DEFINING STUDY OBJECTIVES  
(Self-instructional Exercise)

For the past few years, you have been employed as an epidemiologist by the Ministry of Health in an Asian country, not unlike Myanmar (formerly Burma). While relatively poor, the country has an active group of professionals at the Ministry of Health (MOH) dedicated to improving the health status of the country. Inspiring the health professionals is the World Health Organization's (WHO) motto of "Health for All" and the commitment to primary care. Unfortunately, the health information system is not functioning well enough to identify the main problems facing people at the community level. Instead, it provides reports on various disease control programs and a sample of hospitalized cases; reports which are often not complete. Attempts have been made to improve the system by requiring Rural Health Center staff to submit reports on activities and encounters but too many forms and a shortage of paper have resulted in few useful data.

Just this year there has been a new commitment to serving rural communities. The Director General of Health is the top physician in the country, responsible for all preventive and curative care offered by the government. He has emphasized the need for community-based information to guide his policies. While his staff point to the many reports being issued by different groups within the country, he feels most suffer from the same biases. The disease-specific reports document cases brought to the attention of the medical staff, primarily at Township hospitals. Cases in rural regions of the country are probably not diagnosed correctly and thus not reported.

Most likely the medical-care utilization reports also provide a biased view of care being received at the community level. There are two reasons for this: 1) exaggerated reporting by government workers, and 2) lack of reporting by non-government physicians. In recent years, the salaries of the health-care providers have experienced a marked decline relative to salaries in the private sector. As a result, many government workers have either opened evening clinics or provided services for a fee during off-hours. To give the impression that they are still working long and hard, the utilization and performance figures submitted by government physicians and the staff serving rural areas may be exaggerated.

In the past, most physicians would enter the government health service. The government was committed to providing either free or low-cost medical care for the population. Unfortunately, the country was not wealthy enough to hire all graduates of the local medical schools. Instead, many would start their own clinics independent of the government. It is not clear how many people these clinics serve but they seem to be relatively popular. Since the physicians operating the clinics do not work for the government, most see no reason to tell the government what they are doing. Consequently, the actual care being received by the population may be greater than reported.

Being reluctant to rely on existing sources of disease or performance data, the Director General has asked you to provide him with facts independent of the health information system. Specifically, he would like you to conduct a survey in Hlegu Township and find in what is going on with respect to the attendants at birth, immunization coverage and nutritional patterns. His main concerns in the three areas are as follows:
1. **BIRTH ATTENDANT**

Until recent years, most women in Hlegu Township had their babies delivered either with the help of a member of the family, a neighbor or friend, or a traditional birth attendant. Complications were frequent, including respiratory distress, sepsis and neonatal tetanus. To help with the birth experience, the Ministry of Health has promoted the training of both regular and auxiliary midwives. The regular midwives were paid by the Government to provide prenatal, natal and early postnatal care for all pregnant women in the community. The auxiliary midwives were volunteers who had also been trained, but did not receive direct compensation from the government. Most were given small payments, however, by the family of the delivered infant.

The goal of the Ministry of Health was that all birth should be delivered by an attendant who had received formal training in proper birth-related procedures. If most births in recent years were delivered by a trained attendant, then the goal of MOH was being met and no changes in policy are necessary. Conversely if trained birth attendants are not evident in the community, the entire midwife training program would have to be reviewed to determine why.

2. **IMMUNIZATION COVERAGE**

The World Health Organization (WHO) has recommended that both BCG and Oral Polio Vaccine (OPV) be given at birth followed by three doses of Diphtheria, Pertussis and Tetanus (DPT) vaccine and OPV at aged 1.5, 2.5 and 3.5 months. Unfortunately, this schedule was not considered feasible in Hlegu Township. The OPV vaccine does not remain viable for long in the hot and humid weather typical of the region unless it is refrigerated. Even BCG vaccine should be kept cool, although it is not nearly as sensitive to the heat as OPV. Least sensitive to heat is DPT, although the pertussis fraction can not sustain hot temperatures for more than a few weeks.

