At CHRISTUS St. Michael, the membership of our Cancer Committee is multidisciplinary, representing physicians from the diagnostic and treatment specialties, as well as non-clinical staff from administrative and supportive services. The committee oversees cancer conferences, quality improvement, cancer registry data quality, community outreach, clinical research and psychosocial services. The exceptional work of the CHRISTUS St. Michael Health System Cancer Program has maintained accreditation by the Commission on Cancer (CoC) as an Approved Community Comprehensive Cancer Program since 1989. I would like to introduce the 2018 Cancer Program Report.

Every year, the committee sets programmatic and clinical goals to enhance the care that we provide at our hospital. In 2018, we accomplished both of these goals. Our programmatic goal was to implement an Outpatient Palliative Care Clinic. Palliative Care is the most underutilized specialty and one of the most effective tools in the field of oncology. Palliative care focuses on managing symptoms such as pain as well as appetite and sleep problems. It also addresses issues like stress, anxiety, and depression that can go along with a cancer diagnosis and treatment. The launch of the clinic was accomplished with the collaboration of Dr. Mark Wren, Medical Director of Palliative Services at CHRISTUS St. Michael with the administration of the W. Temple Webber Cancer Center.

This programmatic goal has launched us on the forefront of being the most complete comprehensive cancer centers in the greater Texarkana area. Our clinical goal for 2018 proposed the initiation of Reflex Testing Protocol being sent to Medical Management Committee as a standing order based upon the findings of the MSI/MMR Testing in Colorectal Cancer Quality Study performed in Calendar Year 2018.

With the rise of molecular driver mutations being targeted via personalized chemo-therapeutic agents over the past two years, we decided to stay ahead of the curve and design a protocol that would initiate standard molecular testing on pathological specimens. Not only is this effective in treating the underlying malignancy, but it also saves the clinician time, which is imperative in cancer care. Since the protocol is time effective, we feel that this also can be cost effective, by initiating treatment immediately once testing is performed, thus preventing further hospitalizations from cancer related morbidities. The protocol includes multiple organ systems i.e. – Breast, Colon, Lung, and Brain malignancies.

The Cancer Committee performs an annual community needs assessment to focus on meeting a particular need. It also provides a Community Resource for physicians, and access to nurses for the benefit and support of their patients. It also assists patients with the navigation process in the health care system allowing them to be able to assist with timely care. It overcomes the hurdles of survivorship challenges.

In 2018, our community prevention focus was on HPV Related Cancer of Cervical Head & Neck, which is a very devastating malignancy that is preventable through vaccinations.

Worldwide, cervical cancer is the fourth most common cancer among women, with approximately 530,000 cases of invasive cervical carcinoma diagnosed and 260,000 cervical cancer deaths annually. Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States. The biology of these viruses has been studied extensively and its link with malignancies is well established, specifically with cancers involving the anogenital (cervical, vaginal, vulvar, penile, anal) tract and those involving the head and neck.
Viral transmission is preventable with the advent of vaccinations, which has been responsible for the incidental decline of this very malignancy. Hence the cancer committee decided to make cervical cancer a focus of our 2018 prevention activity. The goal being to increase HPV vaccine completion rates for Bowie county. This was accomplished with educating providers on HPV vaccine, through Genesis Prime care and provider education opportunities. Increase provider announcement recommendations through Genesis Prime Care. The goal was to increase the baseline for cervical cancer screenings from 32% to 45%. Screening has now increased to 41%. Their goal is to increase the full childhood immunizations by the age of two from 12% to 20%. Genesis Primcare was awarded a grant in December for this project.

