including:

- a. Proposal for FHA Training, Dorothy Knight, SRN
Presbyterian Medical Center, Jeonju, Korea

AID File on Opaku Gun Demonstration Area, including:

- a. Site Visit Memo, Ken Smith, USAID, December 2, 1977.
- b. Site Visit Memo, Ken Smith, USAID, June 19, 1978.

KHDI Documents

Project Brochure, KHDI, 1979.

KHDI Report, 1976-1977.

KHDI Report, 1978-1979.

Workshop on Health Planning, March 29-31, 1978. (Includes summaries of
background health services, research papers by Korean scholars)

Background Papers on Health Demonstration Project, 1978.

Report on Seminars on Saemaul Movement and Promotion of Primary Care Program, October 10, 1979.

Time and Motion Study of Community Health Practitioners and Community Health Aide in Gunee Area, 1980.

Time and Motion Study of Community Health Practitioner and Community Health Aide in Okgu Area, 1980.

Time and Motion Study of Community Health Practitioners and Community Health Aide in Hongchon Area, 1980.

Korea Health Development Institute Documents

Analytical Framework for Evaluating Health Demonstration Projects, February 1978.

First-Round Evaluation of Health Demonstration Project, August 1979.

Development Strategy and Policy Priorities for the Fifth Five-Year Development Plan (draft), April 1980.

Appendix C

BACKGROUND PAPER ON CHP PROGRAM

DEVELOPMENT
OF
COMMUNITY HEALTH PRACTITIONER
TRAINING PROGRAM

by

Kil Byoung Yoone
Chief
Manpower Development Division
KHDI

Chul Hyun Nam
Senior Researcher
KHDI

Jin Soon Kim
Senior Researcher
KHDI

CONTENTS

- I. Introduction
 - II. Objectives of CHP Training
 - III. Main Functions of CHP
 - IV. Selection Procedure
 - V. Material Development
 - VI. Training Schedule
 - VII. Instructor and Preceptor
 - VIII. Management of Course
 - IX. Curriculum Development
 - Orientation
 - Theoretical phase
 - Clinical practice
 - Field practice
 - X. Evaluation
- Annex:

I. INTRODUCTION

The rationale for introducing new primary health care manpower in the KHDI program has been eloquently explored with the actual supportive description of soundness analysis in the CP Section III.

It has been assumed that from the current development of health manpower resources and deployment patterns of health and medical manpower, there exists and will persist an acute shortage of health services at the rural community level in this country.

At the same time there is good evidence and theoretical consensus that a large portion of the health service can be delivered by some type of middle-level health workers with competency-based training to deal with common conditions of needy people. On the basis of the US/Korea loan agreement the Minister of Health and Social Affairs granted the authorization to train CHPs for health care demonstration project of KHDI.

Since this was an educational novelty for Korea-teaching specific functions to perform professional skills to create common conditions and symptoms of people-some intensive preparation took place at KHDI, including:

- Determining what role the CHP was to undertake
- Curriculum development with essential core skills
- Modular text-material development
- Trainer orientation training
- Technical consultation with advisors
- Assimilation of training materials from abroad

The program encountered many constraints, not the least of which was the short period of time (3 months) to develop and impart technical education-training to instill competent skills, to produce a multipurpose curative, promotive and preventive health-service worker.

The following is a resume of our CHP training program.

II. OBJECTIVES OF CHP TRAINING

The educational component of the training program is directed toward attainment of the following five objectives.

First to devise a training system with competency-based training to develop an innovative health worker. Toward this aim, the program has attempted to establish acceptable levels of primary health care in rural areas, with a health care delivery system which permits

progressive evaluation of clinical performance of trainees throughout training.

Second to instill necessary health care knowledge and skills for implementing the project.

Third to organize teaching content relating directly to the CHP's functions as a competent primary health care provider. In this regard, several subject areas (such as curative services including physical examination, and preventive health services regarding maternal & child health, sanitation, communicable disease control, and health education, etc), essential to performing a given function, are integrated to deliver comprehensive community health services.

Fourth to provide a realistic environment in which to learn primary health care independently. Therefore, most of the field training was carried out in an active health care setting the primary health units in the demonstration areas.

Finally, the fifth objectives was to upgrade the quality of Community Health Practitioners to provide better health care services for the residents in rural areas.

III. MAIN FUNCTIONS OF CHP

CHPs are a new category of health personnel to Korea, and are similar to nurse practitioners or the Medex personnel now being utilized in other countries. CHPs work with physicians or independently under their direction.

Their main functions can be summarized as

a. Curative services, to

- Deliver primary and ambulatory health care including home visiting
- Identify most common disease
- Take general medical histories
- Perform physical examinations
- Handle frequently required laboratory tests
- Provide treatment for a defined range of conditions
- Provide treatment prescribed by a physician including regular follow up of chronically ill patients
- Make efficient referrals of complicated cases

b. Preventive Services, to

- Administer immunization
- Provide ante-and post-natal care
- Attend normal delivery
- Provide nutritional guidance
- Undertake public health education
- Carry out family planning
- Control communicable diseases: tuberculosis, venereal disease, etc
- Enlighten the residents about sanitation

c. Others, to

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

IV. SELECTION PROCEDURES

Qualified CHP applicants should be registered nurses with at least one year of work experience in the health field. Applicants are screened on the basis of applications, personal career and other documents recommended to KHDI by the Gun Health Care Steering Committee. Preference is given to residents of the pilot demonstration area, with the first priority given to qualified nurses already working in the area.