Typically vaccination campaigns would be waged in Hlegu Township during one week each month. The staff would take DPT and BCG to a village and vaccinate children at as close to the appropriate age as possible. Of course, the time between visits to the village might be quite long, especially if there are many villages in the region. Seven months earlier, the local health staff had included OPV for the first time in the immunization program. Now it was given regularly with the other two vaccines. Measles vaccine was considered too expensive. The measles policy, however, is being reconsidered since various international agencies are offering the vaccine at a reduced cost.

The local staff reported that they were administering many doses of DPT, BCG and OPV vaccine. Yet it was not clear what proportion of the population was covered and if the vaccines were administered early enough in the life of the child. The intention of the program was to vaccinate enough children to prevent the occurrence of an epidemic. The MOH recognized that there were three ways that an epidemic could occur. First, the level of vaccine coverage in the community might be too low. Second, while the average coverage in the Township might be high enough, there might be pockets of unvaccinated children in various communities. Third, the children might be immunized at too late an age. Since the commitment of the MOH is to control the vaccine-preventable diseases, they want to make sure that none of the three epidemic-promoting scenarios are occurring. Otherwise, changes would have to be made in the administration of the vaccination activities.

3. **NUTRITION**
Malnutrition has long been recognized as a major cause of morbidity and mortality among young children. Breast-feeding throughout the first year of life is generally considered essential both for normal weight gain and for preventing infections. When training the midwives, the MOH has encouraged their staff to support breast-feeding as long as it is convenient. Yet it is not clear that breast-feeding is still as common. Reports have come in from other countries that many women are no longer breast-feeding after the first few months of life. The Director General is concerned that the same pattern may be occurring in Hlegu Township as well.

When solid foods are introduced into the diet, mothers should be supplementing their infants’ diet with protein-rich foods such as eggs, fish or meat. Yet, the nutrition staff has indicated that some mothers either out of ignorance or because they cannot afford the protein-rich solids, instead feed such items as rice mixed with oil and a small amount of salt. If protein-rich foods are not being fed, the Director General would like to know about it so that nutrition education activities could be increased.

Finally, there has been some speculation that many children in the rural regions of the country are malnourished. While the country prides itself on being able to feed all of its people, the diet is often comprised of mainly rice or rice products. At present, the Hlegu Township health department has a feeding program established for children found to be malnourished. Special high-protein foods are offered to the identified children until weight gain is again normal. In addition, the mothers are given dietary counseling. The local staff indicated that the nutrition program is well-attended. It is not clear, however, that the program is having the desired impact on all villages in the Township. After all, many children may not have access to the clinic, especially if their parents are busy working in the fields and no one is available to take them to the clinic. If malnutrition is a large problem in Hlegu Township, more efforts would have to be made to improve the situation. It would be especially important to know at what age the problem becomes evident so that diet supplementation or educational counseling could be started at the most appropriate time.

YOUR TASK

Three topics of concern have been identified. Your task in planning a survey is to take these general concerns and re-define them as objectives for a survey. The objectives should be short, clear, and focused on the topics of concern. In addition, they should refer to items that can be measured.

Do not turn to page 4. Instead organize your thoughts and write down what you think the objectives should be. Then compare your objectives with those listed on the last page. If there are substantial differences and you feel your objectives are more appropriate, bring them to class and we will briefly discuss them.
Here is a suggested set of objectives for the proposed study. In considering these versus the ones you derived, ask yourself:

a. Do the stated objectives meet the purpose of the study?

b. Are they clear?

c. Are they expressed in measurable terms?

OBJECTIVES

We propose to survey a sample of births during the past three years to residents of Hlegu Township. The objectives of the proposed survey are:

1. to determine if the births were delivered by a trained birth attendant;

2. to assess the level of vaccine coverage for BCG and the three doses of both DPT and OPV;

3. to determine the age of receiving BCG and the three doses of DPT and OPV;

4. to ascertain the evenness (or homogeneity) of childhood vaccination coverage throughout the Township for BCG, DPT and OPV;

5. to determine the pediatric breastfeeding patterns and consumption patterns of protein-rich solid foods; and

6. to assess the level of childhood malnutrition based on low weight-for-age.