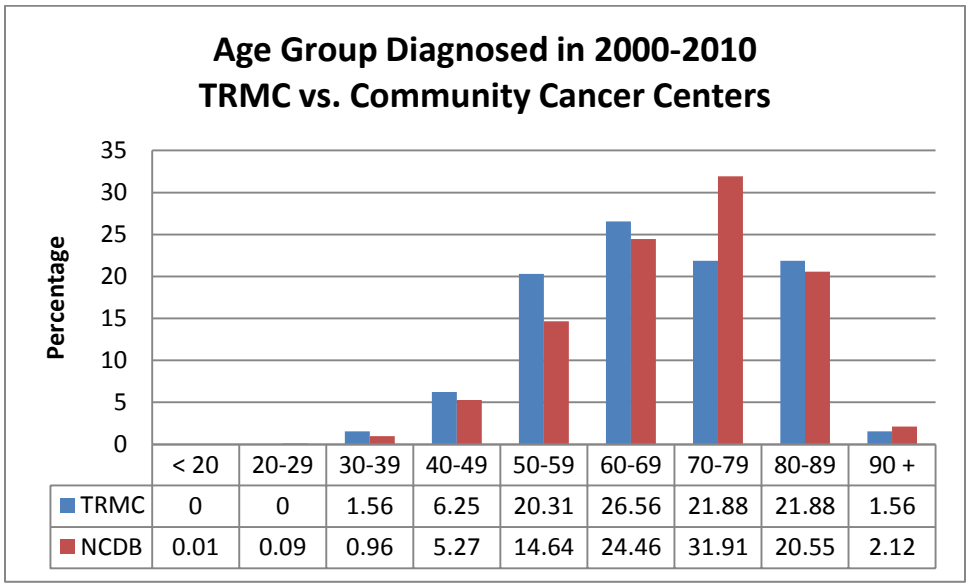
2013 TRMC Oncology Program Outcome Study- Myeloma/Plasma Cell Neoplasms

The Cancer Committee of Tift Regional Medical Center evaluated our plasma cell myeloma cases and used benchmark studies available from the National Cancer Data Base (NCDB) to compare TRMC's data to national data. In order to measure our outcomes, we first needed to select a starting and ending point. TRMC chose to evaluate patients diagnosed and/or treated within our facility between 2000 and 2012. TRMC reported 82 cases of myeloma/plasma cell neoplasms for 2000-2012. We then further evaluated the 31 cases of symptomatic myeloma patients.

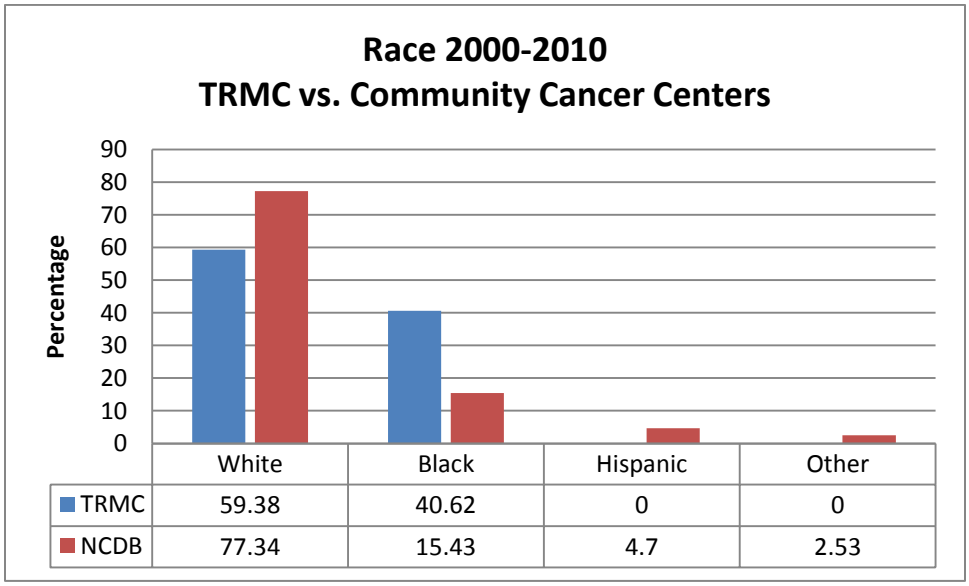
We then decided to compare our age at diagnosis to the NCDB data available for myeloma patients diagnosed from 2000 to 2010. The NCDB data reveals that most patients were diagnosed in their 70s (31.91%) while TRMC's myeloma patients were mostly diagnosed in their 60s (26.26%). TRMC's youngest patients were diagnosed in their 30s while the NCDB data has a very small percentage of patients diagnosed under the age of 20. Both the NCDB data and TRMC data support that the majority of patients are diagnosed between the ages of 50-89.