Additionally, the CHPs to be selected for training must agree to serve for the health project "Maul Geon Gang Saup" in the assigned area for a minimum of 2 years after the training. Candidates for positions as recommended CHP's are required to face the concurrence of the provincial authorities.

Upon the recommendation of the provincial and county governor, KHDI conducts the examinations and interviews of the candidates. By reinforcing the levels of knowledge and skills of experienced candidates, it is assumed to be advantageous for KHDI to develop the new CHP in a short period of time-one year. Emphasis will be on developing competence to perform specific tasks, rather than diploma or degree. The focus of the interviews is placed on three areas: health knowledge regarding technical aspects, personal characteristics and other relevant factors.

To facilitate interview-evaluation, a rating formula sheet is prepared on each applicant which includes information on formal training, clinical experience, technical knowledge and other background information. Based on data from the summary sheet and the interview itself, the interviewers assess the candidate according to the following items:

a. Health knowledge and technical aspects

- General health knowledge
- Clinical experience
- Educational and training background

b. Personal characteristics

- Motivation to be a CHP
- Enthusiasm and desire
- Attitude
- Expression & communication
- Sincerity/honesty
- Potential

c. Other relevant factors

- Place of growth
- Age
- Health status
- Appearance

At the end of the test, each interviewer rates each candidate interviewed on a 10 point scale using a form on which the individual indicators or assessments were listed, and the final CHP candidates are selected by the order of rating from the top.

An examination regarding professional subjects such as clinical practice, internal and surgical nursing, health administration and sanitation, has been tested to preliminary screen applicants and the interview has been additionally given to the candidate.

Actually, a total of 25 CHPs was selected from three demonstration units: 11 from Hongchon, 9 from Okgu and 5 from Guneo, 14 CHPs (5 in Hongchon, 6 in Okgu, 3 in Guneo) were grouped in "A" batch and the remaining 11 CHPs in "B" batch. The concept of two batches of trainees- "A" and "B" - provides for early field deployment of personnel, and a demonstrative impact in the community which they serve.

V. TRAINING SCHEDULE

The community health practitioner training program lasted approximately twelve months. The one year training course was separated into 3 months' classroom training, 3 months' clinical practice and 6 months' field practice. The classroom training (including orientation) was carried out in KHDI Headquarters. The clinical practice was given at the referral hospitals located in or near each demonstration area.

The field practice training regarding practical primary care and prevention of disease for communities was carried out at the community health centers and primary health units in the demonstration areas. The training program was actually divided into four phases: orientation, theoretical classroom education, clinical practice and field practice, as indicated below.

Year Month Training Phase	1977						1978					
	JL	A	S	O	N	D	J	F	Mr	A	M	J
Classroom orientation	A B											
Theoretical classroom		A					B					
Hospital practice				A							B	
Field practice				B					A			

* A = A Batch of CHP (14 persons)

B = B Batch of CHP (11 persons)

The chronology of the training program carried out is summarized as follows:

1. Dec. 38, 1978
Request of approval of the CHP training course from the Minister of Health and Social Affairs.
2. Jan. 8, 1977
One year CHP training course approved by MHSa.
3. May 20 - Jul. 1, 1977
45 CHP candidates recommended from the demonstration areas to KHDI.
4. Jun. 8 - 31, 1977
Final training program FY 77 developed and reported to MHSa.
5. Jul. 2, 1977
The authorized number of CHPs (25 nurses) were selected by KHDI through an examination and interview test, and reported to MHSa.
6. Jul. 4, 1977
The opening ceremony of the CHP training course held at the auditorium, the Korean Nursing Association.
7. Jul. 4 - 16, 1977
Selected CHP trainees in A and B batches received a two weeks' orientation course.
8. Jul. 13 - 14, 1977
During the orientation, a field trip was made to observe an existing health demonstration site, Chun Sung Gun, conducted by School of Public Health, Seoul National University.
9. Jul. 18 - Sep. 24, 1977
Theoretical classroom training for batch "A" conducted at KHDI.