With the help of our coordinators, we implemented the proposed changes from the National Cancer Database, which included new measures in the Cancer Program Practice Profile Report (CP3R), revising Commission on Cancer standards, collecting and reporting comorbidities, and implementing CQIP (cancer quality improvement program) and RQRS (rapid quality reporting system) into the committee reports. The CP3R system now contains 20 quality measures covering ten primary cancer sites. These changes are in addition to other metrics that have been implemented for the American Society of Clinical Oncology QOPI program. Mediastinal Lymph Node Dissection improves diagnostic accuracy, and staging, therefore leading to appropriate treatment plans. With these changes, adherence and compliance of Mediastinal Lymph Node Dissection had a significant increase. This has improved to 75% compliance for the last two months of 2018, which is 29.6% higher than the CoC rate from 2015.

Our Cancer Registry staff stays up-to-date by attending at least one annual cancer-related educational activity, not including other cancer conferences. Our three cancer registrars attended the National Cancer Registrars Association Educational Workshop, a regional meeting and regularly participated in the North American Association of Central Cancer Registries webinars.

The Cancer Committee at CHRISTUS St. Michael not only provides us with an understanding of how oncology care should be, but is also allows us to succeed in the battle with cancer.

HESHAM HAZIN, M.D.
Medical Director of CHRISTUS St. Michael Oncology Clinic
CHRISTUS St. Michael Cancer Commitee Chairman
2018 was a year of change for the CHRISTUS St. Michael Cancer Program. Gary Upp, who had served as Operational Director of our Cancer service line for over ten years, transitioned into a new role in May.

We put his experience to work on the oversight of special projects related to our vision for growth and development of the Cancer Program. As the Dept. Manager, I had worked closely with Gary, and I was honored to be selected to succeed him as the Director of our Cancer Center. We shared a vision for a Cancer Program that provides technology and services for our community that match those typically seen in larger metropolitan areas. We were blessed to see components of that vision come to life in the Temple Webber Cancer Treatment Center in 2018.

In 2017 we purchased, and began the installation project for our new TrueBeam Linear Accelerator. On July 31st of 2018, we hosted an open house to celebrate the launch of the $3 million Varian TrueBeam Linear Accelerator with RapidArc technology and body surface imaging. The event also provided an opportunity to recognize, and thank, the numerous donors who made acquisition of the technology possible, including the Temple Webber Foundation that donated $1 million toward the project.

The addition of the TruBeam was followed by continued upgrades to equipment and technology throughout 2018 leading to a level of quality in our Radiation Oncology Program that is unmatched in our area. The difference was clear to our patients and referral sources, and the program grew rapidly leading to the addition of more care providers and services.

The growth of Radiation Oncology brought growth throughout the Cancer Center. We began to see a need for supportive care for our patients that was focused solely on management of the symptoms of their disease, and the side effects of treatment. Dr. Omar Ishaq presented research demonstrating that the implementation of early palliative care for cancer patients led to increased quality of life and increased survival in some patients. We took the concept to the Cancer Committee who designated the creation of an Outpatient Palliative Care Clinic as their 2018 Programmatic Goal. We worked with Dr. Mark Wren to create a plan for the project that will start in a limited way and build gradually in relation to need and documented benefit to our patients.

Our Genetic Counselor, Tammy McKamie brought a concern to the Cancer Committee regarding timely results of tumor screening for mismatch repair deficiency for all colorectal and endometrial cancers regardless of age. Dr. Hazin expressed concern for the same problem with molecular testing for a range of other tumor types. The Cancer Committee committed to a resolution of that problem for our 2018 Clinical Goal. In compliance with NCCN guidelines, a protocol was developed, and approved by the Cancer Committee mandating reflex testing at the time of pathology identifying any of those specific tumor types. The policy will facilitate more timely access to information necessary to determine the best medical management of the patient.

Other initiatives included several educational presentations, and a partnership with the American Cancer Society focused on increasing HPV vaccine completion rates for Bowie County. Genesis Primecare received a grant to increase cervical cancer screenings, and we worked with them to educate providers throughout our service area.
Education was also provided at 11 different events in February and March of 2018, with information shared with over 1,300 people.

