

MD REMEMBERS: An Intrepid Investigator

■ Dr. Joseph Goldberger, whose centennial is this year, is generally remembered for demonstrating the cause and cure of pellagra, but his many important contributions covered a wide range of infectious diseases. One of the most gifted epidemiologists in the United States Public Health Service, he investigated yellow fever in Cuba, malaria in Puerto Rico, typhus in Mexico and a typhoid fever outbreak in the District of Columbia.

When he was rushed to Brownsville, Texas, to check a dengue fever epidemic in 1907, he and a colleague wrote a report that remains a classic on the disease. With Dr. John F. Anderson, Dr. Goldberger showed that measles is transmissible to monkeys, that the virus is present in buccal and nasal secretions of infected subjects, and that "Brill's disease" was actually typhus.

An expert helminthologist, Goldberger studied hookworms and trematodes that are transmissible to man and traced a Philadelphia outbreak of a violent skin eruption to straw mites in mattresses. During a diphtheria epidemic in Detroit in 1913, he developed an improved system for classifying the bacteria in throat cultures and instituted rigid quarantine measures. In the course of his research he contracted typhus, dengue, yellow fever and to show that pellagra was not infectious he exposed himself to secretions, excretions and injections of the blood of patients with the deficiency disease.

Background. Born July 16, 1874, in Giralt, Hungary, Joseph Goldberger was the son of poor Jewish immigrants who settled in New York's lower East Side when he was six. He attended the local schools and was in his third year of the engineering course at City College when he decided to study medicine after attending a lecture by Dr. Austin Flint.

Fellow students at Bellevue recalled that Goldberger was a shy, ungainly figure who had a problem keeping his long legs under the desk but no difficulty leading his class in their studies. After receiving his M.D. in 1895, Dr. Gold-

berger served an internship and residency at Bellevue and then opened an office in his parent's apartment, but when no patients appeared he moved to Wilkes Barre, Pa. and practiced there for two years before joining the Public Health Service in 1899. In Mexico and Cuba he studied yellow fever, came down with the disease, and dictated his symptoms to a friend.

Puzzling Problem. Before 1900 pellagra was scarcely known in the

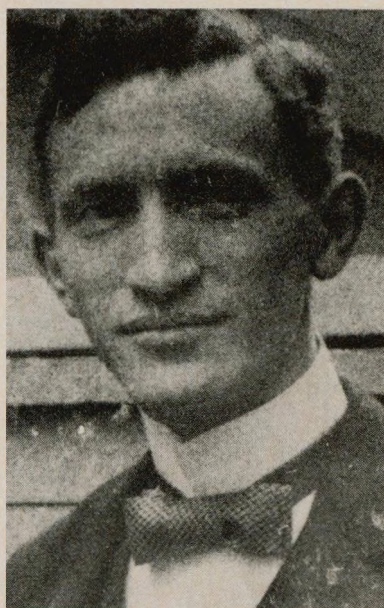
hundred inmates were pellagrins, none of the 293 staff members who were in close contact with the patients had the pigmented, thickened skin, weakness or neurologic disturbances associated with the disease. On a visit to an orphan asylum in Jackson, Mississippi, he found the disease in practically all the youngsters between the ages of 6 to 12 and only a few cases among the younger children who received milk and the teen-agers who were served a little meat.

From Virginia to Florida, Goldberger found a high incidence of pellagra in homes and institutions where the customary diet consisted of biscuits, hominy grits, corn mush, syrup and salt pork. When fresh milk, meat and eggs were added to the diet in experiments at two orphanages and an asylum, symptoms of pellagra began to disappear within a few weeks. Additional evidence that a food deficiency was involved was provided when 5 of 11 prisoner-volunteers, who were fed a meat and milk deficient diet, developed pellagra. To show that the disease was noninfectious, Dr. Goldberger and his co-workers ingested and injected themselves with nasal secretions, excreta and material from skin lesions of pellagrins.

Through his devoted associates Dr. Goldberger continued his efforts to isolate the pellagra-preventive factor after he developed a rapidly spreading carcinoma, but he died January 17, 1929, eight years before Dr. Conrad Elvehjem isolated nicotinic acid.

Goldberger was survived by his wife, the former Mary Humphreys Farrar of New Orleans, their daughter and three sons.* Colleagues remembered the hard-working researcher's gracious manner, his inquiring, tolerant expression and his intolerance for what he called "the school of impressionistic research." Goldberger said in that school the investigator after turning in his chair and looking out the window "solemnly announced his mature impressions as scientific fact."

* His second son Dr. Joseph H. Goldberger is a practicing ophthalmologist in El Reno, Oklahoma.



Dr. Joseph Goldberger.

United States, but the incidence and recognition of the disease increased rapidly and when Dr. Goldberger began his work there were some 100,000 cases in the south. Various physicians had attributed the characteristic triad of dermatitis, diarrhea and dementia to weather conditions, spoiled corn, microorganisms or a generally faulty diet.

Goldberger began his study at the small pellagra hospital established by the P.H.S. in Spartanburg, South Carolina. He asked the physicians and patients countless questions, explored the countryside and talked with the local cotton farmers and mill workers to learn how they lived and what they ate. At the Georgia State Sanitarium for the Insane in Milledgeville, he discovered that although several