10. Sep. 29 - Dec. 24, 1977
Clinical practice for batch "A" in the following referral hospitals for 12 weeks.
 - a. Kang Won Medical Center (Chun Cheon City) = 5 persons
 - b. Taegu City Hospital and Taegu MCH Center (Taegu City) = 3 persons
 - c. Kun San Provincial Hospital & Seagrave Hospital (Kun San City) = 6 persons
11. Jul. 18 - Dec. 31, 1977
CHP "B" batch deployed for field practice
12. Nov. 18 - 19, Nov. 23 - 24, 1977
11 community physicians from the three pilot guns (Hongchon 4, Okgu 3, Gune 4) received a 2 day orientation at KHDI. They made one day field observation trip to Kang Hwa Health Demonstration Gun conducted by Yeonsei University.
13. Jan. 4 - Jun. 28, 1978
CHP "A" batch trainees replaced the CHP "B" batch in the field.
14. Jan. 4 - Mar. 18, 1978
CHP "B" batch classroom education at KHDI.
15. May 2 - 4, 1978
8 Community physician (Hongchon 3, Gune 3, Okgu 2) received 3 day orientation at KHDI. During the session, a 2 day field observation tour was conducted to the primary health unit in Hongchon.
16. Mar. 27 - Jun. 17, 1978
The clinical practice under the preceptor was given to all CHP "B" batch in the Kang Won Medical Center.
17. Jun. 23, 1978
The committee on training affairs for final training review and approval held at KHDI, and as a result of evaluation assessment in the committee, 21 trainees were passed and 2 failed.
18. Jun. 29, 1978
The 1st commencement ceremony for CHP training course at KHDI conference room, with 21 graduates.

19. Jul. 1, 1978

21 CHP graduates (10 in Hongchon 7 in Okgu and 4 in Gunee) assigned to the field in the demonstration units to carry out their duties for the communities.

VI. DEVELOPMENT OF MATERIALS

It is very important for the training program to develop competency-based curriculum and educational materials regarding primary health care and community health services. Following studies of the Thailand training materials, Hawaii & Seattle materials, the basic health service program of Afghanistan and flow charts issued by WHO, the trainer team at KHDI decided to develop some training materials by field or area of speciality. A 20-member task force was formed to prepare draft manuscripts regarding competency-based training for the CHP program.

The task force team consisted of specialists from medical departments in hospitals, professors in universities, researchers in related institutes and KHDI staff.

The draft manuscripts received from the task force team members were reviewed on the basis of modular approach and compiled by the trainers of KHDI. Six volumes of educational materials were published and distributed to the CHPs, lecturers and preceptors to carry out the training more effectively.

The subjects of the six volumes were as follows:

- Volume I : Internal medicine (Respiratory, Circulatory, Digestive, Urinogenital, Neuro-disease), Pediatrics, Psychology.
- Volume II : Surgery, Obstetrics, Ophthalmology, E.N.T. Dermatology, Dentistry, Emergency medicine
- Volume III : Diagnostics, Gynecology, Laboratory, Pharmacology, Health education, Health nursing practice, Rural sanitation.
- Volume IV : Health administration, Law and regulation
- Volume V : Emergency care
- Volume VI : Use & management of drugs

These materials will be continuously modified and improved by trainer teams at KHDI and through on-the-job training of the CHP.

Additionally, slides and materials on a considerable number of subjects, including the models of pelvis and genital organs, has been developed and utilized for audiovisual education. Moreover, other A.V. materials have been obtained to educate CHPs and other health personnel and also to enlighten the residents.

Main types of materials are listed below:

1. Slides

- 1) Parasite control I. II.
- 2) Health management in field of industry
- 3) Dental hygiene
- 4) Maternal and child health
- 5) Sex education today
- 6) Nutrition and health
- 7) Tuberculosis control I. II.
- 8) Feeding the child
- 9) Medical Insurance
- 10) Family planning
- 11) Protection for eyes
- 12) Health in the rural community
- 13) Sex education for young generation
- 14) Instruction to KHDI

2. Models

- 1) Pelvis
- 2) Genital organ of woman
- 3) Doll

3. Film & film strips

- 1) Human reproduction
- 2) Normal delivery
- 3) Family planning: vasectomy, tubal ligation
- 4) Emergency care

VII. INSTRUCTOR AND PRECEPTOR

Ideally, it is essential to have a sufficiently high faculty-to-trainee ratio to permit individualized teaching and monitoring necessary to ensure competency. However, this affluence of training manpower and experienced trainers was not available due to the rather new methodology and to the innovative nature of the training project as a whole.

Instructors and other personnel for CHP classroom training were recruited from medical facilities, nursing colleges, health service institutes and hospitals, etc. Most of them joined in the task force team for material compilation and served as part-time instructors in their major subjects in the theory course. Preceptors were selected from physicians who could provide primary health care in the hospitals.

They were asked to utilize their hospital facilities for didacting purposes on a personal basis during the three months' period of rotation practice in preceptorship. The program has attempted to respond to specific practice needs of preceptors as well as to the problem of primary care maldistribution in the rural area. The preceptorship was considered to be a particularly effective pattern of clinical teaching, a one-to-one relationship.

It is quite clear that the content and technique of guidance and supervision practiced by each physician as preceptor exerted great influences on the quality of training preceptorship. The factors considered to select an instructor and a preceptor are as follows:

- Interest and ability to teach
- Receptive attitude concerning CHP and willingness to collaborate with the program in teaching and learning
- Agreement to evaluate trainee performance
- Association with providing primary care

In order to provide efficient preceptorship, orientation training for preceptor-supervisors was conducted at each hospital involved and the subjects of the orientation were as follows:

- Background on the importance of CHP training
- How Maul Geongang Saup operates
- The roles and functions of CHP
- Objectives of hospital practice
- Evaluative and administrative aspects of clinical practice for CHP

- Contents of classroom training
- Detailed explanation of the program, with particular emphasis on the necessity for the preceptor to accept the CHP.