To discuss all of the projects and accomplishments of the Cancer Program in 2018 would take up far more space than I am allotted. So many people make up the entirety of the program, coming from almost every specialty. The CHRISTUS St. Michael cancer program is fortunate to have strong support from administrators, physicians, and individual service lines. Everyone in this organization gets excited about the opportunity to contribute to excellence in cancer care. We are excited about the changes we have made toward that end in 2018.

Continued growth, continued quality improvement, and continued expansion of our services comprise the agenda for next year.

“Times and conditions change so rapidly that we must keep our aim constantly focused on the future.” - Walt Disney

CHARLETTE MCKAMIE,OCN, RN
DIRECTOR, CANCER CENTER
A Cancer Committee Chair recommended reviewing more recent rectal cancer patients who had neoadjuvant chemo/radiation with a comparison to a prior study accomplished in 2013 to determine the number with a complete pathologic response after chemo/radiation therapy. The NCCN guidelines were used to develop criteria in this study. The cancer committee agreed to accomplish a second study to determine if we are increasing tumor grade response in pathologic review of rectal cancers.

The **Neo-Adjuvant treatment effect minimum requirement is:**

- Treatment effect present
- No Treatment response identified

The **NCCN Rectal Cancer Guidelines Panel recommends grading tumor response:**

The grading system used is below:

- 0 (Complete Response)- no viable cancer cells
- 1 (Moderate Response)- single cells or small groups of cancer cells
- 2 (Minimal Response)- residual cancer outgrown by fibrosis
- 3 (Poor Response)- minimal or no tumor kill; extensive residual cancer

Hesham Hazin, MD
CHRISTUS Cancer Committee Chairman
Medical Director, W. Temple Webber Cancer Treatment Center
CHRISTUS St. Michael Health System, a designated Lung Cancer Screening Center with the ACR, experienced a 15% increase in new referrals to its low-dose lung cancer screening program in 2018 when compared to 2017. CHRISTUS St. Michael participates in the National Low Dose Lung Cancer Screening Patient Registry with the ACR.

In 2018, 345 new patients were registered in the program, bringing the total number of participants to 955 at the end of 2018. Five patients in the program were diagnosed with lung cancer in 2018, making our cancer detection rate 5.8 per 1,000 compared to the national rate of 2.6. Since the program began, there have been 13 patients diagnosed with cancer out of the 955 registered patients.

Our continued focus will be educating the community about CT low dose lung screening through outreach while continuing to provide support to the primary care providers.

In 2019, in addition to the lung cancer screening program, CHRISTUS St. Michael will begin a program to track all patients with incidental radiographic findings and in part, identify patients who may benefit from being in the lung cancer screening program.

LISA PATTERSON, BS, CNMT, RT (N) DIRECTOR, IMAGING CENTER
It is estimated there will be over 62,000 new cases of kidney cancer this year in the United States. The worldwide incidence of kidney cancer has been increasing steadily since the 1970’s primarily due to more prevalent use of axial imaging (CT and MRI). In the United States, over the past decade, the incidence of kidney cancer continues to increase but at a much smaller increment, approximately 1% per year. The greatest increase in incidence has been in small, clinically localized renal masses which now represent about 50 percent of tumors. The most common presentation is incidental finding on CT scan for other abdominal complaint. The vast majority (greater than 90%) of kidney cancers in the United States are renal cortical tumors known as renal cell carcinoma (RCC). Kidney cancer is more common in men than women, and more common in African Americans, American Indian and Alaska Native populations than Caucasians. Although kidney cancer can present at any age, the median age at diagnosis is 64 years old.

The overall survival rate for all stages of renal cancer is approximately 74%, leaving an estimated 400,000 kidney cancer survivors in the United States. However, approximately 14,000 men and women will die of kidney cancer each year. Mortality rates have been stable in most countries but have been decreasing by 1 to 3 percent in Western and Northern Europe, the United States, and Australia. The improved mortality globally and in the US is multifactorial and is attributed to decreased smoking rates, improved therapies, and access to medical care. The decrease in mortality has been faster in women than in men and overall mortality rates remain higher in men than women.

