

CHAPTER III

PROPOSAL

Task- based learning with early community exposure

An education program to improve community orientation of medical students

3.1 Introduction

The concept of health and health care become more social and more community oriented today. Accordingly, health care is now more comprehensive and encompasses curative, preventive, promotive and rehabilitative health services. In order to meet this change, it is now essential to train medical students to be more community- oriented and trained to extend their scope of knowledge, attitudes and skills and practice towards a larger environment.

The concept of community orientation, as defined by Babara Starfield in 1992, refers to:

- Awareness of health and related issues and problems in the community
- Interest and willingness to address those issues and
- Ability to work in and with the community

Medical students are regarded as the main actor of health team in delivering health services in the country and they are expected to serve the people. In Myanmar, medical students are trained in three Institutes of Medicine. Although there is some attempt of innovation, medical students are traditionally trained in the learning environment of patient centered, hospital based and clinical oriented medical education.

The consequences of poor community orientation include three consequences.

They are:

- Maldistribution of medical doctors
- Poor health care coverage and
- Poor quality of health care. All these conditions lead to negative impact of health status of larger population.

To fulfill the concept of health and health care and to improve the quality of health care for the community, it is necessary to equip Myanmar's health care system with more community-oriented medical students.

However, it is not easy to translate it into reality since a lot of conditions contribute to its obstacles. The major constraints to the community-oriented medical education can be categorized as follows:

- Personal characteristics of the students which includes attitude, personal interest, ambition, life style and personal behavior.
- Medical education system including student selection, teaching method, learning environment, contents of curricula, method of assessment and attitude of faculty members who are playing as role model for the students.
- General living condition in the community especially in the rural and remote areas which includes family and social safety, working environment, living and social facilities and economic opportunities.
- Existing health system consists of personal and general management, policy and planning, motivation, incentives and career development for medical doctors who serves in the community of the rural and remote areas.

All these factors closely interrelate to each other. Any attempt to separate them will hardly meet the solution. However, to meet our goal, we should choose the most logical area to be improved. In order to do that, we should take into account of

feasibility, practicability, urgency, sustainability, political will, cost, vulnerability, magnitude of importance and availability of resources. Based on these criteria, medical education is found to be most suitable area to be improved.

A necessity to reform medical education is well accepted. The World Health Organization, the Network of Community- Oriented Educational Institutions for Health Sciences and the World Federation for Medical Education are actively promoting community- oriented and problem- based learning, for such educational approaches emphasize a meaningful partnership between community and health care institutions (Das&Lamphear, 1994). In Britain, The General Medical Council recently recommended that medical students should gain more experience in outpatient clinics, general practice, and community health services (Field, 1995).

Improving medical education can produce sustainable effect on knowledge, attitudes and skills and practice of medical students towards the community. It is necessary to develop the innovative community oriented medical education program to improve the scope of knowledge, attitude and skills and practice of the medical students.

In order to meet this, the main focus is to expose the medical students to the community they are going to serve in the future. Increasing students' exposure to community- based primary- care practice has been a goal of many medical schools. Furthermore, community based experiences may introduce, and attract students to the rural primary care practice (Haist, et al, 1998). Increased community experience has been introduced to undergraduate medical courses to provide students with a better understanding of the context of medical care, with an emphasis on the importance of broad health determinants, and the important interactions between health problems and social issues (Whitehouse, 1998). There is evidence that students' learning styles,

attitude, levels of stress and continuing learning may be affected by community oriented and student- centered programs (Das&Lamphear, 1994).

As another example, community exposure, task oriented, observation, problem solving, communication and teamwork are features of Community Medicine Program at the University of Alberta. This program is found to be effective and successful to improve the community orientation of medical students and is recommended by the evaluators as best model (Laing&Howell, 1994). Generally, the experiences from innovative approaches indicate satisfactory findings to bring the medical students to be more community oriented.

Medical education in Myanmar follows somewhat the traditional medical education. The learning environment is mainly campus and hospital based classroom model. Teaching method is almost conventional, teacher centered and clinical oriented. The biomedical and clinical subjects are taught by respective departments and degree of integration among them seems to be minimal. In response to changing trend of medical education, five medical education seminars were conducted in last three decades. More innovative approaches such as problem based learning, community orientation and community-based learning were recommended. However, these new approaches are still not widely applied.