In field practice, the close field supervision of the activities of CHP trainees was conducted by the county health center directors, community health center directors, KHDI technical advisors, and KHDI field supervisory doctors and trainers during six months' field training. Community physicians (Gun health center directors, community health center directors, Myon health subcenter directors, and physicians under resident course) received orientation regarding preceptor-supervisorship of CHP.

They arranged to have some regular meetings, if not a weekly meeting together, in addition to an on-the-spot check-guidance system when they made field visits to each CHP's post. Also, the physician provided guidance by telephone when needed by CHPs in certain areas, plus a regular monthly joint session with CHP trainees, community physicians, a KHDI technical advisor, and KHDI supervisory physicians or trainers.

VIII. MANAGEMENT OF TRAINING COURSE

A detailed yearly training plan was designed to carry out the program systemically and effectively, and the training procedures and steps were carried out in accordance with the yearly training plan. Also, a committee on training affairs was organized to discuss various important subjects such as curriculum, materials, schedules, evaluation, certificate and award, screening and selection.

The training team at KHDI initially consisted of two physicians, a social development educator a nursing specialist and public health specialist with a license of pharmacist. These trainers have been actively involved and have participated in planning and running the training course. They also lectured on various topics.

In training methodology, the emphasis was placed on group discussion, audio-visual instruction, practical work, experiments, observation and role playing. There was a scholarship system whereby the CHP trainees received a scholarship or stipend covering housing allowance instead of their salary during the six months' classroom and hospital training away from their assigned counties. Consequently, they received their compensation as temporary government officials of the assigned counties during the six months' of field practice.

Unfortunately, 2 trainees in "B" batch selected from Okgu pilot area dropped out for individual reasons. Moreover, by the aggregate results of the final evaluation assessment, 21 trainees were passed and 2 failed with the consensus of the academic and achievement assessment committee on training affairs. The average age of passed CHPs was 27.8 years with a range of 23 - 45 years, and the average duration of their experience in the field of health was 4.4 years with a range of 1 - 18 years.

The per capita cost of CHP training appears to be rather expensive for it is an initial experimentation project which requires a large capital investment for various training materials, modular texts, honoraria and training supplies.

The unit cost of CHP "A" batch (the first trainee group) was estimated approximately at \$1,890, where as the "B" batch (the second group) was reduced to \$1,450. It will be quite safe to assume that the projected estimation of the unit cost per trained CHP will be around \$1,000 or less, when the training is run by an institutionalized system.

IX. CURRICULUM DEVELOPMENT

1. Curriculum objectives:

- (1) Identify the health status of the individual by taking a health history, performing an appropriate physical examination, initiating appropriate preventive, screening and diagnostic procedures.
- (2) Provide the knowledge and skills for the management of minor trauma and common health problems of the individual with appropriate intervention.
- (3) Assume responsibility for on-going health maintenance and clinical management of stable or chronically ill patients.
- (4) Identify the need for continuity of care for individuals and families and coordinate the health care needs of patients through appropriate intervention, consultation and referrals based on data obtained by the CHP or other members of health care team.
- (5) Provide relevant health counseling and guidance to individuals and families.

- (6) Relate individual and family health problems to the community and identify emerging health problems by working and participating with community development organizations.

2. Curriculum content

A. Orientation phase:

The initial two-week phase of orientation included the following objectives:

- (1) To develop the right mental attitude as a service-change agent in remote rural setting.
- (2) Be able to understand CHP's role and function in an innovative health care delivery system.
- (3) Be able to understand a new concept of health care approach and other related factors to facilitate the community health.
- (4) Be able to provide preventive care delivered by existing health center network continuously.

To meet the above mentioned objectives, every emphasis has been placed on professional attitude, human relations and understanding of community structure involved with the demonstration project. Several instructors from various institutes, such as School of Public Health, Ministry of Health, and KHDI trainers were made available for the training. During this phase, pre-tests, written examinations, group sessions and observation tours were conducted. The curriculum of this orientation phase is described in Annex (1).

B. Theoretical phases:

A total of 10 weeks of theory was divided into five major content areas:

- (1) Management of health and illness
- (2) Diagnostic procedures
- (3) Laboratory and medication

- (4) Related community health maintenance
- (5) Community involvement and others

During this phase, the trainees were required to gain understanding of, and increase competence in data collection with analysis and synthesis, pathological processes related to common primary care problems and manifestations there upon. The trainees were thus instructed intensively in basic knowledge and skills in order to provide comprehensive primary care services.

(1) Management of health and illness

This area was divided into five management components: medical problems, surgical problems, OB-GYN, Pediatrics and emergency care.

The qualified nurses were in general familiar with the care of the patient including observation, measurement, nursing assessment, education, counseling and so on. But in order to perform their ability in managing patients and individual health independently, or within their limitations.

- a. For the managing of medical and surgical health problems, the instruction was initially focused on minor diseases common to the rural community, such as upper respiratory, gastrointestinal problems, skin problems, wound care including I & D, suturing, dressing and other related would care. Also included were neurological, genitourinary, emotional, endocrine, musculoskeletal, ENT and dental problems.