There are a number of established risk factors for RCC. Smoking is a well-established risk factor, accounting for 20 percent of incident cases and increasing the risk of RCC by 50 percent in men and 20 percent in women. Obesity is associated with 30% of incident cases of RCC. Hypertension is also associated with increased risk of RCC and patients on maintenance dialysis are reported to have an increased risk of RCC. Moderate alcohol intake, consumption of fruits and (cruciferous) vegetables, and a diet rich in fatty fish are believed to reduce the risk of RCC.

Family history is associated with an increased risk of RCC and a number of familial RCC syndromes are now well-established, accounting for approximately 4-6% of cases of RCC overall. The most common syndromes are von Hippel-Lindau (VHL), hereditary papillary renal carcinoma (HPRC), and tuberous sclerosis. RCC in these syndromes tends to be earlier in onset and multifocal. Genetic counseling is recommended for patients suspected of having familial RCC.

The “classic triad” of symptoms associated with a malignant renal mass include hematuria, flank pain and abdominal mass. However, less than 5 percent of patients in contemporary series present with these symptoms and greater than 50 percent of renal masses are diagnosed incidentally during an evaluation for unrelated signs or symptoms. Thus, physical examination has a limited role in the diagnosis of clinically localized disease. There are no biomarkers or routine laboratory tests used to diagnose renal malignancies. As such, laboratory tests are useful in the assessment of renal function (glomerular filtration rate) and for completeness of metastatic evaluation. Renal mass biopsy (RMB) currently has an adjunctive role in the diagnosis and risk stratification of patients with renal masses suspicious for renal cancer and is traditionally reserved for patients suspected of having metastasis of another primary to the kidney, abscess, or lymphoma, or disseminated metastases or unresectable primary tumors.

Kidney cancer is staged based on size and extent of tumor. Tumors confined to the kidney are stage I or II (Stage T1a <4cm, Stage T1 <7cm, Stage 2 >7cm). Stage
and thermal ablation. A growing body of literature exists regarding active surveillance (AS) for patients with number of retrospective studies evaluate the safety of AS and quote the risk of metastatic progression while on AS to be less than 2 percent in well selected patients over the initial three years of AS. This approach is best utilized for older individuals with small renal masses.

**Thermal Ablation (TA)** techniques were developed in an effort to improve patient procedural tolerance and reduce the potential for complications from PN, while still preserving function. A multitude of techniques/technologies have been investigated to ablate renal tumors, however radiofrequency ablation (RFA) and cryoablation have been most widely investigated and integrated into clinical practice. It is generally accepted that oncologic outcomes are similar for both approaches.

**Radical Nephrectomy (RN)** was the mainstay of therapy for all renal masses for many decades, but has now become less utilized with increased early detection and availability of better technology for partial nephrectomy (PN). PN is widely accepted as a nephron-sparing approach to the management of clinically localized RCC. Initially underutilized and predominantly performed in large academic centers, the management of clinically localized renal masses by PN has expanded with implementation of guideline statements and the expansion of robotic technology. Robotic partial nephrectomy was implemented at CSMH several years ago and is now commonly performed with excellent outcomes for patients in our area. The benefit of PN lies in the potential to preserve renal function. It has become the preferred treatment approach that offers equivalent cancer control, preserved renal function, and shorter convalescence.
The American Cancer Society estimates there are close to 17 million cancer survivors alive in the US today, and that number will grow to more than 22 million by 2030. A “survivor” is anyone who has had cancer, from the time of diagnosis throughout the rest of his or her life. To address appropriate survivorship needs, effective coordination of care should be established between health care providers, especially transition from oncologist to primary care physician or advanced practice nurse.