Therefore, although it is not feasible to carry out a total reform in medical education in the mean time, we should focus on teaching methods and learning environment in which task- based learning with early community exposure will serve as a start in an innovative education program.

3.2 The proposed program

The proposed project is Task- Based Learning (TBL) with early exposure to the community. In the program, first year medical students are exposed to the community and are assigned to observe the health and related problems together with their determinants in the community. In addition, they are assigned to develop their own program to solve the problem identified in the community.

3.2.1 Rationale of the program

Task based learning (TBL) was first described by Harden at a meeting of the Association of Study of Medical Education in Bristol, 1988 (Harden&Laidlaw, 1996). It is an educationally sound, effective and efficient strategy. Students gain a basic understanding of principles of health and disease and of how to apply these in a range of contexts. It ensures that learning objectives are achieved, while taking advantages of the rich opportunities and experiences to which a student can be exposed in a real setting. It can make learning more related to the work of health care professional (Harden&Laidlaw, 1996).

The focus of TBL is on the actual task addressed by health care professionals. The task stimulates further learning by the student. It recognizes the need to know not only how to do something but also the principles underlying the required action. It also involves the development of generic competence relating to the task, such as working as a member of a team. The advantages of the approach are as follows:

- Learning built around the task undertaken by a health care professional is more effective.
- Learning structured around the tasks undertaken by health care professionals is an efficient approach to learning.
- It is likely to lead to a more relevant and appropriate education.

The principle of TBL will be utilized in the community exposure. It is desirable to expose the students to the community as early as possible. As Schmidt & et al (1991) advocated for early and sustained community exposure, students should be exposed to the realities of health care in the community as soon as they enter medical school. The posting should not be brief and transient experiences but an important and integral part of the curriculum.

According to the traditional attitude theory, four factors should be considered (Baten & Smal, 1997) to change the knowledge, attitudes and practice of medical students in context with community orientation and the program is found to work according to this theory. These four factors are:

1. Exposure to new information:

First year medical students are not exposed to the community. Introducing them to the community will generate new information about people in community and their expectations on students.

2. Enforced behavior modification:

Early and continuous generating of information about new environment will provide them not only the experience. It could also produce mindful knowledge and awareness about the problem situation. This in turn fosters the appropriate attitude and willingness to address the issues encountered from their experience. They develop the behavioral tendency to take some action.

3. Changes in group affiliation:

They will be exposed to the community not only to observe but also to take some action such as group assignment. This will nurture them to be able to work in a team atmosphere. In addition they will get the communication and managing skills which play important roles in teamwork.

4 Increased in self insight:

This is the ultimate desired outcome. Although it takes time to develop this stage, once it has reached it seems to be long lasting.

However, attitude changes seem to be highly resistant and not to persist unless they are supported and reinforced by entire medical school environment (Bateng&Smal, 1997). Ideally, the program should be early and continuous comprehensive exposure to the community and connected medicine into real world. However, according to existing curriculum (Appendix 1), second year and onward are found to have tight curriculum heavily focusing on biomedical and clinical subjects. The undergraduate medical curriculum shows that medical students have not been exposed to community until fourth year indicating late community exposure. By that time, the students have two and half-year exposure to biomedical sciences and one year to clinical subjects leading to the establishment of some extent of biomedical and clinical oriented attitude. Therefore, before they are getting spoiled, they need to have community experience. The community- oriented attitude gained from their earlier experience can be maintained and reinforced by later experience in final part one (fourth year) and house surgeon training period.

Therefore, the most logical program is early community exposure to first year students because

- First year curriculum is flexible and less difficult to introduce
- There is less competitiveness from other subjects
- Students can get primacy effect before they are spoiled
- There will be less influence from biomedical and clinical specialties and
- Students will be exposed again in latter year leading to reinforcing their perception.

Therefore, task- based learning with early community exposure is the most logical and best possible education program in order to improve community orientation of medical students in our country.

