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THE EVALUATION OF TEACHING AND RESEARCH  
IN PUBLIC HEALTH - DPH/MPH AND OTHER  
POST-GRADUATE COURSES

by

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Teaching and research in public health is not, and must never be allowed to become, an end in itself. It is a means to an end, namely, the attainment of complete physical, mental and social wellbeing of the individual, his family and the community at large. This important goal can be reached by the application of preventive measures at five different levels, viz.:-

1. Health promotion
2. Specific protection
3. Early diagnosis and treatment
4. Limitation of disability
5. Rehabilitation

The importance of evaluation of teaching and research in public health cannot be overemphasized especially in developing countries with severely limited resources in terms of Money, Materials and Men (Personnel), in the face of overwhelming health problems. Certain important steps must be taken if efficient evaluation is to be carried out.

1. DEFINITION OF OBJECTIVES

1.1 Education Objectives

Meaningful educational objectives must be defined in behavioural terms.

Dr. J.J. Guilbert, during the first meeting of Professors of Public Health, held in Brazzaville from 7 - 12 October, 1968, rightly and in the clearest possible language, stated:

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"The educational goals must be defined by using behavioural terms corresponding to the task to be accomplished. In other words, the definition must indicate what the graduates of a given school will be able to DO at the end of their period of education or training that they were not able to do before.

This is a very difficult task which may well have daunted the most conscientious. We consider that assistance in this field should be given to teachers in the form of written documents, seminars, etc.

The lack of any definition of educational goals makes discussions on programmes, teaching methods and evaluation methods completely vain and futile.

Evaluation methods can be selected only in terms of the objectives to be attained. Evaluation consists in being able to say to what measurable extent the assigned objective has been attained. If one has not taken the trouble to establish a measurable objective, it is impossible to make any kind of evaluation".

The tasks must, of course, be related to the major health problems (physical, mental and social) of the community and the basic health services, viz.:

- (1) Health education,
- (ii) Maternal and child health
- (iii) Communicable disease control
- (iv) Environmental sanitation
- (v) Maintenance of records for statistical purposes
- (vi) Public health nursing
- (vii) Medical care (including curative service)

### 1.2 Research Objectives

The guidelines (Appendix) suggested by J.S.W. Lutwama, and accepted by the first meeting of Professors of Public Health might be very relevant to the evaluation of research in public health, at least as far as applicability to the needs of the community are concerned.

### 2. DETAILED CURRICULA AND TRAINING AND RESEARCH PROGRAMMES

These should be developed after careful definition of objectives in the manner suggested above. The techniques and materials for instruction and research must be selected accordingly.

### 3. EVALUATION OF TEACHING AND RESEARCH PROGRAMMES

This would not present any problems if the teaching and research programmes are developed after careful definition of objectives which must, of course, be FEASIBLE, OBSERVABLE and MEASURABLE.

The final "ACID TEST" (evaluation) of teaching and research programmes in public health is their tangible, demonstrable and measurable effect on, or APPLICABILITY to, the health problems of the community. An efficient system for the collection and analysis of health statistics is most essential in this connection.

The subject of evaluation techniques adapted to public health teaching was covered with the precision of an expert by Dr. J. J. Guilbert during the first meeting of Professors of Public Health in the African Region, held in Brazzaville, 7 - 12 October, 1968.

There is a crying need for more carefully planned follow-up studies of students who have completed DPH/MPH and other postgraduate courses in public health.

### CONCLUSION

It is hoped that the guidelines given above as to the steps which should be taken before efficient evaluation of teaching and research programmes in public health could be carried out will be of some value to the participants

in their deliberations during the Conference. These guidelines could be used very effectively to evaluate D.P.H./M.P.H. and other postgraduate courses and research in public health.

Reading material for the Conference should include the following WHO reports:-

- (a) Meeting of Professors of Public Health in the African Region, Brazzaville, 7 - 12 October, 1968.
- (b) Meeting of Deans of Medical Schools in the African Region, Brazzaville, 25 - 29 November, 1968.

THE MINIMUM PROGRAMME OF RESEARCH  
IN A  
DEPARTMENT OF PUBLIC HEALTH  
IN THE AFRICAN REGION

In the African Region at the present time, and perhaps for many years to come, departments of public health will have to grapple, with almost overwhelming problems, with severely limited funds and personnel. A number of departments have only one full-time member of staff, while in several medical schools the department of public health is non-existent. The term "minimum programme of research" must, therefore, be used advisedly. The minimum programme of research will depend largely on the available funds and personnel, co-operation between the department of public health and other departments in the medical faculty and other faculties of the university (e.g. the faculties of social sciences and agriculture), research institutes in the country and Government ministries and departments (e.g. the ministries of health, agriculture & planning and economic development). Research priorities must be worked out most carefully with due regard to the teaching and service obligations of the department and the major health problems of the community. The following considerations might serve as guidelines for the choice of projects for a "minimum programme of research" in a department of public health:

1. MAJOR AREAS OR COMPONENTS OF THE UNDERGRADUATE OR POST-GRADUATE TEACHING PROGRAMME OF THE DEPARTMENT

The teaching programme must be related to what are considered to be the basic health services in any part of the world, viz: <sup>1,2</sup>

- (i) Health education;
- (ii) Maternal and child health;
- (iii) Communicable disease control

- (iv) Environmental sanitation;
- (v) Maintenance of records for statistical purposes;
- (vi) Public health nursing,
- (vii) Medical care.

In the African Region, as in other developing countries of the world, the importance of the above-mentioned services cannot be over-emphasized. Ignorance (or rather lack of knowledge or "wrong" knowledge) is responsible for a lot of morbidity and mortality. Health education programmes and research must, therefore, be given very high priority.