The W. Temple Webber Cancer Center at CHRISTUS St. Michael is an accredited cancer program with the Commission on Cancer. Standard 3.3 requires each cancer program to develop and implement a process to communicate with Stages I, II, III cancer patients who transition from curative treatment to follow up care. These survivors receive a care plan, which includes names/phone numbers of care team members, background information, disease staging, treatment plan, treatment summary and follow-up care.

The Survivorship Coordinator at CHRISTUS St. Michael mails eligible survivors who are finishing treatment a Journey Forward care plan. Then the survivor receives a follow-up phone call to evaluate and discuss potential late effects of treatment, symptoms to watch for, and cancer site specific surveillance schedules recommended by ASCO - American Society of Clinical Oncology & NCCN - National Comprehensive Cancer Network. The survivorship nurse clarifies oncology and primary care physician follow-up appointments and completes a wellness and preventive care discussion. Survivors have an opportunity to ask questions, be referred to the appropriate healthcare provider, and face-to-face survivorship meetings are available upon request.

CHRISTUS St. Michael delivered 194 Survivorship Care Plans in 2018. Many survivors expressed gratitude for a survivorship phone call to check on his/her wellbeing post treatment. Additionally, a survivorship presentation was delivered to the CHRISTUS Breast Support group where current patients were educated and empowered to record their treatments, side effects and learn NCCN follow-up guidelines for cancer sites.

For more information, contact Survivorship Coordinator, Kimberly Everett, MSN, RN, at 903-614-6885 or kimberly.everett@christushealth.org.
The case presentations brought before the CHRISTUS St. Michael Tumor Board physicians are in the best interest of the patient, providing a forum for patient consultation and contributing to a learning experience for all. These conferences are coordinated through the cancer registry staff. The moderator for this meeting is doctor Hesham Hazin. Dr. Hazin is exceptionally qualified to lead the discussion and to bring the group to a consensus for the patients' plan of treatment.

Discussion on the case presentation precedes the review of diagnostic studies and pathology. The moderator allows for a consultative dialogue and discussion of treatment plan options. Discussion occurs on AJCC stage including prognostic factors. The NCCN guidelines were viewed at these meetings 99 percent of the time to allow participants the opportunity to see the national recommendations for treatment planning using evidence-based guidelines and give the opportunity for options on clinical trial participation. A Clinical Nurse Navigator/Cancer Genetic Educator is available for consultative services to give physicians the opportunity to refer their patients for evaluation. Identifying these patients early would allow for modification of medical management to help prevent second primary cancers. Cancer Conferences (Tumor Boards) are hosted on the second and fourth Fridays of each month. A total of 26 cancer conferences were hosted at CHRISTUS St. Michael in 2018, with 339 physicians and 295 allied health professionals in attendance. Ninety-six percent of our cases were presented prospectively where treatment management of the patient can effectively be impacted by discussions.

Educational Conferences are hosted on the fifth Friday in the calendar year. All of these meetings are approved for one hour of continuing medical education through the CHRISTUS Trinity Continuing Education department. We appreciate the moderator, radiologist, pathologist and physicians who present their patients in this multidisciplinary setting.
2018 cancer DISTRIBUTION

Total Analytic Cases: 753
Total All Cases: 869

Top Ten Sites for Men

Male: 397
Female 356

Lung & Bronchus: 89 (22.4%) [14.2%]
Prostate: 69 (17.3%) [19.2%]
Colon & Rectum: 68 (17.1%) [8.8%]
Urinary Bladder: 32 (8.1%) [7.3%]
Kidney & Renal Pelvis: 17 (4.3%) [4.9%]
Oral Cavity & Pharynx: 16 (4.3%) [4.3%]
Pancreas: 14 (3.5%) [3.4%]
Non-Hodgkin Lymphoma: 9 (2.3%) [4.9%]
Melanoma of the Skin: 7 (1.8%) [6.4%]
Leukemia 5 (1.3%) [4.3%]

