

Tuberculosis is a disease with an approximately 5,000 year history, although exact dating has been debated, and it has been found around the world. Art and human remains point to the presence of tuberculosis in ancient Egypt, and the disease is mentioned in two books of the Old Testament in the Bible. Tuberculosis was described by Indian and Chinese texts between 2,000-3,000 years ago. It was called “phthisis” in classical Greece and was clearly detailed by Hippocrates, the “father of modern medicine.” Tuberculosis was romanticized in Europe during the 1800s as an illness befitting of artists and representative of wealth and purity. This idealistic concept does not reflect the reality of the disease during that time, in which poorer populations of large cities saw high rates of tuberculosis.

INQUIRY, COMMITMENT, RESOLVE: How Dr. Joe Bates changed the face of Tuberculosis



FOR MUCH OF ITS HISTORY, tuberculosis was nearly always fatal. Advances over the last century have improved patient outcomes and changed the face of this disease. An Arkansas physician, Dr. Joseph Bates, has conducted groundbreaking research on tuberculosis in this state, resulting in dramatic changes to the scientific understanding of the disease. Recently recognized for his lifetime contributions, Dr. Bates’ story is one of commitment, discovery, and the advancement of humane treatment of patients with tuberculosis.

As a teenager, Joseph Bates would drive his tuberculosis-stricken uncle to a sanatorium in Booneville for treatment. In the first half of the last century, it was known that tuberculosis was contagious and fatal; successful antibiotic therapy was yet to be discovered. Infected individuals were sent to live at institutions called sanatoriums where they received treatment to help the symptoms and also where they were isolated with other infected individuals, away from the unaffected community. Bates witnessed firsthand the inadequacy of the

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medical resources of the day and the suffering it caused. He went on to become a doctor and devoted his professional life to people like his uncle throughout Arkansas and the world.

One night while Dr. Bates was on rounds in an emergency room at the Arkansas Medical School, a young tuberculosis patient was admitted. The patient was a ward of the Wrightsville Boys Training School. He was the ideal test subject to unlock key elements of the spread of the disease. By studying the living conditions of this young man and other residents of the school, Dr. Bates helped prove emerging suspicions that the disease was spread through small airborne particles, not direct contact.

“For many years it was generally accepted that primary tuberculosis developed almost exclusively among persons who had prolonged and intimate contact with infectious sources. The mechanism of infection was poorly understood, but it was believed that the organisms spread through the air in particles, the inhalation of which resulted in the development of a pulmonary lesion... This epidemiologic study supports the contention that tuberculosis is spread among human beings by droplet nuclei.” (From “Epidemiology of Primary Tuberculosis in an Industrial School” by Joseph H. Bates, MD, William E. Potts, MD, and Margaret Lewis, RN)

Dr. Bates’ findings were published in the *New England Journal of Medicine* in 1964, bringing both notoriety and controversy. This article was followed by another article published in 1967 whereby he and his team demonstrated in Pine Bluff that tuberculosis patients, with proper treatment, were non-communicable after two weeks instead of

many months in a sanatorium which was standard at the time. In so doing, Dr. Bates revolutionized diagnosis and treatment of the disease.

In eight years, Dr. Bates had redefined the treatment paradigm and witnessed the Booneville sanatorium close in 1972. In collaboration with the Arkansas Department of Health, Dr. Bates helped eliminate tuberculosis as a major public health threat and reduce Arkansas case rates from well above to well below the national average.

Following a career in academic medicine, Dr. Bates joined the Arkansas Department of Health as director of the Tuberculosis Control Program in 1998 and served as deputy state health officer since 2005. He also played a key role in the establishment of the College of Public Health, serving as a member of both its faculty and administration.

Along the way, Dr. Bates was also a champion of his students and other physicians, researchers, and educators who demonstrated excellence in their work. He worked tirelessly behind the scenes to bring many of these professionals to Arkansas to improve the overall quality of life for its citizens.

In honor of his life’s work, Dr. Bates was presented with the inaugural Dr. Tom Bruce Arkansas Health Impact Award given by the Arkansas Center for Health Improvement. This award was established in hopes of recognizing individuals that embody the

life and practices of Dr. Tom Bruce, a native Arkansan who grew to international prominence for his work in medical education, advocacy on behalf of underserved populations, and philanthropy. Dr. Bruce’s many achievements in these areas earned him the title among his colleagues, “the father of Community-Based Public Health.”

There are few medical professionals whose life’s work transcends their individual sphere of influence to positively impact society as a whole, but Dr. Bates is one of those people. His findings and work with tuberculosis patients forever changed the way this disease was treated and resulted in the closure of sanatoriums across the country, ushering in a more effective and humane way of treating individuals with tuberculosis.

Dr. Bates’ story is an excellent example of how Arkansas’s medical community can use local innovation and talent to address major health problems. The state faces many challenges including obesity and its related impact. These challenges will benefit from similar levels of dedication and commitment. Hopefully Dr. Bates’ remarkable story will inspire current and future health care providers, policy makers, and individuals across the state to work together to accelerate continued success in the improvement of health in Arkansas. ■

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