

macists only, just as rapidly as this can be brought about without disrupting the industry. Further,

Be it resolved, that we favor legislation similar to that already enacted in Maryland and Virginia requiring that the manufacture and packaging of drugs, medicines, toilet articles, dentifrices and cosmetics be under the immediate supervision of a registered pharmacist or some other person approved by the Board of Pharmacy. And further,

Be it resolved, that the labels of all drug products of all kinds carry the statement that their manufacture be done under the supervision of such registered pharmacist or other qualified person.

The first two of these will, of course, require legislation to make them operative. The second objective, however, it seems to us may be brought about by the moral suasion implied by the passage of similar resolutions by all of the health service pharmaceutical organizations of the country.

What shall we say about working conditions in many stores? That some of these are intolerable, unnecessary, uneconomic and often even dangerous to public health, will hardly be questioned. They are a cancer eating at the very vitals of one of the most necessary parts of the whole health program, and yet we do little to remedy them. I am unqualifiedly opposed to the unionization of professionally trained men for the accomplishment of changes in conditions such as the ones referred to above. Pharmacy degrades itself when it must resort to such methods of improvement, but unless improvement does come, just as surely as the sun shines we will be confronted by a problem that may even smother what public health consciousness has developed in the profession by demanding higher educational and personal qualifications of its entrants.

With this in mind, I wish to offer for your consideration a third resolution to be passed on to the Resolutions Committee of the House of Delegates:

WHEREAS, many of the demands made upon the time, energy, health, patience and family welfare of those responsible for the health service work of pharmacy as now conducted in a great many pharmacies bears little relation to the obligations of the profession to the public, or to the economic safety of the business, and

WHEREAS, we view with alarm the resentment there is now or may grow up against unreasonable working conditions in the profession,

Therefore be it resolved, that the Section on Education and Legislation recommend to the House of Delegates and through it to the state associations affiliated with it, that this subject have a prominent place on the programs of them all at their next annual meetings.

THE NUMBER OF GRADUATES AND REGISTERED PHARMACISTS NECESSARY TO MAINTAIN THE PROFESSIONAL PERSONNEL AT THE PROPER LEVEL.*

BY E. F. KELLY.

The invitation of the secretary of the Section to prepare this paper was accepted not because it was thought that the question involved could be solved at this time, but in the hope that something might be contributed toward its eventual solution.

An adequate personnel, neither too small nor too large, is a necessary feature of any service and especially so of a health profession. If the personnel is either too small or too large, the service tends to break down on account of lowered standards on the one hand to attract more practitioners and on the other to accommo-

* Section on Education and Legislation, A. PH. A., New York meeting, 1937.

date the surplus. Experience has shown that efforts to control the personnel of a profession should be undertaken very carefully and only after the most studious examination of all the available information. Even if these precautions are taken, it is still held by many to be an un-American procedure since every one should have the right to enter the pursuit of his or her choice. It must be evident, however, that the quality of a health service is of paramount importance to the public welfare and that a reasonable control of the personnel for the purpose of protecting the quality of the service is in the public interest, as well as necessary to the permanency of the service.

The AMERICAN PHARMACEUTICAL ASSOCIATION has for several years past and with the coöperation of its related organizations, particularly the N. A. B. P. and the A. A. C. P., been engaged in an effort to collect such data as will show the extent and character of professional pharmaceutical service in this country and the number of institutions and the personnel required to render this service. Fortunately a number of studies and surveys made by other groups have been very helpful. This effort is far from completion particularly with respect to institutions and personnel. For instance, we have learned this year that 1419 of the registered hospitals employ 1901 pharmacists, but we do not know as yet how many more of the hospitals should employ pharmacists.

Although real progress has been made toward learning the personnel required, there are still a number of basic questions to be determined more accurately. Among them are: (1) what is an adequate pharmaceutical service and what changes will it undergo; (2) do we have too many or too few pharmacies, hospitals, dispensaries, etc., for the purpose; (3) are they properly distributed or are too many located in some areas and too few in others; (4) how much of the time of qualified pharmacists is being given to other than pharmaceutical service; (5) can the service be extended and if so, how? Irrespective of the final answer to these questions which will very likely gradually influence the personnel required, we have to proceed for the present on the basis of existing conditions in any effort to determine the replacement required to maintain an adequate personnel in pharmacy.

The data so far available indicates that there are approximately 100,000 pharmacists registered and in practice in this country; that about 1000 of them die annually; and that their average length of service is about thirty years. If these data are dependable, then from 3 to 3½ per cent of the 100,000, or from 3000 to 3500 should be replaced annually. In the Charters Report, issued in 1925, it was estimated that approximately 5000 replacements would be required. In the report of the Committee on the Cost of Medical Care in 1932, the number of registered pharmacists was estimated at 115,000 and there evidently has been a decline in this number. Another interesting fact is that the Census figures indicate that the number of drug stores in proportion to population in 1933 was about the same as that in 1880, or approximately 1 to 2100; and that during the last two years there was a decrease of approximately 2% in the number of stores. It may be that this decrease is the result of the decrease in the number of practicing pharmacists, since it did not occur during the depression.

The number of college graduates does not accurately show the number of newly registered pharmacists since graduation is still not a prerequisite in four states, but it has been an increasingly dependable guide over the last decade. There has been

a large decline in the number of graduates over the decade, no doubt due in part to the successive changes from the two- to the three- and then to the four-year minimum course in pharmacy and in part to the depression. This decline no doubt explains the reduction in the total number of pharmacists—referred to above.