CSMHS All Other Sites: 71 (17.9%)
National All Other Sites= 191,060 [22.3%]

Top Ten Sites for Female

Breast: 132 (37.1%) [30.3%]
Lung & Bronchus: 71 (19.9%) [12.8%]
Colon & Rectum: 42 (11.8%) [7.4%]
Kidney & Renal Pelvis: 14 (3.9%) [2.6%]
Cervix Uteri: 9 (2.5%) [1.5%]
Uterine Corpus: 8 (2.2%) [1.5%]
Myeloma: 8 (2.2%) [1.6%]
Bladder: 7 (2%) [2.1%]
Non-Hodgkin Lymphoma: 7 (2%) [3.7%]
Thyroid: 7 (2%) [4.7%]

CSMHS All Other Sites: 51 (14%)
National All Other Sites= 187,790 [22%]

National Data Estimates percentage of total cases from the Cancer Facts & Figures are in [ ] American Cancer Society.
www.cancer.org; CHRISTUS Cancer Registry data percentage of the total cases seen in 2018 has been placed in ( ).

CHRISTUS 2018 Five Major Sites Compared to Texas and National Estimates of New Cases

<table>
<thead>
<tr>
<th></th>
<th>CSMHS</th>
<th>Texas</th>
<th>Nat’l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>21.2%</td>
<td>12.7%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Breast</td>
<td>17.5%</td>
<td>15.0%</td>
<td>15.5%</td>
</tr>
<tr>
<td>Colorectal</td>
<td>14.6%</td>
<td>8.3%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Prostate</td>
<td>9.2%</td>
<td>10.3%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Bladder</td>
<td>5.2%</td>
<td>3.7%</td>
<td>4.7%</td>
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CHRISTUS St. Michael Cancer Committee monitors and reports the Estimated Performance Rates (EPR) for all Accountability Measures using the Commission on Cancer (CoC) NCDB CP³R tools. The monitoring and reporting of these quality measures assures CHRISTUS St. Michael meets the benchmarks set forth by the CoC Standards for approval. These measures are designed to access performance at the hospital level and to offer improvements to patient care. The CP³R currently has an estimated performance rate of 9 of twenty quality measures from primary sites including breast, colon, rectum, lung, cervix, gastric, endometrial, ovarian, and bladder. As an accredited program of the CoC, a goal of the CHRISTUS St. Michael Cancer Program is to treat our cancer patients according to nationally accepted quality improvement measures indicated by these quality reporting tools. Six quality measures with CHRISTUS St. Michael Cancer Program met or exceeded the EPR’s set by the CoC. Of the three measures which fell below the CoC EPR, two measures only had one patient, and CHRISTUS St. Michael did not meet the Gastric Lymph Node measure on two patients. Both of these patients were found to have positive lymph nodes on resection.

