

A Decade of Making MUSIC: 10 years of Diagnosing and Managing Prostate Cancer Diagnosis in Michigan

Veena Bulusu¹, Ana M Moser², Sabir Meah³, Corinne Labardee³, David C Miller³, Michael L Cher², James Peabody⁴, Richard C Sarle⁵, Brian R Lane⁶, Khurshid Ghani³, James E Montie³, Tudor Borza³, Kevin B Ginsburg², for the Michigan Urological Surgery Improvement Collaborative³

¹Tufts University, Medford, MA, ²Wayne State University, Detroit, MI, ³University of Michigan, Ann Arbor, MI, ⁴Henry Ford Health System, Detroit, MI, ⁵Sparrow Point Hospitals, Lansing, MI, ⁶Corewell Health West, Grand Rapids, MI

INTRODUCTION AND OBJECTIVE:

The Michigan Urological Surgery Improvement Collaborative (MUSIC) is a statewide quality improvement consortium established in 2011 which provides unique population-level data with certain details not available in other cancer registries. Herein, we describe trends in biopsy outcomes and the management of patients with prostate cancer in MUSIC from 2012 to 2023.

METHODS:

The MUSIC database was retrospectively reviewed for patients who had received a prostate biopsy from 2012 to 2023. We reviewed the proportion of negative and positive biopsies by year, and report the proportion with clinically significant prostate cancer (CSPC, \geq GG2). Starting in 2019, we report the proportion of biopsies with an MRI prior. Lastly, we evaluated the type of treatment received within each grade group (GG).

RESULTS:

From 2012 to 2023, there were 136,169 prostate biopsies in MUSIC. Among men without a previous diagnosis of prostate cancer, the number of biopsies performed annually peaked in 2019 (N=13,082) but decreased to 10,086, 10,609, 10,083, and 10,457 biopsies in 2020, 2021, 2022, and 2023, respectively. Among men without a cancer diagnosis, the proportion of positive biopsies increased from 55% in 2012 to 68% in 2023, and the detection of CSPC rose from 36% in 2012 to 51% in 2023 (Figure). Among all biopsies in MUSIC (including surveillance), the proportion with an MRI prior rose steadily from 19% in 2019 to 58% in 2023.

The use of active surveillance (AS) for patients with GG1 disease increased from 56% in 2012 to 84% in 2023 and from 9.3% to 29% for patients with GG2 disease. This corresponds with a decrease in the use of radical prostatectomy (RP) as initial treatment from 32% to 10% and 56% to 39% for patients with GG1 and GG2 disease, respectively. The proportion of patients with GG3, GG4, and GG5 disease undergoing upfront RP was 47%, 39%, and 26%, respectively, and remained relatively stable over the study period.

CONCLUSIONS:

Herein, we report contemporary, population-level summary statistics regarding the diagnosis and management of men with prostate cancer. The proportion of men diagnosed with CSPC at biopsy rose over the last decade which corresponds with the increasing use of pre-biopsy MRI. Over the past 11 years, the proportion of men with GG1 and GG2 disease managed with AS has increased, while the proportion undergoing RP and other treatments has correspondingly declined.

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