2.2 Framework of the program

The outline framework of the program is described in Table 3.1.

Table 3.1 Program framework

Step	Description
Goal	◆ To improve the health status of community.
Objective	◆ To improve the quality of health care services.
Outputs	◆ More community oriented medical students.
Activity	<ul style="list-style-type: none"> ◆ Policy development to instigate change ◆ Education program: Task- based learning with early community exposure ◆ Research
Inputs	<ul style="list-style-type: none"> ◆ Program approval ◆ Faculty members ◆ First year students ◆ Health care services in local community ◆ Community

3.3 Plan of activity

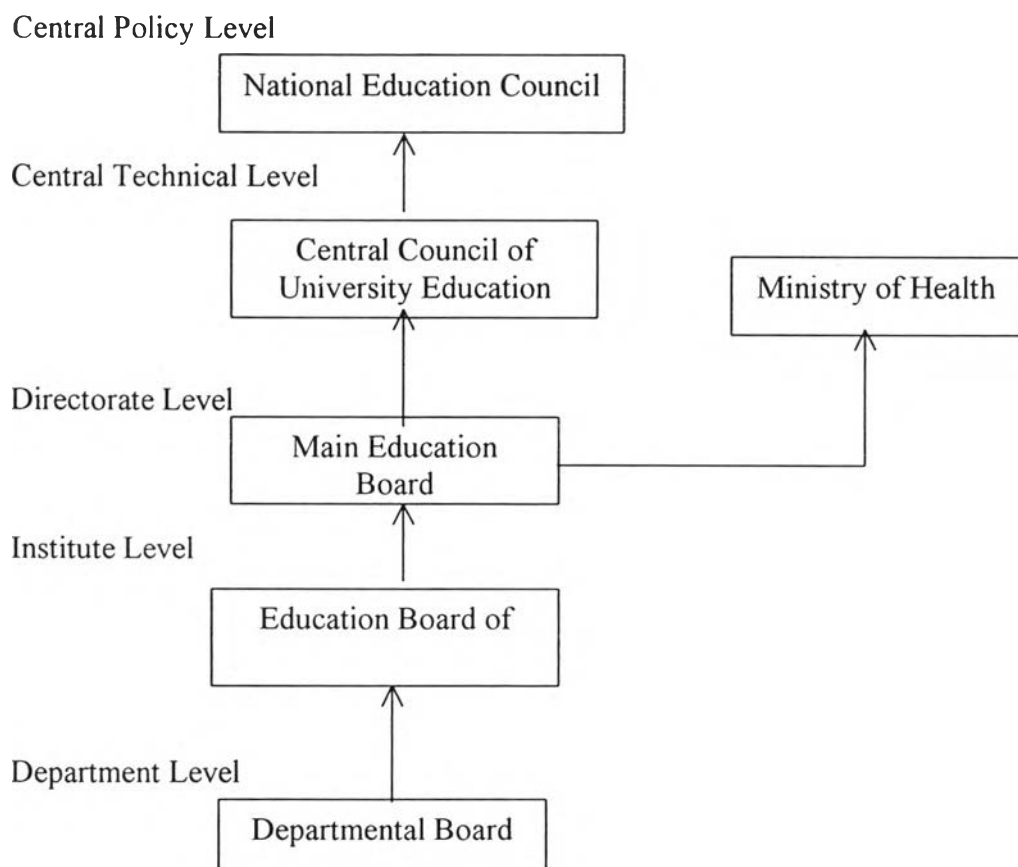
Plan of activity can be divided into three components and detail activity plan is described in Appendix 2 and flow chart is described in Appendix 3. Three components of activity plan are

- ◆ Policy advocacy
- ◆ Implementing the program and
- ◆ Research.

3.1.1 Policy advocacy

The verbal and written proposal of the program will be submitted to the Director General and other decision-makers of Directorate of Medical Sciences. The formal procedure of development of medical education program is described in Figure 3.1.

Figure 3.1 The Hierarchy of Education Bodies



As the proposed program is relatively minor innovation and does not deal with the policy matter, Main Education Board at Directorate level can approve the program. This board is chaired by Director General. Other members are all Rectors from various Institutes under the directorate.

