INTRODUCTION AND OBJECTIVE: Although renal mass biopsy (RMB) aids decision making, hesitations regarding safety and diagnostic accuracy have led to varied utilization across the United States. The Michigan Urological Surgery Improvement Collaborative (MUSIC) implemented a statewide QI initiative for patients diagnosed with a clinical stage T1 (localized, ≤7 cm) renal mass (cT1RM) in Michigan. This QI initiative provides an opportunity to assess the use of RMB for cT1RM evaluated across a range of practices types.

METHODS: MUSIC KIDNEY (Kidney mass: Identifying and Defining Necessary Evaluation and therapy) commenced data collection in 09/2017. Data abstractors recorded clinical, radiographic, pathologic, and short-term follow-up data into the registry for patients (pts) with a newly-diagnosed SRM across 122 datasets at a single time point (120 days after initial consultation). Data from 965 patients evaluated at 13 practices from 9/2017-4/2019 were analysed.

RESULTS: RMB was performed in 17.3% (n=167). Within the 13 practices, RMB use ranged from 0-67% (p=0.01). No differences were seen in age, gender, race, BMI, GFR or multiple lesions. Rates of RMB varied with tumor size, with highest rates for the 1-4 cm range (p=0.01). On multivariate analysis, predictors of RMB included greater comorbidity (Charlson score ≥2 vs 0: OR 2.90, p=0.002), academic practice (OR 3.17, p=0.021), and solid tumor type (OR 3.32, p=0.018). RMB was performed with low morbidity; 87% (n=136) were performed with same-day discharge. Six pts (3.7%) attended an ER in <30 days, and 5 of these (3.0%) required readmission. Pathology revealed cancer/suspicion of cancer in 74% and benign findings in 20%. No definite diagnosis was made in the remaining 10 pts (6%). The benign histology rate at surgical intervention in RMB naïve pts was 13% vs 8% in RMB pt (p=0.0025); 14 RMB naïve pts underwent radical nephrectomy (RN) with benign histology (10.6%) vs 1 pt with prior RMB (3%). This pt was misclassified at RMB as having RCC when at surgical pathology was found to have an oncocytoma.

CONCLUSIONS: Within the MUSIC collaborative there is varied utilization of RMB across practices. Predictors of RMB included solid tumor type, Charlson score ≥2, and academic urology group. RMB was rarely employed in tumors <1cm. Although RMB only modestly reduced the benign histology rate at surgical intervention, the rate of RN for benign histology is low. QI opportunities appear to exist to increase the utilization of RMB across Michigan and ultimately reduce overtreatment of the cT1RM.

Source of Funding: Blue Cross Blue Shield of Michigan