

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

When the Charters' Report was issued under "Basic Material for a Pharmaceutical Curriculum," teachers of pharmacy were very much pleased to note the coöperation of the Public Health Service in the preparation of the subject of "Public Health." The following paper by Dr. Taliaferro Clark, Assistant Surgeon General, U. S. Public Health Service, presented at the Teachers' Conferences at the last meeting of the American Association of Colleges of Pharmacy is further evidence of the willingness of the Public Health Service to coöperate with Pharmacy in determining what should be taught pharmacists regarding public health. As stressed in the Charters' Report, the pharmacist holds a strategic position in the dissemination of information regarding public health and it is the duty of every pharmacist to secure authentic information on this subject and to assist in its dissemination. This timely paper by Dr. Clark points the way for the development of a satisfactory course in public health in our colleges of pharmacy.—C.B. Jordan, *Editor*.

THE TEACHING OF PUBLIC HEALTH.

BY TALIAFERRO CLARK.

ASSISTANT SURGEON GENERAL, U. S. PUBLIC HEALTH SERVICE.

It will probably interest you to know something of the steps taken in the development of the preparation for a course in public health to be included in the standard curriculum for colleges of pharmacy. As you know, the Commonwealth Fund, in 1924, undertook a study of pharmaceutical education, with the coöperation of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy and the National Association of Retail Druggists, which was headed up in the University of Pittsburgh under the direction of Professor W. W. Charters. After the study had been carried on for some time, it became evident to the directing heads that in working out a curriculum for colleges of pharmacy it would be possible to do so in a manner as to be of great assistance to the public health movement through the retail druggists. Accordingly, a letter was addressed to the Surgeon General of the Public Health Service by Professor Charters requesting the assistance of the Public Health Service in the preparation of an outline of such a course and it fell to my lot to be designated as one of the officers who participated in this work.

In accordance with an agreement arrived at in conference with representatives of the Committee on Curricula, Doctor A. R. Bliss, Jr., and Doctor A. B. Lemon, an outline on public health topics was worked out and incorporated in the report, "Basic Material for Pharmaceutical Curriculum," prepared under the direction of Doctors Charters, Lemon and Monell, published in 1927. The subject matter of the course was arranged in a series of topics instead of lectures in order to conform with the "Pharmaceutical Syllabus" prepared and published by the Pharmaceutical Syllabus Committee representing the AMERICAN PHARMACEUTICAL ASSOCIATION, the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy.

I. Number of Hours.

In an investigation of courses of study in 57 Class-A medical Schools, in 1922-1923, it was found that from 3 per cent to 4 per cent of the total hours out of 108 to 176 hours for the entire course were assigned to hygiene and sanitation.

II. Number of Courses.

Usually only one, though the total hours are the same as if several.

III. Scope.

Lectures and demonstrations.

IV. Best Year for Course.

Third or fourth.

V. Purpose of Course.

(1) To equip as a hygienic advisor, and (2) to deal with environmental factors.

VI. Scope of Course.

This course should give information with regard to (1) organized community health programs, and (2) the relation of the pharmacist to the work of official health agencies, and (3) to certain fields of health activities.

VII. Topics. (See program.)

No attempt was made in the preparation of the outline to treat the subject matter as comprehensively as if it were for use in schools of public health. Such a comprehensive course and in such detail would be beyond the ability of the average student of pharmacy to master by reason of his lack of a medical background, the absence of the necessary clinical facilities in schools of pharmacy, and the difficulty that would be experienced to include public health lectures throughout the entire period of study required for a degree. Therefore, the topics were selected and arranged so as to facilitate the instruction and familiarize students of pharmacy with some of the essential public health problems, indicate profitable lines for postgraduate study and fit them properly to advise the many persons who will consult them on health problems.

Moreover, the outline does not call for any extended discussion of special diseases, because such instruction can be but imperfectly given except in medical schools. A smattering of information on such matters is probably more dangerous than no information at all. For this and the foregoing reasons the course of instruction should deal with broad underlying principles and be so arranged that the students in one part of the country will obtain the same fundamental instruction in public health as those attending a school of pharmacy in another section of the country, except as may be modified by local conditions wherever adopted.

In the present state of development of official and private laboratories for bacteriological and pathological examinations there appears to be no necessity of supplementing this service by laboratories connected with pharmacies. Also, it is hardly possible so to instruct the student of pharmacy in laboratory procedure in a course of pharmacy extending over three or four years properly to equip him to make authoritative decisions on matters of such vast importance to health and life.

The Public Health Service deplors the tendency toward self-medication except of the simplest character and then for a very brief duration of time.