3.2.1 Implementing the program

3.2.1.1 Procedure

The procedures for implementation of the program are described in Table 3.2.

Table 3.2 Outline of program implementation

Procedure	Duration (months)	Activity	Agency
Formation of working groups	1	<ul style="list-style-type: none"> • Steering committee • Working group 	<ul style="list-style-type: none"> • Directorate of Medical Sciences
Program preparation	3	<ul style="list-style-type: none"> • Coordination • Training of trainers • Preprogram assessment 	<ul style="list-style-type: none"> • Directorate • Working Group
Program implementation	12	<ul style="list-style-type: none"> • Content • Delivery mode • Learning environment • Time management • Supervision and monitoring 	<ul style="list-style-type: none"> • Working Group • Facilitators
Program evaluation	1	<ul style="list-style-type: none"> • Internal evaluation • External evaluation 	<ul style="list-style-type: none"> • Working Group • Steering Committee
Reporting	2	<ul style="list-style-type: none"> • Data analysis • Findings and discussion • Recommendation 	<ul style="list-style-type: none"> • Working Group

Time frame for the program comprises 1 month for advocacy, 1 month for administrative procedure, 3 months for preparation, 12 months for implementation, 1 month for evaluation and 2 months for reporting. Total duration of the whole program is 17 months.

Steering Committee includes Director, the Rector of Institute of Medicine 2 where the program will be implemented and all Professors of Preventive and Social Medicine from all Medical Institutes.

Working Group includes Professor of Preventive and Social Medicine, Institute of Medicine 2, responsible person from Directorate, Township Medical Officer of local community, Heads of Departments from first year subjects and Medical Education Unit.

3.2.1.2 Components of the program

The different components of the program are described in Table 3.3.

Table 3.3 Components of the program

S r . No	Component	Description	Remarks
1.	Course organization	<ul style="list-style-type: none"> ◆ Central steering committee ◆ Working group ◆ Chief program supervisor 	<ul style="list-style-type: none"> ◆ Formed by Directorate ◆ Formed by Directorate ◆ Professor of Preventive and Social Medicine

		<ul style="list-style-type: none"> ◆ Chief facilitator ◆ Facilitators 	<ul style="list-style-type: none"> ◆ Lecturer, Medical Education Unit ◆ Faculty members from Preventive and Social Medicine, Medical Education Unit and first year subjects
2.	Course content	<ul style="list-style-type: none"> ◆ General principle of health and its determinants ◆ Organization of health services in the community ◆ Problem solving ◆ Basic clinical skills 	<ul style="list-style-type: none"> ◆ Objective and format of the course will be outlined ◆ Example of preventive and community health program , role of medical doctors and other health workers, and community expectation will be introduced
3.	Delivery mode	<ul style="list-style-type: none"> ◆ Some introductory lectures ◆ Task- based, small group and project based field work 	Students are assigned to exercise two main tasks, observing the community and health care services and developing the their own program to solve the defined

			problem
4.	Time management	<ul style="list-style-type: none"> ◆ One whole afternoon for every two week 	<ul style="list-style-type: none"> ◆ Total teaching period for first year is 10 months ◆ Can get 20 exposures ◆ Regarded as elective period
5.	Supervision and monitoring	<ul style="list-style-type: none"> ◆ Student performance ◆ Course progress ◆ Problems encountered 	<ul style="list-style-type: none"> ◆ Facilitators act as supervisors ◆ Follow the guidelines
6.	Student assessment	<ul style="list-style-type: none"> ◆ Submitting project report ◆ Oral presentation of randomly selected student groups. 	<ul style="list-style-type: none"> ◆ Will not determine the outcome of final examination ◆ Regarded as credit to sit for the examination
7.	Evaluation	<ul style="list-style-type: none"> ◆ Input, process and outcome. 	<ul style="list-style-type: none"> ◆ Both internal and external evaluation will be conducted.

3.2.1.3 Evaluation plan

There will be two types of evaluation. Internal evaluation and monitoring will be carried out by the course facilitators as the concurrent evaluation emphasizing on the progress of the program, the performances of students and technical and administrative problems will be monitored and assessed.

