The vertical adjustment is readily made by means of a hand screw on the central supports.

The seat is provided with an adjustable back, similar to that of a Morris chair, with a cane center to prevent undue pressure. This cane back is removable, so that all pressure on sensitive spines may be prevented. The front half of the chair seat is divided anteroposteriorly into adjustable sections, which may be lowered to various angles to meet the requirements of the various types of leg braces. The seat is pivoted, revolving on ball bearings in an arc of 180 degrees, to provide greater mobility and facility for the crippled child in sitting and standing. Additional accessories in seating for the comfort of the child include foot rests, foot braces and air cushions.

Each classroom for nontuberculous cripples is provided with a cot, a sleeping chair and a blanket for emergency use. Each classroom for children with bone tuberculosis is equipped with a cot or a sleeping chair and a blanket for each child to meet the orthopedists' recommendations of a sleeping period in school for this group.

Crippled children are provided with transportation by stage to school and to their homes.

When greater warmth is necessary, children in all open-window classes should be provided with sweaters, coats, leggings, mittens, caps and bloomers for the girls, in addition to their skirts. As these are articles of clothing in common use, no additional expense for personal equipment is needed. The personal equipment of the teacher should be similar in character to that worn by the children in the special class to which she has been assigned.

SUMMARY

1. The type of physical defect should be the basis for the segregation of groups of physically handicapped children in special types of classrooms, that is to say, outdoor, fresh-air and open-window classrooms.

2. The range of temperature is governed by the type of physical defect in each special group.

3. Glass wind and storm shields are recommended to admit light and regulate heat, replacing the canvas or wood protectors now in use. Specially constructed window ventilators should be installed in all open-window classes, to prevent drafts and to protect children seated near the open windows.

4. No classroom for physically handicapped children, with the exception of the kind mentioned in Groups 1 and 2, of the third section in the accompanying table, should be located higher than the second floor unless an elevator is available.

5. In outdoor and fresh-air classes, movable, adjustable chairs are recommended instead of fixed desks and seats. This equipment could then be used for sleeping, rendering but one set of classroom furnishings necessary. A movable equipment in outdoor and fresh-air classrooms has the following additional advantages: (a) Direct drafts on children are easily avoided. (b) Greater space for classroom activities and physical training is provided. (c) The children are permitted greater freedom. In classes for cripples, additional mobility is made possible through specially constructed desks and pivotal chairs.

6. The type of personal equipment should allow the greatest possible freedom for schoolroom activities and physical exercises, and should eliminate the danger

arising from fire drills and other emergencies. It should also be sanitary, so as to be easily cleaned. The type of equipment commonly in use fulfills none of these requirements. Before a child is placed in a special classroom with lowered temperature, he should be provided with sufficient underwear and appropriate outer clothing, as well as storm equipment, so that he may not feel the effects of exposure when he leaves the classroom at the end of a school session.

THE MORTALITY FROM PELLAGRA IN THE UNITED STATES

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By force of circumstances, greater attention is at present being directed toward dietary problems than ever before. The growing disproportion between a practically stationary income and an increasing cost of foodstuffs has resulted in considerable hardship during the past few years, and has brought with it an accentuation of diseases commonly associated with defi-

TABLE 1.—PELLAGRA MORTALITY IN THE NORTH ATLANTIC STATES *

	Deaths	
	1915	1916
Maine.....	10	15
New Hampshire.....	5	10
Vermont.....	3	3
Massachusetts.....	26	37
Connecticut.....	1	1
Rhode Island.....	8	7
New York.....	12	27
Pennsylvania.....	?	?
New Jersey.....	5	4

* Population, 29,246,000; deaths, 1915, 70; 1916, 104; mortality per hundred thousand population (excluding Pennsylvania), 1915, 0.33; 1916, 0.5.
† No statistics available.

TABLE 2.—DEATHS FROM PELLAGRA IN THE SOUTH ATLANTIC STATES *

	Deaths		Rate per 100,000 Pop.	
	1915	1916	1915	1916
Delaware.....	0	0	0	0
Maryland.....	15	3	1.1	0.2
District of Columbia.....	16	9	4.4	2.5
West Virginia.....	?	?	?	?
Virginia.....	332	249	15.1	11.3
North Carolina.....	831	476	35.0	19.8
South Carolina.....	1,468	672	92.0	39.0
Georgia.....	2,012	958	70.0	32.8
Florida.....	375	202	41.1	22.5

* Population, 13,343,000; deaths, 1915, 5,049; 1916, 2,524; mortality per hundred thousand population (excluding West Virginia), 1915, 42; 1916, 21.
† Deaths reported, but the total number not available to the state health office.
‡ No statistics collected in Georgia; the mortality given is estimated.
§ Statistics incomplete.

ciencies in diet, such as pellagra and scurvy. Profound alterations in the labor market have led, furthermore, to a far-reaching migration from southern agricultural to the northern industrial centers. Under such circumstances it is appropriate at this time to discuss briefly the recent pellagra statistics, and to call attention to the widespread distribution of the disease in the United States.