The management of disease included etiology, symptoms identification, assessment and treatment, follow up and referral procedure.

- b. Obstetrical health management was also emphasized during this phase for the high home delivery rate of 85%-90%; one of the important roles of CHP is enlightening the mother to get a healthy baby born and attending to direct delivery care at home, also the continued perinatal care for normal delivery. Identification of normal abnormal condition and newborn care were instructed with lecture, films, slides and model as supplementary teaching aides.

- c. Pediatric health management emphasized care of the well child, physical diagnosis, developmental aspects and common medical problems encountered in childhood.

The trainees were instructed about age specific growth and development, interviewing to obtain a health history, and physical examination, through lecture and use of slides and films.

Common signs, symptoms, and diseases such as diarrhea, fever, gastrointestinal diseases, common cold, respiratory system problems, skin disorders, rashes and identification of communicable disease were also covered.

Care of the well child included: Accident prevention or safety counseling, immunization, diet and weaning counseling.

- d. First aid and emergency care aspect:

Instruction in first aid aims not only to teach the knowledge base for managing emergency problems, but also to develop the emergency skills necessary to respond to commonly encountered emergency situations.

Contents of this area included:

- Principles and procedures in the administration of first aid
- Individual responsibility and legal implications in emergency care
- Physical check of the injured
- Wounds, shock asphyxia, poison, bone, joint, and muscle injuries
- Poisonous bites and stings such as snake and insect bite
- Practical applications such as essential techniques of bandaging and splinting, cautious transportation and use of first-aid supplies.

(2) Diagnostic procedures

A second content area concerned instruction in physical diagnosis skills, by basic means of history taking and physical examination. This was imparted as early as possible because the knowledge and skills are to reinforce for the CHP clinically-related experiences most lacking from their previous training. The contents included are as follows:

- How to obtain and record a complete medical history: identifying data, patient profile, chief complaint, present illness, past medical history, family history, thorough review of system, socio-cultural factors.
- Identifying significant subjective findings (symptoms)
- Performing and recording a complete physical examination
- Increasing skill in the proper use of physical examination tools: Vital signs and measurements, general appearance and system review through use of techniques such as inspection, palpation, percussion and auscultation.

The trainees were taught the content or questions of basic history and the appropriate sequence and technique for obtaining the history. Instructional methods included lectures, demonstration and practicing on each other as pseudo client by using the stethoscope, hammer, ophthalmoscope and otoscope. The use of SOAP (Subjective-Objective-Assessment-Plan) method was introduced during the course of health history and physical examination, and precise recording and verbal presentations were done. The actual practicing with a patient was done in the hospital clinical setting.

(3) Laboratory and medication

The trainees were instructed in utilizing laboratory tests basic to primary health care. Most of trainees found that they had great difficulty with laboratory work, so the instruction was concentrated on collection and keeping of specimens and preparatory work for the test, technique and theory of blood, urine and stool test.

The scope of the laboratory tests were based on the levels of CHP's skills. The instructional methods included lectures, use of slides and practicing. The trainees were brought into the laboratory

institute, NIH, for practice in the use of microscope, parasite examination in collected specimens and interpretation of findings.

Another content area concerned medications and particularly understanding of drug action, side effects and toxicity essential to provide adequate patient treatment.

The content related to medication included:

- General introduction to pharmacology
- Administration of drugs
- Management of drugs
- Drug action, side effects, antagonistic action and toxicity; Local anti-infectives

Vitamins

Sulfonamides

Antituberculosis agents

Antibiotics

Antihistamines

Local anesthetics

Diuretics

Respiratory stimulants

Stomachics and digestives, antacid, emetics and antiemetics

Drugs acting on circulatory system

Sympathomimetics/Sympatholytic agents/parasympatholytics

Antiallergenic agents

Throughout the instruction course, the CHP's were advised to handle and administer such limited drugs for curative practices as listed in attached annex (2).

(4) Related community health maintenance

This area concerned instruction in the basic concept of community health, health issues related to improving community health and delivery of health care services. The aim was to provide effectively for preventive health services and health maintenance services.

Topics covered are as follows:

- Epidemiology including communicable diseases
- Health education
- School health
- Applied nutrition
- Environmental sanitation
- Vital statistics

The instructional methods were with the use of slides, group discussion, lecture and use of pamphlets.

(5) Community involvement and others

The trainees were instructed to be able to provide clinic organization and management, home visiting, planning of work program, supervision of health workers, organizing of voluntary health resources in community, participating with community development organization, family health care, nursing process and problem oriented follow-up care. In addition, the techniques of group dynamics, interview and counseling issues were included.

C. Clinical Practice

Clinical practice was the second phase of CHP training and was a continual part of preceptorship or internship.

It directly followed the theoretical phase of training and lasted for 3 months.

The primary educational goal of the preceptorship was to learn to diagnose and manage commonly encountered acute, chronic, emergent and health maintenance care problems.