Terminal evaluation will be conducted to all parties involved in the program including students themselves by using semi-structured self-administered questionnaires developed by the Working Group.

External evaluation is conducted to assess the effectiveness and quality of the education program. The professors from other two institutes who are also members of the Steering Committee will perform the external evaluation. The area of external evaluation will be, aims and objectives, translation of aim and objective into program, structure and content of program, teaching method, learning environment, assessment of students, and facility and staff performance

The evaluation plan is as follows:

Input evaluation

Internal: cross-sectional survey of measuring the defined variables by using self-administered questionnaire.

External: aim and objectives, resource required.

Process evaluation

Internal: student performance, students' attendance, close supervision and monitoring in the field visits.

External: translation of aim and objectives into activities, course content, teaching method and learning environment, assessment method of students' performance.

Outcome evaluation

Internal: post program survey with the same instrument, comparing the findings of pre program and post program surveys, opinions and perceptions of trainers, local health personnel, community leaders and students themselves.

External: reviewing the findings.

3.3.3 Research

The last activity of the program is conducting the research. It is done to find out the necessary information about the program in order to develop the policy to be adopted.

Aim

To improve the community orientation of medical students in Myanmar.

General objective

To develop the educational program for improving the community orientation of first year medical students in Myanmar

Specific objectives

1. To assess the knowledge and awareness of medical students about health problems in specified community.
2. To explore the attitude and willingness of medical students in addressing health issues in specified community.
3. To determine the effectiveness of proposed education program.

3.3.3.1 Target population

The target population in the study is all medical students in Myanmar.

3.5.3.2 Study population

There are three institutes of medicine in Myanmar. The students from Institute of Medicine 1 will be excluded in the study because of administrative limitations. Furthermore, their background characteristics are somewhat different from other two schools so that it is not appropriate to make comparison. Therefore, the study population is first year medical students from Institutes of Medicine 2 as study group and those from Mandalay as control group. The annual student intake of Institute of Medicine is 100 and that of Institute of Medicine is 150. The students from both

schools have similar characteristics: such as the mixture of students with city life background and country- side background and similarity of overall proportion of these student groups.

3.3.3.3 Study area

There are three institutes of medicine in Myanmar. The Institutes of medicine 2 and Mandalay have similar features in terms of student population and student characteristics making them comparable. In addition to this, being as the relatively smaller size, general management and administrative procedure will be easier. Therefore, the study area will be Institute of Medicine 2, Yangon and Institute of Medicine, Mandalay, Myanmar.

3.3.3.4 Study period

The duration of first year curriculum is one year. This program will be carried out through the whole year except private study period for final examination and holidays.

3.3.3.5 Study design

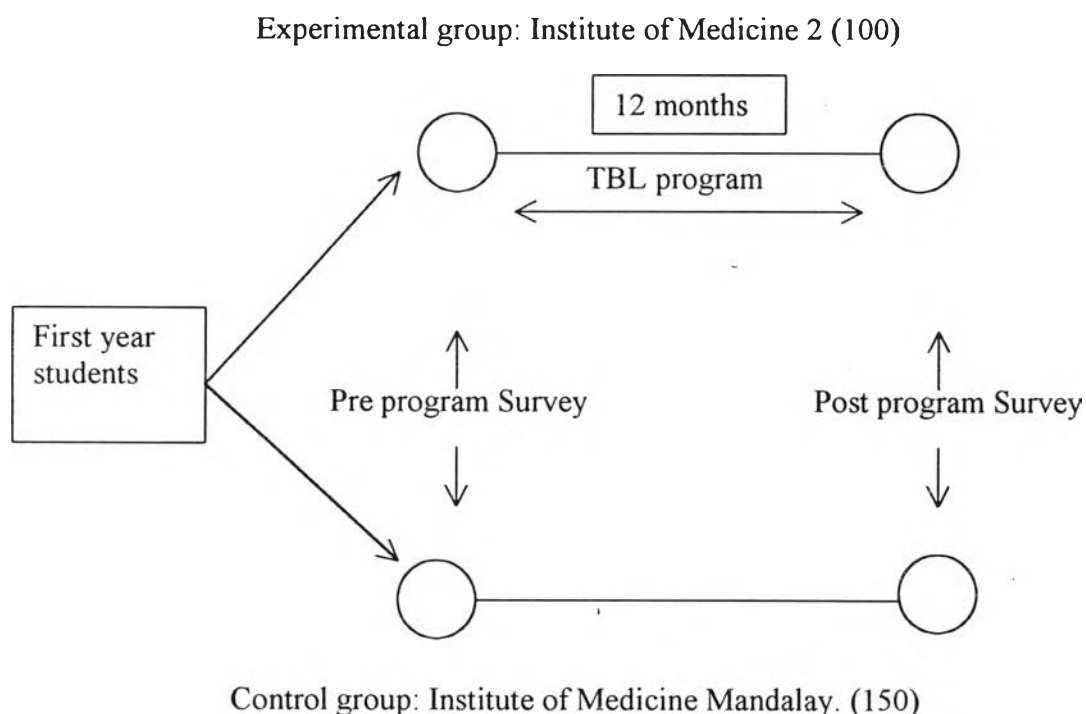
The study design will be Quasi-Experimental Design. It has both study group and control group. The study group is the group of students who are exposed to the intervention program. The control group is that of students who do not receive the intervention program.

