ABSTRACT

Indiana State University is attempting to meet some of the unmet needs for competent environmental health manpower by: (a) encouraging participation in and assisting the national and local sanitarian associations, (b) promoting a program of studies in Environmental Health that prepares a Generalist in the field of Environmental Health (instead of a General Scientist who then needs considerable training by future employers), (c) preparing students to understand the broader health needs and other needs of society to show where Environmental Health fits into the picture, (d) actively recruiting students into the field, (e) working closely with existing competent health departments in providing necessary work experiences as part of the undergraduate program of studies, and (f) informing the public that the Sanitarian does not refer to "privy suffer," but rather to the Environmental Health practitioner who participates in community life and provides the services needed to prevent our environment from controlling us.

We urge other universities to heed Dr. Hilleboe’s advice to reorganize their curricula to meet the diverse needs of our constantly changing society.

In Aristotle’s ideal state “The Public Health,” which was in fact Environmental Health, was the major concern in choosing the site of the city. Shattuck in 1850 explored our public health problems and anticipated our needs by saying that we should pass smoke ordinances, protect foods, establish schools for training sanitarian inspectors, etc. During the enlightened era of the 1860’s to the 1920’s we conquered yellow fever, typhoid fever, and dysentery. We then settled down to a well beaten path of complaint checking, milk inspection, and premises placarding. Unfortunately, although Aristotle and Shattuck, 23 centuries apart, pre-thought some of the environmental health needs of today and the future, we neglected for the most part to listen.

But change is inevitable and if we do not, at each point in the growth process of our society, mold the change to prevent disease and promote health, we will wallow in our pollutants and suffocate in our rat infested, poverty stricken urban slums. Our children will sail their toy boats in streams of subdivision sewage in our suburban streets and parks. Our rural and semi-rural areas will continue to grow erratically without pre-thought direction, needing, but lacking, competent environmental health people to bring forth and nurture the basic environmental health programs that are our constitutional rights, rather than some hoped-for ultimate goal of our society. If we can circle the moon in 1968, should we not also apply the known basic environmental health principles to our lives and achieve the ultimate goal of good health?

INDIANA STATE UNIVERSITY PHILOSOPHY

In keeping with this desire to meet the continually changing needs and demands of our society and in an attempt to anticipate the future needs, Indiana State University (I.S.U.) has established a philosophy of service to the professional and non-professional communities that includes: (a) sponsoring of Sanitarian Association Conferences and other professional Environmental Health Conferences for the existing Sanitarians to promote a greater uniformity of recognition of the scope and nature of existing hazards and to use knowledge to alleviate them, (b) active participation in State and National Sanitarian and Public Health Associations, and (c) involvement in community health problems and informing thousands of I.S.U. students about potential careers in the various health and safety fields including Environmental Health.

We hope to stimulate discussion among our Environmental Health and Public Health colleagues, also among the informed citizenry concerning desirable types of model programs which should be established for the urban, suburban, rural-suburban, and rural societies. We hope to encourage existing Environmental Health Personnel to upgrade their knowledge and abilities to function in the current times, and in relation to current problems. We recommend that reciprocity be established in many areas of Environmental Health inspection to eliminate duplication and to improve services.

I.S.U. HEALTH AND SAFETY PROGRAMS

But with all of the current recognition of the need

to improve our environment by government, industry, and interested citizens and the many millions of dollars being allocated for a variety of environmental health activities, including air pollution, water pollution, rodent control, hospital sanitation, etc., we are still woefully lacking the necessary manpower to implement these programs. Eighteen thousand new Environmental Health professionals are needed by 1970, when we have in the recent past produced only about 150 new Environmental Health graduates. Many additional thousands of professionals are needed in Safety and Health Education. Therefore, to assist in the remedy of this dire personnel shortage, we have established in our Department of Health and Safety as of 1966, new undergraduate non-teaching programs in Environmental Health, Safety Management, and Community Health Education. Within two years we have grown to 75 undergraduate majors including 35 in Environmental Health. We have 42 in our graduate Health Education Program and the program of studies leading to the Master's degree in environmental health is already being formulated.

**Environmental Health Program of Studies**

Preparation for the field in the past has been heavily science-oriented. In fact, the demands of science were so great that the individual who graduated with a degree in Environmental Health was really, in many instances, the graduate of a general science, biology, or chemistry curriculum. The value of an extensive scientific background is debatable since, if the institution is to be accredited by the North Central Association of Colleges and Universities or the comparable accrediting body, depending on the geographic location of the school, to confer degrees in particular programs of studies, students must (a) usually take a minimum of 50 semester hours of general education; (b) be permitted to take a minor or desired electives; and (c) complete an extensive major. Shall we, as in the past, insist on extensive general scientific backgrounds at the expense of the humanities and the social and behavioral sciences? Or, should we reduce the concentration actually needed in Environmental Health Science until our students in fact receive only a token amount of credits in the most vitally needed phase of their professional preparation?