Additionally, it is aimed to continue expanding the knowledge and skills learned during the theoretical phase. Trainees are rotated as scheduled through such departments as medicine, surgery, OB/GY, pediatrics, emergency room, dermatology, laboratory, and pharmacy. The basic framework for the CHP trainees in caring for a patient is as follows:

- History taking
- Physical examination
- Treatment plan, including diagnostic studies, medications to be ordered or continued other specific treatments
- Teaching
- Counseling
- Referrals
- Follow-up

Performance Objectives for Preceptors:

- 1) Select patients as necessary
- 2) Assist in the CHP trainee's acquisition of clinical skills
- 3) Help the CHP trainees work in an effective, efficient manner
- 4) Identify trainee's strengths and weaknesses
- 5) Evaluate the trainee's clinical performance

Performance Objectives for CHP Trainees:

- 1) Take a health history and record it
- 2) Perform a physical examination and record it

- 3) Formulate and implement a treatment plan, including diagnostic studies, nursing procedures, teaching, counseling, referrals, follow-up

A successful teaching-learning experience during the preceptorship requires a close working relationship among preceptors, trainees, and trainer, KHDI. The initial step in planning for the preceptorship was in a preceptor orientation-conference prior to the beginning of this phase. During the preceptorship period, KHDI trainers contacted the preceptors and trainees on a regular basis so that KHDI was able to obtain information on progress and help in problem solving in administrative and technical aspects.

In addition, the preceptor kept observing actual CHP performance in dealing with patients, patient chart review, and use of the SOAP record format as included among the ongoing activities. The patient chart developed in line with the SOAP format, provided a means of assessing the adequacy and diversity of the types of patients seen. Each trainee maintained a daily contact record form and the contact record was submitted weekly for review by the KHDI.

According to the submitted record, each trainee was able to have contact with approximately 5 - 10 cases/day during the preceptorship period.

The following levels of skills assumed to be acquired by CHPs throughout the didactic training phase

1. Ability to take general assessment:
 - Record the findings of health history taking and physical examination
 - Inspection, palpation, percussion, and auscultation
 - Examination of pupil reflexes, eye movements
 - Inspection of the external auditory canals and ear drum
 - Auscultation of the heart and lungs
 - Palpation of the abdomen

- Examination of the external genitalia
 - Home visiting
 - Counseling
 - Interviewing
 - Health education
2. Ability to perform the following tests
- Hematology ESR. Hb. Ht. Blood cell counts. Blood typing
Specimen collection and delivery for serological tests
 - Urinalysis: Sugar, protein, PH. Specific gravity
 - Stool examination: parasites
 - Rectal swab for bacteriological smear
3. Ability to take specific assessment
- Obs: Pap smear
- Bimanual pelvic examination
- Normal delivery
- Perinatal care
- IUD insertion
- Emergency care : Minor trauma, suturing, first aid
- Pediatrics : Immunizations, pediatric examination
4. Ability to provide community health services
- Community health planning
 - Supervision
 - Referrals
 - Community involvement

- Mass immunization
 - Work with community volunteers
5. Ability to provide partial and complete medical care as follows:
- 1) Respiratory disorders
 - Cough
 - Wheezing
 - Acute bronchitis
 - Upper respiratory infection
 - 2) Gastrointestinal disorders
 - Vomiting
 - Abdominal pain
 - Diarrhea
 - Constipation
 - Parasites
 - Acute gastritis
 - Gastric ulcer
 - 3) Cardio-vascular disorders
 - Hypertension
 - Varicose vein
 - 4) Neurological and emotional disorders
 - Headache
 - Fainting
 - Vertigo
 - Epilepsy

- Hysteria
- Depression
- Nervousness
- 5) Urinary tract disorders
 - Cystitis
- 6) Endocrine disorders
 - Diabetes
 - Thyroid disorders
- 7) Musculoskeletal disorders
 - Low back pain
 - Sprains, strains
- 8) Trauma and other surgical problems
 - Lacerations
 - Abrasions
 - Puncture wounds
 - Burn
 - Insect bites
 - Snake bites
- 9) Ob/Gyn
 - Menstrual irregularities
 - Vaginitis
 - Menopause

10) Child health care

Well baby care:

- Growth and development deviations
- Feeding problems

Sick baby care:

- Upper respiratory infection
- Fever
- Minor diarrhea

11) Eye disorders

- Foreign body
- Conjunctivitis
- Stye
- Hordeolum

12) ENT/Dental disorders

- Ear ache
- Epistaxis
- Cerumen in ear canal
- Acute pharyngitis
- Acute tonsillitis
- Otitis media
- Rhinitis
- Stomatitis

13) Skin disorders

- Dermatitis including Seborrheic, contact, neuro
- Tinea capitis
- Infantile eczema
- Sycosis vulgaris
- Herpes simplex
- Allergic cheilitis
- Instertrigo
- Childhood atopic derm
- Miliaria
- Atopic eczema
- Nummular eczema
- Tinea pedis
- Kerataderma
- Scabies
- Disper rash

D. Field practice experience

The field practice for 24 weeks was carried out on the job situation in each demonstration area.

The principal objectives of this field practice are as follows:

1. Provide an opportunity to apply attained knowledge and skills to actual field setting in rural community.

2. Provide curative care services to patients with minor and chronic health problems.
3. Provide preventive and promotive health services to individuals and families.
4. Organize the primary health unit or post for daily work preparation and supervision of health workers such as CHA and VHA.
5. Identify the health problem by working and participating with community development organizations.