However there is lack of randomization in this study. There is deliberate assignment on the study and control groups. It is not based on random allocation between study and control groups. The students from Institute of Medicine 2 are deliberately assigned to intervention group

The control group from Manalay will just receive the conventional first year program. Therefore, as random assignment is missing in this study, the study will

have just only two features namely, presence of intervention and presence of control group in the study. The study design is described in Figure 3.1.

Figure 3.2 Study design



Cross sectional survey will be used to explore the situation at a given point of time. It will be conducted to both study and control groups by using the same semi-structured questionnaire at the beginning and end of the program.

Any significant change in study group before and after the intervention will be determined. In addition, the same procedure will be done on the control group. After that, the results will be compared to observe whether there is significant difference or not. By doing this procedure, it will be able to observe

- baseline information in both groups,
- any change in each group and
- any differences in between groups.

3.3.3.6 Data collection method and instruments

Self-administered, semi-structured-questionnaire will be the main instrument for the data collection method. The questionnaire will comprise various items in accordance with defined variables going to measure. Each item will be graded by using Likert Scale of five point continuum scoring ranging from strongly agree to strongly disagree.

This will be triangulated by another data collection method, interview. In this data collection method, semi-structured guidelines that reflects the defined variables and items used in questionnaire, will be used as the data collection instruments. From these two methods of data collection, the results can be triangulated.

3.3.3.7 Measurement of outcome

Measurement of outcome may be rather subjective and has to be derived from the objectives. Recognizing the lack of criterion, one important outcome measure will be the change of knowledge and attitude throughout the course together with their performance in report writing and presentation skill.

However, the results must be interpreted with caution because the indicators of measurement for the objectives are rather subjective and limited and other factors rather than the program itself can attribute to any changes.

Measurement of outcome of the study is based on three variables.

- ◆ Knowledge and awareness
- ◆ Willingness and interest
- ◆ Skills

Operational definitions

<u>Variable</u>	<u>Operational Definition</u>
<i>Awareness</i>	mindful knowledge or noticing about.
<i>Health and related problems</i>	any condition which can give rise harmful effect on physical, mental and social well- being
<i>Community</i>	a group of people with a common characteristic or interest living together in a larger society.
<i>Willingness and interest</i>	personal preference and strong agreement to choose some course of action.
<i>Attitude</i>	positiveness or negativeness toward a psychological object.
<i>Skills</i>	ability to interact and utilize community and its resources to complete the task being assigned.