Our students are seeking the answer to how and why man reacts as he does and where the health professions fit into the value system established by our communities. To satisfy the needs of our students and to prepare a better qualified Environmental Health Specialist, we have established the following program of studies.

**Environmental and Community Health Curriculum**

**Major Field Core, Including Professional Field Practice Education**

| Concentration of Basic Courses | HLSF 231: Community Health       2 Sem. Hrs.
|--------------------------------|----------------------------------|
|                                 | HLSF 328: Accident and Disaster Control 2 Sem. Hrs.
|                                 | HLSF 312: Intro. to Environmental Health 4 Sem. Hrs.
|                                 | HLSF 324: Probs. of Environmental Pollution 3 Sem. Hrs.
|                                 | HLSF 417: Cnty Hlth and Sfty Resources 2 Sem. Hrs.
|                                 | -- 24 Sem. Hrs.

**Professional Courses:**

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| -- 12 Sem. Hrs.

**Cognate Foundations in Chemistry and Biological Sciences**

| CHEM 100: Inorganic Chem. (Non-Chem Majors) 3 Sem. Hrs.
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| CHEM 150: Organic Che. (Non-Chem Majors) 3 Sem. Hrs.
| LSCI 1125: Intro. to the Life Sciences 3 Sem. Hrs.
| LSCI 374: Introductory Bacteriology 4 Sem. Hrs.
| -- 16 Sem. Hrs.

Total Hours Required for the Major: 52 Sem. Hrs.

The strong points of the program include directed study in basic biological and chemical sciences followed by specific courses which apply to Environmental Health and Laboratory Practice. Comprehensive studies of the total environment employ the systems concept. Mind stretching courses in Community Health, Public Health, and Health Education avoid a narrow approach to Environmental Health problems.

Professional field practice education during the course of studies enables integration of the art and science of the profession taught at the University with the practical existing problems in the community.

Recognition of the need for articulating professional study programs, provided in an academic atmosphere on campus, with supervised work experiences gained through the medium of related off-campus employment, is a concept that is emerging slowly but steadily in higher education. This practice has the
potential of becoming one of the more significant developments related to the preparation of individuals to serve in professional-vocational fields.

Actually, the principle is not new, since on-the-job experiences of an introductory nature have been provided by many employers for quite some time. However, in-service programs designed to enable adjustment to a particular vocation seldom prove to be sufficient unless an unusual amount of time is devoted to such matters. The latter was frequently felt to be unwarranted and employers, therefore, continue to be hopeful that a more acceptable means of solving the dilemma through pre-service preparation might be devised. In fact, many employers are highly interested in cooperative education programs as one way of identifying and recruiting effectively prepared professionals.

Student teaching programs and internships promoted by Schools and Departments of Education have contributed immeasurably to professional development of school personnel. Internships required of medical and allied practitioners have likewise proven to be of unquestionable value. Furthermore, numerous professional societies interested in matters of program accreditation either require or recommend the equivalent of professional field practice education as part of preparatory programs of study.

The Department of Health and Safety conceives that professional field practice education should serve the following functions regarding assistance to those students who elect one of the professional-vocational programs offered by the department: (a) provide practical introductory work experiences under appropriate supervision by experienced and competent personnel, (b) enable refinement of basic skills essential to practice of the professional field involved, (c) assure familiarity with the activities of practicing professionals in a particular vocational field, (d) allow for participation in the planning of various work activities, (e) fulfill certain individual needs that cannot be readily met in the usual classroom-laboratory environment, (f) provide essential contacts which are usually helpful to one entering a chosen profession, and (g) assist with the development of an applied professional philosophy.

Courses included in the Professional Field Practice area are:

HLSF 320, 321, or 322: Field Practice Observation and Reporting 2 Sem. Hr.
HLSF 420, 421, or 492: Professional Field Practice Internship 6 Sem. Hr.

By staggering the practicum courses and field traineeships, all persons involved in the educational process: students, practitioners, and teachers, have an opportunity to grow professionally and keep up to date with the field.

The Health Departments of Oakland County, Michigan; Wayne County Michigan; Summit County, Ohio; Montgomery County, Ohio; Steuben County, Indiana; Vigo County, Indiana; Hendrix County, Indiana; Will County, Illinois; Lake County, Illinois; and the State of Illinois are to be congratulated for taking the lead in providing many positions for supervised, comprehensive work study experiences for I.S.U. Environmental Health majors on a continuing basis. Adequate wages are being paid to the students to provide enough money for room, board, and some left over for the following year's tuition and books. We urge other states to establish like cooperative agreements with universities.