According to the training schedule, the trainees carried out their daily work with carefully planned working programs.

At the beginning stage of practice, the trainees were more concerned with curative care rather than health care services to the rural community. But gradually, the trainees shifted their services to providing more preventive and promotive health services.

Main activities provided by CHP during field practice were as follows:

1. Health assessment with history taking and physical examination.
2. Treatment of common and minor health problems
3. Identifying the complicated health problems and referring to the appropriate level.
4. Emergency care.
5. Perinatal care and normal delivery, IUD insertion in Family Planning Services.
6. Child health care such as immunization and health assessment and counseling.
7. Health education
8. Supervision of health workers on regular basis.
9. Regular meeting and conference with the village health agent.

10. Regular participating in conference with the community development organization.
11. Follow up for chronic patients and referred cases back from a higher level through home visiting or clinic activities.
12. Organizing and planning of weekly or monthly work schedule.
13. Keeping health-related records up to date.
14. Maintain and request supplies such as drugs, materials regarding the health services and administration instruments.

They were encouraged to expose themselves as much as possible to various community organizations during their stay in the assigned area, in order to improve their community-oriented organizational involvement and their associations with local leaders, so that they become familiarized with what other development or social changes are taking place from time to time.

In accordance with the work schedule, the trainees were able to supervise the health workers in their assigned area every 1-2 weeks, to maintain contact meetings with VHA and community development organizations, maintain well baby and maternity clinics in certain areas and participate in monthly meeting with various health workers at Health Center, besides daily running of the clinic.

To facilitate the CHPs activities and solve the problems encountered in the field setting, the Field Officer of KHDI, who stayed on full time basis in the field, guided and supervised CHPs, and the Doctor-Supervisor of KHDI instructed supervised them on a regular basis. In addition, the county health center directors and trainers of KHDI were also involved in monitoring the field practice.

The trainees reported a summary of activities to the health center monthly and were evaluated through self assessment forms regarding skills and management for health care services and general reaction toward the field practice.

X. EVALUATION

A major purpose of evaluating any health educational program is to objectively assess the degree to which program goals and objectives have been achieved. The evaluation should measure generally cognitive process, attitude, interests, motivations and skills of trainees. Evaluation of the curriculum is a continuing process, whereby we assess the effectiveness of the educational program and continuously modify and improve the content. Pretest, midterm and final tests were conducted during the theoretical phase, skill and management in the clinical preceptorship phase; and knowledges, skill, management and attitude in field practice.

Pretest: It was conducted during the first week of orientation and again at the end of the tenth week

It's purpose was to identify the strengths and limitations of each trainee at the outset of training. It also allowed the trainee and the planner to individualize training to the maximum extend possible, an important factor in better understanding the level to which the instruction most appropriately is geared. Actually, the written test for pretest was done with 15 "open" questions in terms of the overall health services basic knowledge needed for health management.

Theoretical phase:

This was a didactic intensive phase to attain knowledge and skills for management of common illnesses and preventive health, related to performing of actual roles and functions. Various test scores for rating and level of completion and units of mastery were used. The evaluation methods were written examination (open questions or multiple-choice), interviewing, observation with skill practicing, and combined tests. The evaluation was to determine the extent to which trainees can apply the knowledge and skill in the real community setting as well as comprehension of the subject.

In the curative subject examination, both "open" and "closed" questions were combined for tests covering identification of symptoms, diagnosis, treatment plan, nursing care and medication. Obstetrics questions were particularly focused on perinatal care and management of normal delivery. Interview and counseling skills were assessed by instructor-observers as well as trainees interviewing one another. Data collection skills such as history taking and physical examination were tested with both written and practical procedures. The non-curative subjects, such as community health and administration, nursing management, were tested with applied questions which the trainees will eventually encounter in the field.

In summary of the theoretical phase evaluation, for all trainees, there were

1. Pre-tests in first week of program
2. Observation and practicing, written examinations during 4th week, 6th week, 8th week and 10th week

Additionally the reaction of the trainees was checked regarding the instructional method, contents of instruction and scope of subjects and a few review conferences with the trainees and training staff held to modify the training methodology.

Finally, the individual assessments were made regarding the theoretical achievement of the trainee at the end of the 12th week to determine whether the trainee could move to the next phase of training or not.

Clinical Practice

The evaluation for clinical practice was based on the skills and performance for history taking, physical examination, treatment plan for common diseases, recording findings and counseling for further care. Preceptors of various departments in the clinical setting assessed the above mentioned skills and performance during 12 weeks practice, each trainee was evaluated 6 times with form attached (No.3).

Field practice experiences

During this phase, the trainees were in an on-the-job situation to provide an opportunity for actual field practice in the rural communities where clients came for medicare services, imposing supervisory workload for CHA & VHA and conducting preventive or educational campaigns for villagers.

The following various aspects were taken into consideration for evaluation during this phase.