## 2 MAJOR CAUSES OF MORBIDITY AND MORTALITY

In developing countries, including the African Region, the major causes of death are pre-eminently preventable. The top five disease groups in this connection are usually the following:

- (i) General infective and parasitic diseases
- (ii) Alimentary diseases (also largely infective and parasitic)
- (iii) Skin and musculo-skeletal diseases (also often infective)
- (iv) Respiratory diseases (largely infective)
- (v) Injuries (road traffic accidents, accidents in the home, violence, etc.)

In developing countries the deaths due to infective and parasitic diseases form a high percentage of the deaths from all causes, compared with the developed countries. For example, in Guatemala in 1964 deaths due to infective and parasitic diseases formed 22.6% of deaths from all causes, compared with 0.9% in Sweden, i.e. over 25 times higher.<sup>4</sup> Adverse reaction to infection is often due to underlying malnutrition - a fact which should always be remembered.

## 3. THE MAJOR VULNERABLE POPULATION GROUPS

The top two vulnerable groups in the developing countries are (i) children under the age of 5 years and (ii) expectant and nursing mothers. Children under the age of 5 often form over 35% of the total population, while children under the age of 15 years may form over 45% of the total

population.<sup>5</sup> Maternal and child health services often have to cater for over 60% of the total population.

It is needless to say that developing countries experience high infant mortality rates, high child death rates (1 - 4 years age group) and high maternal mortality rates.

While considering vulnerable groups, occupational groups (subject to special occupational hazards) and immigrant or migrant groups (including refugees) should be kept in mind.

#### 4. PROBLEMS OF SPECIAL ACADEMIC INTEREST AND POSSIBLE PRACTICAL APPLICATION

Under this heading might be mentioned, as examples, studies such as the following:

- (i) Compressed immunization schedule using intra-dermal D.P.T. (Triple Antigen) and mixed vaccines (B.C.G., vaccinia and measles),
- (ii) Epidemiological studies on Burkitt's Tumour, to test the hypothesis of viral aetiology,
- (iii) Chemotherapy of Burkitt's Tumour,
- (iv) Attempts to culture mycobacterium leprae,
- (v) A one-dose tetanus toxoid schedule for ante-natal women in the prevention of neonatal tetanus, using a multiple emulsion toxoid.

It is realised that research projects under this heading often require substantial research grants and special equipment from outside sources, and would normally be attempted by large departments or would be carried out as part of an inter-departmental effort.

#### 5. THE INDIVIDUAL RESEARCH INTERESTS AND EXPERIENCE OF THE MEMBERS OF STAFF IN THE DEPARTMENT

People naturally tend to concentrate on projects in which they have special interest and which they feel competent to do, irrespective of their relevance to the local scene. While the research interests of

individuals should not be suppressed it is most important that Departmental research projects should be planned with special reference to the major health problems in the country. All the members of staff should have clearly defined roles to play in such projects.

6. COLLABORATIVE RESEARCH PROJECTS - INTER-DEPARTMENTAL, INTER-FACULTY AND EXTRA-FACULTY

Departments of public health have unique opportunities for collaborative research projects with the departments of obstetrics and gynaecology, paediatrics, internal medicine, psychiatry, pathology, medical microbiology, surgery, sociology, psychology, economics, agriculture, etc. Much depends on personal contacts and the co-operative spirit of the people concerned. Initial difficulties in making contacts with other departments should never be used as an excuse for giving up altogether.

Experience at Makerere University College Medical School has been very encouraging. For example, during the last 10 years the Department of Preventive Medicine has produced 110 publications grouped as follows:

58 by single authors

10 by multiple authors within the Department

42 by multiple authors with workers from outside the Department ,  
including:

(i) the Department of Paediatrics

(ii) the Department of Medicine

(iii) the Department of Medical Microbiology

(iv) the Department of Social Work

(v) the Department of Economics

(vi) Government Medical Officers, workers in Research Units in East Africa, Anthropologists, workers in the United Kingdom of Great Britain and the United States of America, and four Makerere students.



Experience at the Haim Yassky Department of Social Medicine, Hadassah Medical School is also a very good example of what can be achieved through collaborative studies.<sup>6</sup>

#### CONCLUSION

It is evident that it is very difficult to specify a "minimum" programme of research in a Department of Public Health in the African Region in the context of severely limited resources in terms of Money, Materials and Men. It is also equally evident that it is not difficult, even for a one-man Department, to pick up one major problem for study in relation to (i) the basic health services and the major areas of the teaching programme, (ii) the major disease groups from the point of view of morbidity and mortality and (iii) the major vulnerable population groups, particularly children under the age of 5 years and expectant and nursing mothers.

The value of collaborative research projects cannot be over-emphasized, while there is a crying need for deliberately planned Departmental research projects, i.e. every Department of Public Health in the African Region should have at least one major research project in which all members of staff play specific roles.

The following quotation from the report of a WHO study group on the "Measurement of Levels of Health" represents the crystallized wisdom of a group of international experts:

"No more fundamental problem confronts the health administrator than the measurement of the level of health of his community; and nothing could be more valuable than to have at his command one or more measuring rods to help him in his task and also in assessing his specific problems relating to the health of the people, in designing his plans to deal with these, in guiding his administration and in evaluating his schemes. His sources of assistance lie in analysis of vital statistics, in epidemiological information, to a lesser extent in data collected from special health surveys and in appraisal and evaluation methods for health activities. "7

The lessons to be learned from the above quotation, in my opinion, are relevant to the problem of specifying a minimum programme of research in a Department of Public Health in the African Region.

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