



**With the month** of October, our thoughts turn to scary costumes and haunted houses, as we celebrate Halloween. Fortunately, we do not need to also be worried about quite a number of scary illnesses and diseases. For this, we can thank the efforts of women scientists and women physicians who have helped to make our world a much healthier and safer place. In honor of Halloween, we feature microbiologist Alice Evans, physician and pathologist Louise Pearce, and microbiologist and physician Gladys Dick this month.

Most of us have never even heard of undulant fever – and for this we can be grateful to **Alice Evans**. Attending school around the turn of the 19<sup>th</sup> century, Evans was a

pioneer both as a woman attending college and by choosing to study science. Because she was unable to afford college; first she taught grade school. After teaching for four years, she was able to enroll in a tuition-free two-year course in nature study at the Cornell University College of Agriculture. This specialized course was designed for teachers from rural areas. During her years at Cornell, she discovered her love of science and, in 1909, received a B.S. in agriculture. Evans then pursued graduate study in bacteriology at the University of Wisconsin. Alice Evans was the first woman to receive a scholarship in that area of schoolwork. In 1910, she received her M.S. in bacteriology, with a focus in chemistry.

Evans worked with a team that was working to isolate the sources of contamination in raw cow's milk. At that time, "uncleanness" was believed to be external to the animal. On her own, she began to focus on the intrinsic bacteria found in the milk. By 1917, she had found the bacterium responsible for undulant fever which was intrinsic to farm animals. She presented her findings to the Society of American Bacteriologists. Her report was met with skepticism, probably due to both her gender and her lack of a Ph.D. In 1925, when she was asked to serve on a National Research Councils Committee, she argued for the pasteurization of milk, which eventually became the standard. In 1928, she was elected the first woman president of the American Society of Bacteriologists. Evans has been inducted into the National Women's Hall of Fame.

A cure for African sleeping sickness, carried by the tsetse fly, was discovered by physician **Louise Pearce**. After attending Stanford University, Pearce graduated from the Johns Hopkins University School of Medicine. She then pursued a career in medical research. In 1919, she and her research partner announced that they had found a new compound that was effective in laboratory animals against the disease commonly called "sleeping sickness." African sleeping sickness was a plague that



**Alice Evans**



**Gladys Dick**

childhood disease. We can thank **Gladys Dick**, who worked with her husband George F. Dick, that we no longer need to worry about this scourge. Dick graduated in 1900 from the University of Nebraska but could not persuade her mother to agree to her desire to pursue a medical degree. After she taught high school biology for several years, her mother finally relented and Dick graduated from the Johns Hopkins University School of Medicine in 1907. After postgraduate work in Berlin, she moved to Chicago to pursue medical research. In Chicago, she met her husband.

In 1923, the Dicks published papers in which they proved that the cause of scarlet fever was hemolytic streptococcus. Over the next few years, they were also able to publish papers on methods to prevent, test, diagnose, and ultimately treat scarlet fever. Their work brought the disease under control. A test, which eventually came to be known as the Dick test, was announced in 1924. It was a simple skin test that demonstrated whether the patient was susceptible or immune to scarlet fever.

Later, Dick would work investigating polio. She also maintained a lifelong interest in children and their welfare and founded what is arguably the first professional adop-

had spread throughout that continent. In 1919, Pearce went to the Belgian Congo and administered the compound to 77 patients who were in all stages of the disease. Most of the patients were completely cured. Pearce was awarded the Belgian Order of the Crown, the King Leopold II Prize and the Royal Order of the Lion for her accomplishment.

