World TB Day 2015

World TB day, celebrated on March 24th each year, commemorates the day in 1882 when Dr. Robert Koch announced his discovery of the cause of tuberculosis, the bacterium *Mycobacterium tuberculosis*. This discovery revolutionized our understanding of tuberculosis as a contagious disease that could be transmitted from person to person by the respiratory route (coughing, sneezing, and speaking, for example), and over time led to great progress in diagnosis, treatment, and prevention of TB.

Since the discovery of the tuberculosis bacterium, we have made great strides toward controlling tuberculosis. In 1944 the first antibiotic active against the bacterium (streptomycin) was discovered, leading to the first cures for TB. Over the next two decades a number of additional medications were discovered, so what had been a chronic and often fatal disease became a curable disease. Millions of lives around the world were saved by the combination of good medications and good public health practices.

As a result of the combination of effective medicine and extensive public health efforts to find and treat persons with TB, the number of TB cases in the United States has fallen to all-time lows. In 2013 there were fewer than 10,000 persons sick with TB in the United States, and last year North Carolina had only 195 cases among a population of over 9 million people. While tuberculosis ranked among the top 5 causes of death in the United States in the beginning of the 1900s, in the early 2000s death from tuberculosis is rare in our country.

Despite the impressive progress that has been made, we still have a long way to go to eliminate tuberculosis completely. Each year about 8 million people in the world become sick with tuberculosis, and about 1.5 million people die of the disease. Increasingly drug-resistant strains of the germ are being encountered worldwide; these strains are much harder to treat and require more toxic drugs to be administered for long periods of time. The TB germ is also very sneaky and hides from detection. Patients who are sick with TB can have relatively mild symptoms for a long time, so they may not seek medical care until the disease is advanced and they have infected many other persons around them. Furthermore, after infection the germ can hide dormant in the body for many years, coming back to life and making the person sick when age or other illnesses compromise the immune system. There are an estimated 9-11 million persons in the United States who are infected with the TB germ but not sick and not contagious, and each one of those persons has the potential to become sick at some time in the future.

Continued progress in the fight against tuberculosis relies on collaboration among patients, medical providers, and public health workers. Persons who are at risk for TB infection, either because they come from a country where TB is common (most of the developing world) or because they are exposed to high-risk settings like jails, prisons, or homeless shelters, should be tested for TB infection with either a skin test or a blood test. An infected person who is not sick can take medication that greatly reduces the risk of getting sick in the future. Medical providers should screen only high-risk patients for TB infection while abandoning screening of low-risk persons, which wastes time and resources. Continued strong support for public health programs to control tuberculosis and diseases like HIV that increase the risk to get sick with tuberculosis is vital to ongoing progress.

The world we live in today is very different than the world when Koch first revealed his discovery, but TB is still with us. With continued vigilance we can defeat the scourge of TB and consign it to the history books; failure is not an option.