It is believed that a student of pharmacy would have neither the time nor facilities so to master the symptoms of disease and understand their pathology to render him competent to advise regarding their treatment, nor does it appear

to be desirable. The early symptoms of a number of diseases most fatal to man can only be recognized by one of training and experience in their diagnosis. The early recognition of such diseases and the prompt initiation of appropriate treatment offers the only hope of cure for some of them. Self-medication and counter-prescribing tend to prevent the prompt and early consultation of qualified diagnosticians. It is not expected that the druggists will discontinue the sale of proprietary remedies so long as there is a continued popular and profitable demand for them. However, in view of the increasingly strict supervision of such products by official and volunteer agencies, and the educational propaganda coupled with legislative restrictions which will eventually limit the demand for such preparations as to make them no longer a source of considerable revenue to the dispenser, it is hoped that the pharmacists of to-morrow may leave school with proper appreciation of the lack of therapeutic value of these remedies and be in position to take stock and eventually devise other means of supplementing his revenue than by the sale of nostrums.

A. PUBLIC HEALTH.¹

I. *Public Health Agencies.*

- (a) Federal; (b) State; (c) Local.

II. *Information to be disseminated.*

- (a) Federal laws and regulations of Public Health Service
 (b) State laws and regulations of Boards of Health
 (c) Local by-laws and regulations of Boards of Health.

III. *Forms of coöperation*

- (a) Dissemination of information
 (b) Service on Boards of Health in health campaigns and movements
 (c) Reporting communicable diseases
 (d) Educating to report vital statistics
 (e) Miscellaneous.

B. PERSONAL HEALTH.

I. *Personal Hygiene.* II. *Nutrition.* III. *Milk.*

IV. *First Aid.* V. *Diseases other than communicable diseases covered by law.*

Obligatory.

I. *General Consideration of the Causes of Diseases.*

II. *General Consideration of the Control of Communicable Diseases.*

III. *Vital Statistics.*

IV. *Official Health Organizations—Federal and State.*

V. *Disinfection.* VI. *First Aid.* VII. *Nostrums.*

VIII. *Tuberculosis.* IX. *Venereal Diseases.*

X. *Smallpox and Vaccination.* XI. *Biologic Products.* XII. *Personal Hygiene.*

Optional.

XIII. *Nutrition.* XIV. *Typhoid Fever.* XV. *Diphtheria.*

XVI. *Scarlet Fever.* XVII. *Milk and Its Products in Relation to Health.*

¹ NOTE: The outline of the course is from "Basic Material for a Pharmaceutical Curriculum" wherein it is cited: "The information to be taught in a pharmacy course was prepared on the basis of expert opinion by the U. S. Public Health Service. The outline of a course which follows is in the exact form in which it was submitted by the Surgeon General's office."

For many years the colleges of pharmacy have begun the teaching of pharmacy in the freshman year. This was due to our short course, making it necessary to introduce pharmacy as soon as the student entered the college. The question has been debated many times as to whether it would not be better for the student to have had a year of chemistry and physics before being introduced to the subject of pharmacy. When our four-year courses become operative, such a procedure will be possible. At present, however, it would seem necessary to introduce pharmacy in the freshman year. The following paper by Professor Shkolnik treats of the application of chemistry to pharmacy and is worthy of careful consideration by all teachers of pharmacy.—C. B. JORDAN, *Editor*.

SHOULD CHEMICAL REACTIONS BE STRESSED IN TEACHING PHARMACY?

BY SAMUEL SHKOLNIK.*

We are all aware of the fact that the nature of the various courses taught in a College of Pharmacy is such that they do overlap one another, and that no sharp line of demarcation can be drawn between them. Quite frequently, therefore, it becomes necessary to discuss chemical reactions in connection with the subject of Pharmacy as such, particularly in the Pharmacy Laboratory, if we desire students to understand what they are doing. I shall confine myself in this article to the discussion of the "propriety of stressing chemical reactions in the Pharmaceutical Laboratory rather than leaving it entirely to the Chemistry Department wherein the subject of Chemistry is studied as such."

Let us picture ourselves in a Pharmacy Laboratory giving instruction to a group of students on the preparation of the popular solution—"Lime Water." If it be contended that chemical reactions are not to be stressed in this laboratory, what would be the nature of the instruction? Undoubtedly the method as outlined in the U. S. P. would be presented, the materials necessary for its manufacture distributed, and the instructor with his grade book and pencil in his hand would pass back and forth through the aisles of the laboratory to see that the solution is properly put up and that all rules of technique are observed. Most of us know that this method would be very unsatisfactory, for the students, though given detailed information in the U. S. P. regarding the manufacture of this preparation, and its storage, will not, or cannot, or both, correlate the various points for themselves and cannot, intelligently discuss either its composition, nature or method of storage.

I have tried it and have had that very experience. They weigh out the directed ingredients and follow the directed procedure without knowing what they are doing or why they are doing it, notwithstanding that they have covered in the Chemistry Department the study of the alkaline earth metals and their compounds. Now, why? Because, while reading the directions from the U. S. P. the average student sees before him only nothing more than a group of words; he does not seem to be able to use his knowledge of elementary chemistry (and that is all the chemistry involved here) which, as I said before, at the time of the manufacturing of this preparation he has already had, or at least has been exposed to. A question like this—"Why was the Official Latin title of this solution changed from *Liquor Calcis* to that of *Liquor Calcii Hydroxidi*"—is almost unanimously proclaimed by

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