	< 20	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 +
TRMC	0	0	1.56	6.25	20.31	26.56	21.88	21.88	1.56
NCDB	0.01	0.09	0.96	5.27	14.64	24.46	31.91	20.55	2.12

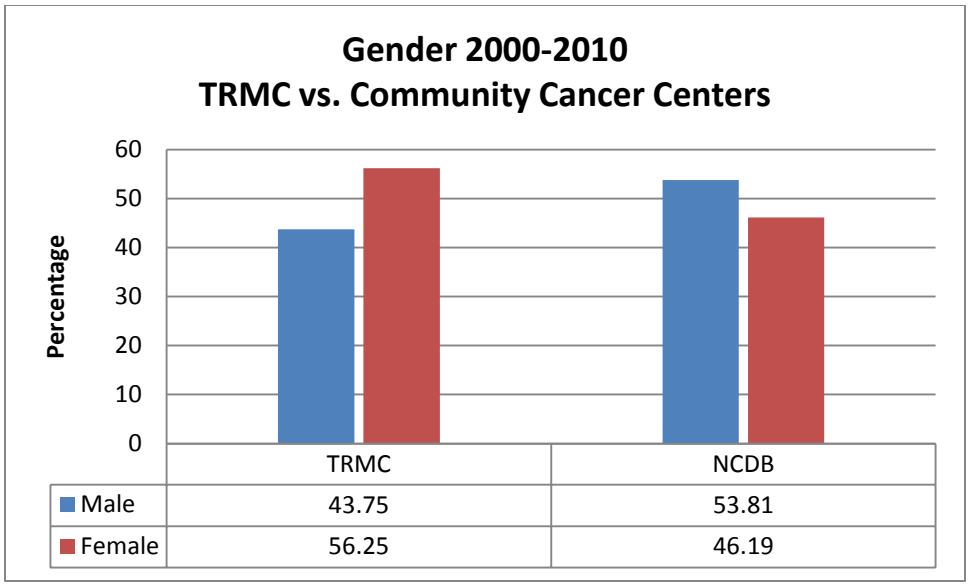
TRMC next compared the race of our myeloma patients to the race of myeloma patients in the NCDB database for the years 2000 to 2010. Both the national data and TRMC's data reveal that the majority of the patients with myeloma are white. The second most are black. TRMC did not have any other race diagnosed with plasma cell myeloma, but NCDB revealed small percentage of Hispanics diagnosed with

myeloma and an even smaller percentage of, “other race.” The 2010 Tift County Census data shows a population distribution of 61% white, 29% black, and 10% other races. We then compared our findings to that of the census data of the United States as a whole. The 2010 U.S. Census data reveals that 72% of the population is white and 13% black. The remaining 15% of the U.S. population is composite of other races. TRMC concludes that the race discrepancy in our myeloma cases may be related to our service area having a larger overall percentage of black subjects when compared with the national average.

