Problem Statement: The process for determining whether patients have active Tuberculosis (TB) is inefficient, time consuming, costly, and may prolong length of stay for low to moderate risk patients in airborne isolation. Further, isolation has been shown to impede patient care and negatively impact patient satisfaction. While the number of inpatients at the University of Colorado Hospital (UCH) admitted to r/o TB is relatively small, this number is growing as the demographics of the surrounding community changes.

QI approach: In April 2014, an interdisciplinary committee was assembled to examine the current method for evaluating active TB and the impact on patient time in airborne isolation. Team members included the infectious disease director, vice chair for quality, departmental pulmonologist, clinical nurse manager for pulmonary, respiratory therapist, quality clinical process improvement specialist, along with extended interprofessional team members. Steps in the process included 1) process map of the current state with 3 identified areas of inefficiency addressed in subsequent steps; 2) development of a Rule-out TB order-set in EPIC; 3) update of UCH Airborne Isolation Policy to reflect current CDC recommendations for sampling interval; 4) updated respiratory therapy procedures; and 5) improved feedback communication directly to respiratory therapist. These changes were instituted in March of 2015 following education of providers and staff.

Outcomes: The pre-implementation period was the year prior to implementation (April 2014-October 2014). The amount of time spent in airborne isolation per patient during the pre-implementation period was 87.6 hours on average. Post implementation of the updated airborne isolation policy and the new rule-out TB order set during the same time period the following year, resulted in a significant decrease (p < .01), with an average time of 54 hours per patient spent in isolation. The results were found despite an increase in total admissions and the number of R/O TB episodes between the pre and post implementation periods (2014 N = 33 vs. 2015 N = 45). This decrease in airborne isolation hours is nearly 39%, and will likely show a significant impact on cost saving annually (numbers pending).

Next steps: We plan to continue to monitor progress and start tracking post-discharge outcomes, such as 30-day readmissions and mortality at one year. In addition, we will survey the overall impact on provider, staff, and patient satisfaction.