Table 3.4 Indicators

Outcome	Variable	Indicators
Knowledge and awareness	<i>Health and related problems</i>	<ul style="list-style-type: none"> ◆ % of students who can identify and characterize common diseases in specified community ◆ % of students who can characterize the environmental sanitation (water supply, waste disposal) of specified community. ◆ % of students who can list the general determinants of health

<p>Willingness and interest (attitude)</p>	<p><i>Community</i></p>	<p>% of students who can identify</p> <ul style="list-style-type: none"> ◆ health facilities in specified community ◆ leaders, organization and resources in specified community ◆ means of transportation and communication in specified community
	<p><i>Towards career</i></p>	<ul style="list-style-type: none"> ◆ choice of subject to specialize after graduation ◆ choice of professional life after graduation ◆ choice of place to work as a medical doctor ◆ choice of institution to work after graduation
	<p><i>Towards professional life</i></p>	<p>% of students who strongly agree on the fact that,</p> <ul style="list-style-type: none"> ◆ role of a medical doctor is not limited to treating the patient. ◆ preventive, curative , promotive and rehabilitative health care are equally important for a medical doctor ◆ medical doctors should also go to the rural community and give medical care to the local people ◆ % of students who strongly agree to go and serve in the community after graduation if they are asked.

Skill and performance	<i>Towards health and its determinants</i>	<ul style="list-style-type: none"> ◆ % of students who strongly agree on the fact that health is not only free from a disease. ◆ % of students who strongly realize the presence of other conditions rather than disease , which are responsible for ill health.
	<i>Towards community</i>	<p>% of students who strongly realize the fact that.</p> <ul style="list-style-type: none"> ◆ the shortage of medical doctors in rural communities ◆ people expect more than treatment from doctors. ◆ The importance of participation of local people in improving health status.
	<i>Ability to work in and with the community</i>	<p>% of students (in group) who are able to</p> <ul style="list-style-type: none"> ◆ identify health problems and its general causes in specified community ◆ set priority list of possible areas of solution ◆ develop general framework of project being proposed ◆ communicate with local people to find out community resources ◆ manage group work and division of labor among them to complete assigned task. ◆ complete tasks being assigned.

3.3.3.8 Data analysis

Data collected will be analyzed by using Statistical Package for Social Science (SPSS) software. The mean composite score and item scores will be calculated in both groups. The comparison of scores of before and after program among each group and scores between study and control groups at different points of time will be analyzed. The differences between groups on background data will be tested by chi-square and Student's t test. Differences in mean composite scores before and after the program will be tested by paired t test, p values of 0.05 and lower will be considered significant.

3.4 Budget Proposal

3.4.1 Objective of the proposal

To provide the financial justification for the Task based learning with early community exposure education program.

3.4.2 Funding organizations

1. Directorate of Medical Sciences, Ministry of Health
2. Project of Human Resources for Health, World Health Organization

3.4.3 Estimated expenditure for program activities

<u>Sr. No</u>	<u>Activity</u>	<u>Kyat</u>
1.	Training of trainers workshop (3 days)	
1.1	3 resource persons x 500 kyats x 3 days	4,500
1.2	5 facilitators x 300 kyats x 3 days	4,500
1.3	12 participants x 250 kyats x 3 days (10 faculty members and two local health authorities)	9,000
1.4	General expense for workshop (Venue, stationaries, transport, labor, audio visual equipments)	25,000
2.	Conducting the study	
	250 questionnaires x 30 kyats x 2 times	15,000
3.	Implementation of the program	
3.1	Transport (3 buses x 1000 kyats x 20 trips)	60,000
3.2	Internal evaluation 150 quuestionnaire x 30 kyats	45,00
3.3	External evaluation 2000 kyats for 2 person	4,000
4.	Data analysis and report writing	
4.1	Data collection, data entry and analysis (for 2 times by 2 persons)	4,000
4.2	Xeroxing and binding for report writing	2,500
5.	General administrative	10,000
Total		143,000
		(1 \$ = 6 kyats)

3.5 Discussion

3.5.1 Program

The learning objectives (Appendix 3) and expected outcome of the program seems to be highly ambitious. In fact, the program is just to provide the foundation of public health concepts in context of community orientation. They are expected to be more community-oriented with some degree of development of good attitudes based on their community experiences.

The contents of the course only focus on the general concept of health and its determinant especially in social context, general principle of public health and general idea of problem solving and critical thinking. These general inputs will serve as foundations for their learning about medical sciences later and will help in the personal development.