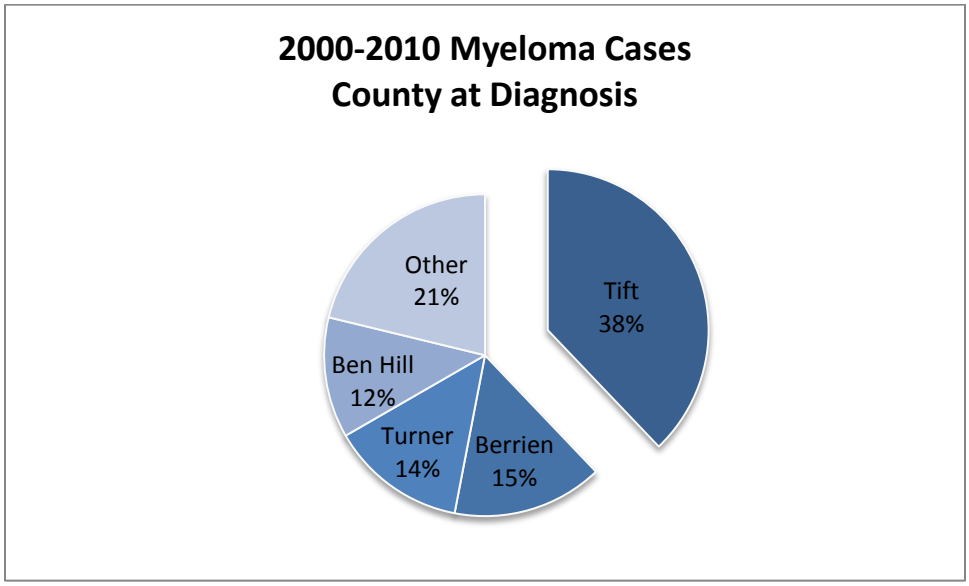


	White	Black	Hispanic	Other
TRMC	59.38	40.62	0	0
NCDB	77.34	15.43	4.7	2.53

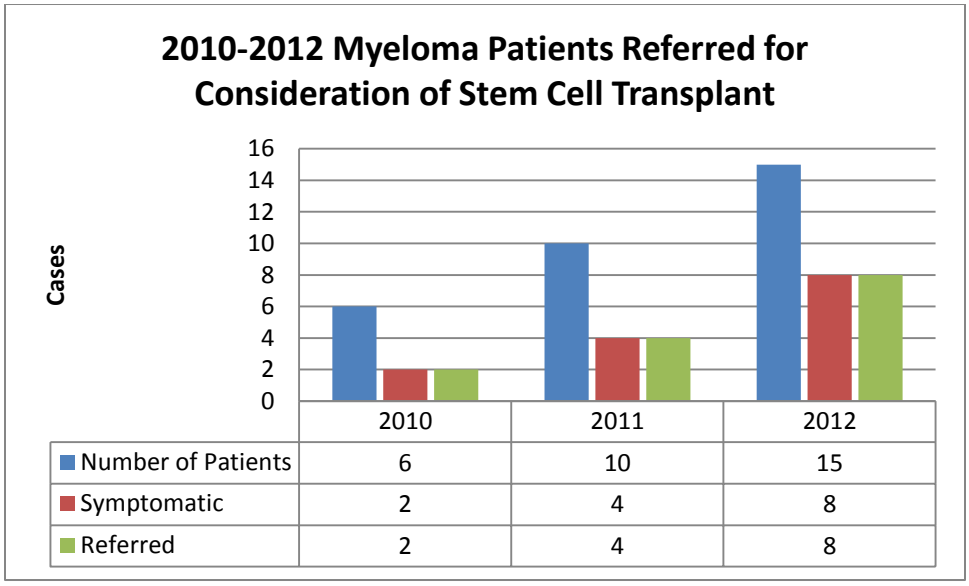
TRMC then looked at gender. We wanted to know how many of our patients were male and how many were female and how that compared to the NCDB data available for the years 2000-2010. TRMC had a higher prevalence of myeloma among women and the NCDB data had a higher prevalence of myeloma among men. However, TRMC data had a very small sample size to compare.



After comparing TRMC data to that of NCDB, we wanted to see where our patients came from. Most of our patients came from Tift County. We also had patients from Berrien, Turner, Ben Hill, and Other (includes all other counties from which patients came to TRMC with myeloma). The population of patients being treated at TRMC for myeloma is consistent with the population of patients being treated for all other cancers at TRMC. The county distribution for all cancers diagnosed and/or treated at TRMC is as follows: Tift County 38.36%, Ben Hill 13.34%, Turner 8.56%, Berrien 8.1%, and Other 31.64%. Due to our small population of myeloma patients the distribution varies slightly.



We also evaluated the number of myeloma patients diagnosed at TRMC from 2010-2012. There were 31 patients in this group. We wanted to find out how many of the symptomatic patients were referred to a tertiary care center for consideration of stem cell transplant. We then researched to find out how many of these patients were symptomatic. Patients were determined to be symptomatic if the patients had lytic bone lesions, end-organ damage such as kidney dysfunction, anemia, or hypercalcemia. Of these 31 patients, 18 were symptomatic. In 2010, there were 2 symptomatic myeloma patients diagnosed at TRMC. Both patients were referred to a tertiary care center for evaluation and consideration of stem cell transplant. In 2011, there were 6 symptomatic myeloma patients diagnosed at TRMC and 4 of these patients were referred. Of the 2 patients that were not referred, 1 never returned, and the other was not a candidate because of his age and other comorbidities. In 2012, there were 9 symptomatic myeloma patients diagnosed at TRMC and 8 of these patients were referred to tertiary care centers for evaluation of stem transplant. The patient that was not referred was not a candidate due to Stage IV lung cancer. Review of records reveals that referral was made in 100% of the cases that were possible candidates for stem cell transplant.



TRMC observed an overall increase in incidence of myeloma cases at our facility. The Surveillance, Epidemiology, and End Results (SEER has reported that rates for new myeloma cases have been rising on average of 0.7% each year over the last 10 years. TRMC has also observed an increase in the incidence of myeloma patients within our facility over the past 10 years.

Summary:

- TRMC is unable to draw any firm conclusions due to our small sample size; however, the trends discovered are noteworthy.

- TRMC is noticing an upward trend in the number of myeloma cases at our facility which may be part of the overall national trend.
- TRMC is diagnosing myeloma patients at an early age and early in the stage of the disease.
- Symptomatic patients were referred appropriately.
- Both TRMC and NCDB data support the majority of patients are diagnosed after age 50.
- Both national data and TRMC data reveal the majority of myeloma patients are white.
- TRMC has a slightly higher percentage of female patients diagnosed with myeloma.
- The majority of our patients come from Tift County followed by Berrien, Turner, and Ben Hill.
- The incidence of myeloma is increasing at TRMC and across the nation.
- Results demonstrate an increase need to diagnose multiple myeloma at an earlier stage and potentially prior to development of symptomatic disease. This would result in symptomatic patients being referred to tertiary care centers for treatment evaluation including stem cell transplantation in an effort to further improve overall survival for this incurable disease.

Recommendations:

- The results suggest that education of primary care physicians might improve timely and appropriate hematology/oncology referral and workup.
- The hospital community may consider developing a grand rounds or CME activity in order to meet this goal.

References:

TRMC Metriq Cancer Registry Database

National Cancer Registry Database: http://www.facs.org/cancer/ncdb/

Surveillance, Epidemiology, and End Results Program: http://seer.cancer.gov

2010 Census Data: http://2010.census.gov/2010census/

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