1. Evaluation by Health Center Directors or Doctor-Supervisor of KHDI using evaluation form (Annex NO. 9)

This evaluation focused on skills and performance in managing common diseases and preventive tasks such as maternal care, child care and Family Planning. In addition, administrative management skills and performance such as supervision of low

level health workers, organization of clinic setting, keeping of health-related records and management of supplies were tested. Also, adaptation and attitude of the CHP toward performing their role and function in the community were included.

2. Field supervisory trainer-doctors of KHDI visited the trainees on a regular basis and were able to make commentary-evaluative reports through the conference with the trainee after observation of the trainee's performance, checking of the patient chart and their relationship with the community.
3. The trainers from the Manpower Division and field officers of KHDI also supervised and made commentary-evaluative reports concerning administrative and preventive performance and adaptation to the community situation.

These various rating factors were synthesized to reach an overall decision about the trainee's performance during this phase. These reports were accumulated and processed from the class instruction and field and clinical hospitals and calculated, tabulated and finalized with a weighting ratio of 30% theory instruction, 30% clinical practice and 40% field-community practice.

The aggregate results of all these achievement and assessments of each trainee were analyzed, and presented to the KHDI scholastic Assessment Committee for final review and approval in determining who "passed" and who "failed".

Annex 1Summary of Didactic Hours1. Orientation phase training: 2 weeks/66

<u>Subjects</u>	<u>Hours</u>
Introduction to Maul Geon Gang Saup	3
Health care delivery system in Korea/Abroad	3
Observation tour to existing health demonstration project	12
Introduction to community health	2
Community survey	2
Introduction to health need	2
Health center administration	3
Medical insurance scheme	3
Yoo Shin philosophy and Saemaul movement	3
Social development and health services	4
Community development and health-related resources utilization	6
Role and function of CHP	3
Supervision of health workers	4
Report and record keeping	6
Introduction to module approach	6
Others including pretest and final test with short resume	4

2. Theoretical phase training: 10 weeks/330

	<u>Subjects</u>	<u>Hours</u>
A.	Community health related	<u>46</u>
	Communicable disease control including tuberculosis	12
	Health education	10
	School health	3
	Nutrition	8
	Environmental sanitation	7
	vital statistics	6
B.	Community development	<u>23</u>
	Group dynamics	9
	Counseling Techniques	6
	Organization of health resources and community agencies	8
C.	Core skills	<u>47</u>
	History taking	11
	Physical examination	20
	Laboratory	15
D.	Management of health illness	<u>175</u>
	Medical problems including	49
	- Respiratory	
	- Gastrointestinal	
	- Cardiovascular	

- Neurological	
- Genitourinary	
- Dermatology	
- Psychiatric	
Surgical problems including	<u>28</u>
- General surgery	
- Orthopedics	
- Eye ear nose throat	
- Dental	
Maternal and child health	68
Emergency care	12
Use of drugs and management	18
3. <u>Clinical practice phase: 12 weeks/456</u>	<u>39</u>
<u>Weeks</u>	<u>Hours</u>
Medicine 3-4 weeks	114-152
Surgery 1 week	38
Ob-Gyn 3 weeks	114
Pediatrics 1-2 weeks	38-76
Emergency care 1-2 weeks	38-76
Laboratory 1 week	38

Annex 2List of Drugs to be handled and administered
by CHP for Curative Services

1. Adrenaline
2. Alum
3. Alupent
4. Aluminium hydroxide gel
5. Ammonium chloride
6. Ampicilline
7. Antivemin
8. Assorbic acid
9. Aspirin
10. Ativan
11. Atropine, sulfate
12. Avil
13. Baralgin
14. Bactrim
15. Banzddine penicilline G.
16. Benzalkonium chloride
17. Bisacodyl
18. Boric acid
19. Buscopan
20. Calamine lotion
21. Cambisonet ointment
22. Chloramphenicol
23. Chlorpheniramine maleate
24. Combantrin
25. Cough syrup
26. Dextran
27. Dextrose injection
28. Digoxine
29. Dramamine
30. Ephedrine sulfate
31. Ergot
32. Ferrous sulfate
33. Flagyl
34. Furazolidone
35. Gentian violet
36. Hydrogen peroxide solution
37. Hydrochlorothiazide
38. Irgarzin
39. Kimotab

40. Lidocaine hydrochloride
41. Lugol's solution
42. Oxytetracycline Hcl
43. PAM (Pyridine Aldoxine Methiodide)
44. Phenobarbital
45. Piperazine citrate
46. Podophyllum
47. Potassium penicilline G.
48. Potassium permanganate
49. Prednisolone
50. Reserpine hydrochloride
51. Silver nitrate
52. Sulfamylon hydrochloride
53. Tetracycline Hcl
54. Thiamine hydrochloride
55. Thimerosal
56. Valium
57. Rheumaphiline
58. Fraberin Q syrup
59. Acetaminophen
60. A.P.C.
61. Vitamin C

	5	4	3	2	1
(8) genitourinary					
(9) extremities					
(10) skin					

B. Organization & use of instruments

(1) well organized					
(2) use of instrument					

3. Plans

A. Diagnostic

(1) appropriateness of diagnostic plans					
(2) appropriate use of drugs					

4. Patient education

(1) counseling techniques					
(2) follow-up					

5. Other comments