That the diet is of basic import, either as a contributing factor or as the etiologic agent in producing pellagra, has been generally accepted by observers, although it must be admitted that no one interpretation

of this relation to the disease has been definitely accepted. The corn ration more or less prevalent in the pellagrous districts is not in itself responsible, although it may be one of a number of factors that tend to bring about a state of nutritive deficiency, since zein, the chief protein constituent of the corn, is the

officers, has been collected; the graphic representation of the statistics is shown in Figure 1.

THE REDUCTION IN THE MORTALITY RATE

It is at once apparent from Tables 1-5 that a striking reduction in mortality took place during the year 1916, the total number of deaths recorded for 1915 being 10,663, while during 1916 only 6,289 were recorded in the state health offices. This reduction was of greatest extent in the South Atlantic group of states, where the mortality declined from 42 to 21 per hundred thousand population.

When the figures are examined on the basis of race (Table 6) it will be observed that a greater reduction occurred in the colored than in the white race.

INCREASE IN MORTALITY IN THE NORTH ATLANTIC STATES

While a decrease occurred in the chief pellagrous districts, it is rather interesting to observe that in the New England states the mortality, although still low, practically doubled during the year 1916, so that the death rate for Maine and Vermont, for instance, is almost as great as in some of the states directly bordering the pellagrous area.

THE STATISTICAL AND THE ACTUAL MORTALITY RATE

There is very little doubt that the diagnosis of pellagra submitted on the death certificates to the various state health offices is almost invariably correct. The statistics err only in the omission of a vast number of deaths actually due to pellagra but improperly entered on the records as deaths due to other causes. It is very probable that the actual mortality from the disease is from 50 to 75 per cent. greater than is indicated in the statistics presented. This condition is brought about

Fig. 1.—Graphic representation of pellagra mortality per hundred thousand population during 1915 and 1916. Shaded columns indicate mortality in 1915; black columns indicate mortality in 1916.

only one of the commonly used proteins that is definitely lacking in certain of the amino-acids. The more recent work of Goldberger and his associates has done much to confirm Funk's contention that the disease is due to a vitamin deficiency.

The possibility is not excluded that, instead of dealing with a deficiency, we have to do either with an intoxication from the absorption of toxic products originating in the intestinal tract and related to an altered flora (that such bacterial changes occur has been repeatedly demonstrated), or that a specific organism, as yet not isolated, causes the disease. The epidemiologic data collected by the Thompson-McFadden Commission and by Jobling in Nashville can be interpreted as lending support to the latter hypothesis.

The attention of the profession was directed to pellagra at a time when a rapid increase in the number of cases followed a period of financial stringency (1907-1908). This early period was probably followed by one in which the actual number of cases decreased, although the statistical evidence of this decrease was apparently negated by the increase in the number of cases that were correctly diagnosed. This period was followed by one of very definite and continuous increase in the mortality rate, until a maximum was reached in 1915, the number of recorded deaths for that year being well over 10,000.

In Tables 1-5 the states have been grouped and the pellagra mortality, as reported to the state health

Fig. 2.—Pellagra mortality of the white race in the United States.

by the following causes: Pellagra, contrary to the usual opinion, is a relatively chronic disease in the white race, and the death, when it does take place, is almost invariably attributed to the diarrhea or its resulting inanition. Symptomatic diagnoses, such as

dysentery, tuberculosis of the intestine, and chronic gastro-enteritis, are found commonly recorded for deaths due to pellagra, as well as symptomatic diagnoses referable to the changes resulting in the central nervous system. We have also to consider that a certain number of deaths recognized by the physician as due to pellagra are not entered by that name on the death certificate because of the prejudice on the part of the laity to a diagnosis involving to a certain extent the social status of the family.

THE MORBIDITY FROM PELLAGRA

Health authorities in the Southern States estimate that approximately 0.5 per cent. of the population is frankly pellagrous. With a population of about 32,500,000 in the pellagrous area, this would mean that there are some 165,000 pellagrins.

It has been estimated by others that for each death from pellagra there are at least fifteen living patients. This ratio applied to the mortality figures for 1915 would result in an estimated total of 157,000. Both of these estimates are undoubtedly greatly below the actual morbidity.

SUMMARY

While the accompanying map (Fig. 2), showing the distribution of the pellagra mortality for the white race during 1916, illustrates that pellagra is still predomi-

TABLE 3.—NUMBER OF DEATHS FROM PELLAGRA IN THE SOUTH CENTRAL STATES *

	Deaths		Rate per 100,000 Pop.	
	1915	1916	1915	1916
Alabama.....	1,109	677	48.4	26.6
Mississippi.....	1,535	840	79.0	43.0
Louisiana.....	301	295	16.6	16.4
Texas.....	661	452	14.5	10.0
Oklahoma.....	152	71	7.2	3.2
Arkansas.....	680	500	40.0	28.0
Tennessee.....	830	607	35.0	26.0
Kentucky.....	150	120	6.5	5.0

* Population, 19,270,000; deaths, 1915, 5,418; 1916, 2,562; mortality per hundred thousand population, 1915, 28; 1916, 19.