The experience of outside environment beyond the campus could motivate and foster the interest in the students. New experience in community and professional image of working in the community would bring about the development of proper attitudes and behavior.

As evaluation is an integral part of any education program, there is built-in evaluation program. The evaluation of an education program is complex and it requires detail consideration. Evaluation should focus on input, process or outcome. It is desirable to follow these components in our evaluation plan to assure the effectiveness and efficiency of the evaluation and is attempted to meet this requirement in the program.

3.5.2 Methodology

The study population is manageable. As the quasi-experimental design is used, it is relatively stronger to investigate the effect of an intervention. The survey

methodology is used to measure the attitude in one point of time in defined population so that it is found to be suitable to use survey as the data collection method in this study. In addition, as the study is a population study, the sampling procedure would not be necessary overcoming the selection bias and representativeness issue.

Any inconsistency and information bias will be minimized by triangulation of two data collection methods. The validity and reliability of the instrument can be improved by pre-testing and split half procedure. Split half procedure is used to assure the reliability of attitude measures. It is easier to do and only require single administration of test.

The major weakness of the study is outcome measurement and validity. The dependent variables are not specific and rather subjective. Although there is an attempt to quantify by translating to the scores, level of measurement scale is just ordinal.

There will also be information bias mainly likelihood of Hawthorne effect. It is weak to assure whether the change of outcome is genuine or not.

3.5.3 Possible problems and means for solution

Possible problems can develop in three areas namely, administrative technical and operational

3.5.3.1 Administrative

There would probably be some resistance from some decision-makers or some influential persons who could argue about the effectiveness and efficiency. This could be minimized by proper personal briefing and written proposal advocacy.

As the program is multi disciplinary and intersectoral in nature, there would not be the sole responsible figure in the program. In addition to that, there would be some difficulty to organize the persons from various departments. Directorate of

Medical Sciences can act as the focal point to overcome the problem. Moreover, some administrative difficulty in arranging field visits is also expected and could be minimized by proper planning and coordination.

3.5.3.2 Technical

There would be disagreement and difference of opinions and ideas regarding the scope and depth of course content among faculty members. In addition to this, there would be some technical problem to conduct the study, develop the instrument and interpret the findings. Diversity of perception is also expected in evaluation process. Team spirit may be advocated to faculty members and consensus method may be applied for any major technical decision throughout the program to overcome the problem. The Steering Committee will take the guiding role to minimize any potential diversity of opinions.

3.5.3.3 Operational

Although there is previous experience of sending students to the community, the target group is younger and has less experience. Therefore, they are less mature and prone to have unpredicted social and security problems or misunderstandings. Close supervision and monitoring the students will help operational difficulties. In addition, proper explanation about the program to the students and local community authorities could reduce any misunderstanding.

3.5.4 Sustainability of the program

The sustainability of the program depends on political, managerial, technical, and financial conditions.

The resistance from authorities is unlikely that this program is consistent with the Human Resources for Health Policy, which is formulated in National Health Policy.

According to the proposed budget, the cost for the program is found to be reasonable. As most of the components of the program is within the framework of institutional management and utilize the pre existing human resources, the financial constraint for the program is minimal.

The organization, which implements the program, is formal one and hierarchy of authority, responsibility and division of labor is more or less well clarified.

Therefore, only remaining influencing factor for sustainability is technical acceptance. This will depend on the outcome and degree of effectiveness of the program. If significant effectiveness is found, the sustainability and generalizability to other institutes can be assured.

3.6 Ethical Issues

The study has two groups namely intervention and control groups. Selecting only one institute among all three institutes for intervention can raise ethical issue. However, this program is promotive in nature and it is not at the expense of activities of other institutes. Moreover, although some differences can result from the program in terms of knowledge, attitude and skills, it does not affect much on the capacity to learn biomedical and clinical subjects in later years, which are basic technical foundation to become a medical doctor.

For the experiment group, this program does not interfere their regular learning program. Moreover, the experiment can bring about some incremental effect for the students to prepare for their future professional life. Therefore, the program is found to be not imposing any major detrimental effects on both experimental and control groups of the study.

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