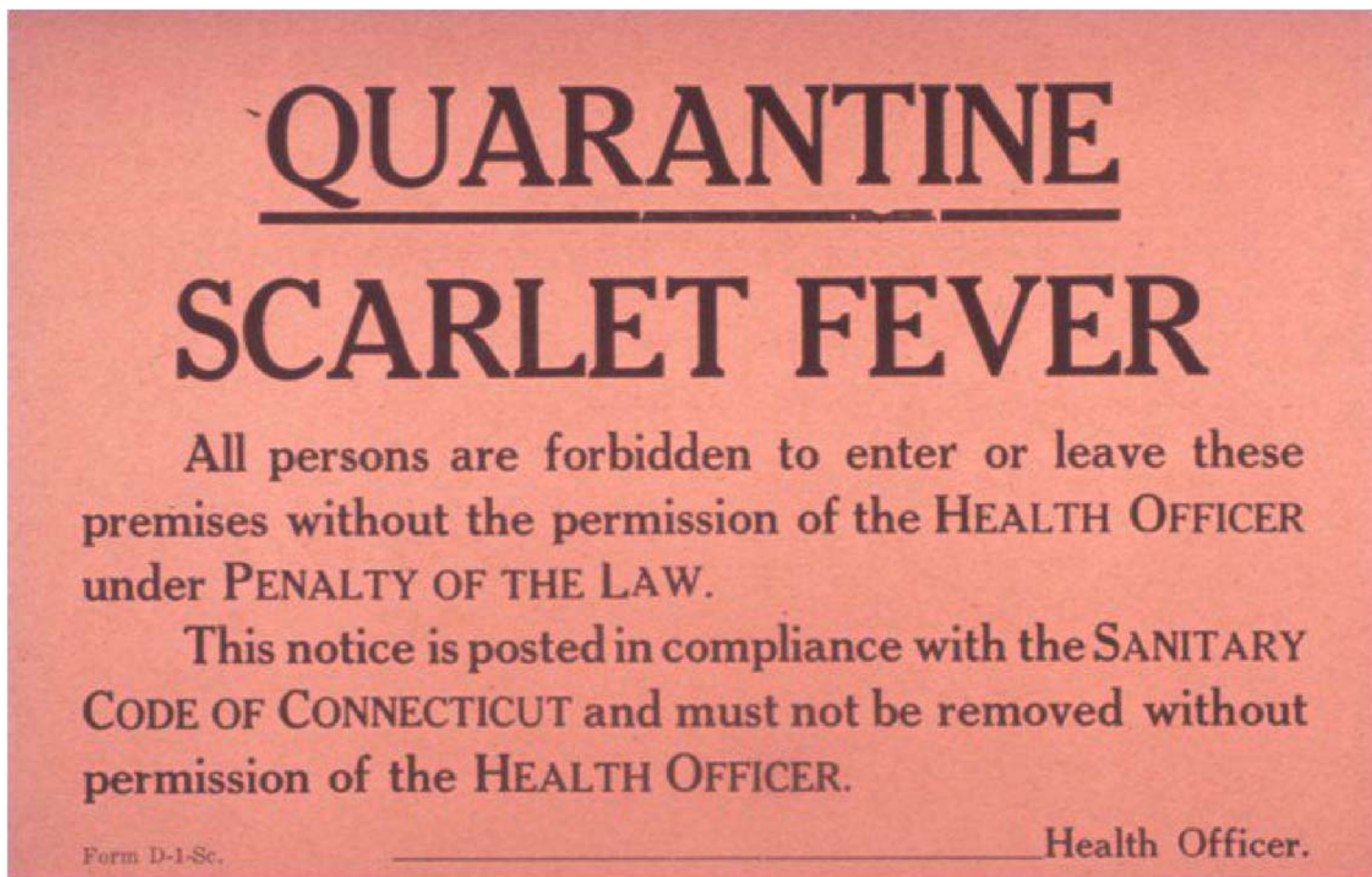
After returning to the U.S., Pearce worked on the biology of syphilis, as well as other infectious diseases and congenital deformities. She devoted much of her life to documenting many findings including discoveries about achondroplasia, a form of dwarfism and osteopetrosis, a bone disease that causes usually dense bones to be prone to fractures. An ardent suffragist, Pearce served as the President of the Medical College of Pennsylvania from 1946 until 1951. She also was the recipient of many honorary degrees.

About 25% of the children who contracted scarlet fever were killed by this



tion organization, the Cradle Society, in the U.S., in Evanston, Illinois.

As we hand out treats this year on Halloween, we can be thankful to these women who worked to eliminate these scary illnesses and diseases from our lives. We salute their accomplishments and admire their persistence in the face of so many obstacles.



**Charlotte S. Waisman**, PhD, co-author of *Her Story: A Timeline of the Women Who Changed America* (HarperCollins), is a national champion and advocate for women as a professor and keynote speaker. As an executive coach, Waisman coauthored *50 Activities for Developing Leaders* and *The Leadership Training Activity Book*. She is a principal with a consulting company specializing in leadership and workforce excellence initiatives.

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