† The mortality for Arkansas is estimated. In 1915, when about 70 per cent. of the deaths were recorded, 477 deaths were reported due to pellagra. The 1916 statistics are not as yet available, and have been estimated as having decreased in the same ratio as those of Tennessee.

TABLE 4.—SUMMARY OF PELLAGRA MORTALITY IN THE NORTH CENTRAL STATES *

	Deaths	
	1915	1916
Ohio.....	5	6
Indiana.....	7	4
Michigan.....	12	4
Illinois.....	?	?
Wisconsin.....	1	0
Minnesota.....	0	1
Iowa.....	5	4
Missouri.....	42	39
North Dakota.....	0	0
South Dakota.....	1	0
Nebraska.....	?	?
Kansas.....	21	10

* Population, 32,315,000; deaths, 1915, 94; 1916, 68; mortality per hundred thousand population (excluding Illinois and Nebraska), 1915, 0.37; 1916, 0.27.

† Statistics from Illinois and Nebraska not available.

nantly a disease of the Southern States, nevertheless, deaths occur with considerable uniformity in all states with the exception of those in the northwest part of the country. In Canada, deaths from pellagra have been recorded¹ only in the Province of Ontario, although

undoubtedly isolated cases occur in other parts of the Dominion.

The maximum mortality was evidently reached during 1915; since then the number of deaths has diminished. In the colored race the decrease in the mortality

TABLE 5.—STATISTICS COVERING DEATHS DUE TO PELLAGRA IN THE WESTERN STATES *

	Deaths	
	1915	1916
Oregon.....	4	3
California.....	28	25
Colorado.....	0	3
Washington, Idaho, Utah, Wyoming, Nevada, Montana.....	0	0
New Mexico, Arizona.....	?	?

* Population, 8,694,000; deaths, 1915, 32; 1916, 31; mortality per hundred thousand population (excluding New Mexico and Arizona), 1915, 0.4; 1916, 0.4.

† Deaths from pellagra occur in these states, but statistics are not available.

TABLE 6.—STATISTICAL COMPARISON OF THE MORTALITY FROM PELLAGRA DURING 1915-1916 IN THE WHITE AND COLORED RACES *

	White		Colored	
	1915	1916	1915	1916
Oklahoma.....	6.1	2.6	14.9	6.6
Tennessee.....	26.0	20.0	75.0	49.0
Florida.....	19.0	13.2	77.0	38.0
North Carolina.....	24.0	14.6	58.0	30.0
District of Columbia.....	1.9	3.0	11.0	1.0
Alabama.....	28.0	19.0	74.0	44.0
Louisiana.....	5.0	7.0	32.0	28.0
Maryland.....	0.8	0.17	2.6	0.4
Mississippi.....	32.0	19.0	116.0	61.0
Kentucky.....	6.3	5.3	5.7	2.6
Average.....	14.9	10.3	46.6	26.0

* Statistics based on the mortality per hundred thousand population.

has been proportionately greater than in the white race. With the migration to the Northern States of large numbers of colored people, it is very probable that a considerable number of pellagrous individuals will have been included.

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Regulations Governing the Dispensary Treatment of Tuberculosis.—The department of health of New York City has recently amended the sanitary code to provide that "no public dispensary where communicable diseases are treated or diagnosed shall be conducted or maintained otherwise than in accordance with the regulations of the Board of Health." This amendment includes ten regulations requiring that the examination and treatment of persons affected with pulmonary tuberculosis be conducted in a special dispensary or department of a dispensary; that proper microscopic examinations of sputum shall be made; that the maximum number of patients examined shall not exceed five an hour; that the necessary medical and nursing staff shall be on duty on all days set apart for the reception of patients; that a proper follow-up system be maintained, that circulars of instruction and advice shall be furnished, and that all applicants be examined at the time of their first visit, irrespective of their place of residence; that an adequate supply of approved sputum receptacles be provided and the use of cuspidors be prohibited; that complete and adequate records be kept of every case of pulmonary tuberculosis examined, such records not to be open to inspection by the public other than the representatives of the Department of Health of the City of New York and such persons as may be authorized by the law to inspect such records; and that every department of a dispensary wherein persons are treated for pulmonary tuberculosis shall employ proper facilities for the examination and treatment of the nose and throat lesions.

1. Pinault, L. G.: Jour. Can. Med. Assn., 1916, 6, 228. Rolph, F. W.: Ibid., p. 323.