The decline is indicated by the following figures showing the number of graduates for the years given, as taken from a report submitted at the Dallas meeting by Chairman Jordan of the A. A. C. P.: 1931, 2943; 1932, 2751; 1933, 2274; 1934, 2333; 1935, 1295 (due to the change from the three- to the four-year course); 1936, 1572. For 1937, the number will be about 1800. The decline in registration for these years is proportional although not equal to the decline in graduation, as shown by the following approximate figures taken from the report submitted at the same meeting by Secretary Christensen of the N. A. B. P.: 1931, 2528; 1932, 2344; 1933, 1948; 1934, 2164; 1935, 1480; 1936, 1843. The estimate of graduates for the years 1938 was 2252 and for 1939, 2703 based on the number of students enrolled.

The enrollment for the year 1936-1937 indicates an increase of approximately 5% and it is probable that the increase in attendance and therefore in graduation will continue for some time although it is doubtful that it will exceed the peak of about 1929. In 1929, there were approximately 2900 graduates and even in this high year, less than the minimum estimated replacement was provided.

All of these facts and figures mentioned above are national in scope and apparently do not apply equally when broken down by states or regions. As instances, the Board of Pharmacy in Massachusetts estimates the number of unemployed pharmacists in that state as 500 while other states report an actual and pressing shortage of pharmacists; there is evidently an oversupply of colleges in some sections while other larger areas do not have a college.

Based on the data available, it seems evident (1) that the number of graduates over the last decade is not equal to the estimated replacement required and that as the result the number of registered pharmacists has been reduced to an extent which required careful study; (2) that the number of graduates required varies somewhat from the normal in each state and section and that it should be determined with respect to local and not national conditions although the national average should be employed as the basis of comparison; (3) that an average increase in graduation will tend to continue the same conditions of a surplus in some states and a shortage in others; (4) that the number of matriculants accepted by any school should be carefully regulated with regard to the replacement required for the area it serves.

At one time, it was thought that the raising of standards would tend to limit the personnel in the health professions but experience has shown that this is not necessarily the result. It would seem to be necessary, therefore, to actually limit the number of matriculants accepted, if replacement levels are to be maintained.

We now have available in the reports of the A. PH. A., A. A. C. P. and N. A. B. P. data to show (1) the losses to be expected in the number of graduates and of registrants as compared to the number of matriculants and, fortunately, these are given per school and per state since a marked variation per school and per board is apparent; (2) the number of students per store per state; (3) the gains and losses per state through reciprocal registration; (4) the number of students from any state taking the course in pharmacy in the other states; (5) the ratio of stores to population per state; (6) the number of drug stores per state and per county and city of

the state; (7) the approximate number of graduates that go into the various divisions of pharmacy with approximately 80% entering retail pharmacy, 8% in lines allied to pharmacy, 8% outside of pharmacy, 2.5% unemployed and 2% unemployable.

On the basis of the data outlined above, it would seem possible for each state to arrive at a reasonable estimate of the replacement required, if the national average of 3 to 3½% is taken as a basis and modified to reflect the local conditions.

It is encouraging to note that without an arbitrary reduction in the number of schools or an arbitrary control of replacement, pharmacy has apparently regulated its personnel on a national basis about as satisfactorily as any other health profession. The indications are that the national average will continue to be reasonably satisfactory since the expected losses will be about balanced by the expected gain in matriculation and in the increased proportion of graduates who pass the boards.

The local situation, however, seems to demand careful, and in some states immediate, attention, particularly where a large shortage or surplus is indicated, and in some states the situation is being worked out very satisfactorily by a coöperative program between the state pharmaceutical association, the school or schools and the board of pharmacy, which is the ideal arrangement. In one state, these three agencies joined in a request to the state legislature that the appropriation to the School of Pharmacy be increased in order that the number of matriculants could be decreased to meet the estimated necessary replacement, and the request was granted, which shows that this difficult problem can be solved, locally as well as nationally.

THE VOICE OF PROFESSIONAL PHARMACY.*

BY MARVIN J. ANDREWS.¹

The practice of pharmacy is not essentially a commercial institution, characterized by the bargain and barter of the ordinary commercial establishment. On the contrary it is the art of practice of preparing and preserving drugs and of compounding and dispensing medicines according to the prescriptions of physicians. It is as surely a healing agency as the medical profession; supplementing the efforts of the latter in bringing health to the sick and measuring the doctor's success to that end by its own knowledge and skill.

The voice of professional pharmacy may be silent, yet effective, or it may be audible. In either case a professional pharmacy, to be successful, must be conducted by an energetic pharmacist who is professional-minded. His first job is to sell himself, during and after his college training, on the ideals of professional pharmacy, after which his actions and deeds will sell these ideals to members of the other professions and to the general public.

Of the two voices no doubt the silent one, in its way, speaks the loudest. It may speak in the store or again it may speak many miles away. As an illustration let us follow a prescription after it has been compounded and delivered to the door of the patient and allow it to tell you a story. In its silent way it shows, as it is

* Section on Pharmaceutical Economics, A. PH. A., New York meeting, 1937.

¹ Assistant Professor of Pharmacy, School of Pharmacy, University of Maryland.