### Program Profile Reports 2016 CP³R Measures Estimated Performance Rate (EPR)

<table>
<thead>
<tr>
<th>Measure Description</th>
<th>CSMHS 2016 Rate Numerator/Denominator</th>
<th>EPR using 95% confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breast Cancer - [BCSRT] (Accountability)</strong> Radiation therapy is administered within 1 year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery.</td>
<td>95.7% 23/24</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Breast Cancer - [HT] (Accountability)</strong> Hormone Therapy is considered or administered within 1 year (365 days) of diagnosis for women with AJCC T1c N0 M0, or Stage II or III ERA and/or PRA positive</td>
<td>100% 34/34</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Breast Cancer – (NBX) (Quality Improvement)</strong> Image Guided Needle BX to establish diagnosis of cancer precedes surgical excision/resection</td>
<td>91.5% 54/59</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Breast Cancer - (MASTRT) (Accountability)</strong> RT administered following any mastectomy within 1YR of DX of breast cancer for women with &gt;=4 positive regional LN</td>
<td>No data</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Colon Cancer - C12RLN (Quality Improvement)</strong> At least 12 regional lymph nodes are removed and pathologically examined for resected.</td>
<td>92.9% 26/28</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Lung Cancer - LNoSurg (Quality Improvement)</strong> Surgery is not the first course of treatment for cN2M0 lung cases</td>
<td>93.3% 14/15</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Lung Cancer - LCT (Quality Improvement)</strong> Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC.</td>
<td>100% 3/3</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Gastric Cancer - G15RLN (Quality Improvement)</strong> At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer</td>
<td>0% 0/2</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Rectum - (RECRTCT) (Quality Improvement)</strong> Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0, or Stage III; or Postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2N0 with pathologic AJCC T3N0, T4N0, or Stage III; or treatment is recommended; for patients under the age of 80 receiving resection for rectal cancer</td>
<td>100% 4/4</td>
<td>85%</td>
</tr>
</tbody>
</table>
There are approximately 79,000 new bladder cancer cases diagnosed in the United States each year. This can be categorized based on severity of disease involving the detrusor muscle wall of the bladder. Non-muscle invasive bladder cancer (NMIBC) represents 75% of initial diagnoses and muscle invasive bladder cancer (MIBC) 25%. Bladder cancer is more common in males than females with an approximate ratio of 3:1, and it is the fourth most common solid malignancy in men. There are 16,500 estimated deaths each year predominantly affecting males. Bladder cancer incidence increases with age.

The data presented for CHRISTUS St. Michael aligns well with national data with respect to occurrence age and sex distribution. While rates of bladder cancer are higher in Caucasians than other ethnicities, disease specific survival is worse overall for African-Americans. National registry data from the U.S. Surveillance Epidemiology and End Results (SEER) program demonstrates that the incidence of all stages of NMIBC has been relatively stable and mortality rates associated with MIBC have been relatively stable since 1975. In addition, up to 50% or more patients with high-risk NMIBC can progress to invasive disease.

Bladder cancer may be associated with multiple factors, but tobacco smoking is the most significant and most common risk factor. Although smoking cessation may somewhat decrease carcinogenesis risk, former smokers still have a higher risk of bladder cancer than those who never smoked. With respect to NMIBC, current tobacco use and cumulative lifetime exposure may be associated with recurrence and progression. Other associated risk factors include occupational exposure to chemical carcinogens, such as aromatic amines, polycyclic aromatic hydrocarbons, and arsenic. Patients with other malignancies, such as lymphoma and leukemia, who receive treatment with cyclophosphamide may be at increased risk for bladder cancer. The most common cell type of bladder cancer is transitional cell cancer, with adenocarcinoma and squamous cell cancer less common. Schistosoma hematobium, the pathogen responsible for schistosomiasis, is a risk factor for squamous cell carcinoma of the bladder in certain regions of the world. In the United States, squamous cell carcinoma of the bladder may be associated with chronic catheter use or external beam radiation to the pelvis.

There is no currently accepted genetic or inheritable cause of bladder cancer; however, studies suggest that genomic instability and genetic pathway mutations/alterations may play a role in bladder carcinogenesis. Chromosome 9 deletion is a common genetic alteration found in NMIBC. Carcinoma in situ (CIS) frequently demonstrates mutations in tumor suppressor genes.

The most common presenting symptom is painless hematuria (gross or microscopic). According to the American Urologic Association (AUA) Guideline on the diagnosis, evaluation, and follow-up of patients with asymptomatic microhematuria (AMH), the rate of urinary tract malignancy in AMH is approximately 2.6%. The diagnosis of bladder cancer is confirmed by direct visualization of the tumor with endoscopic excision using cystoscopy and transurethral resection of bladder tumor (TURBT). Staging for bladder cancer is separated into clinical and pathologic stage, as outlined by the American Joint Committee on Cancer (AJCC).

The survival prognosis for patients with NMIBC is relatively favorable, with the cancer-specific survival (CSS) in high-grade disease ranging from approximately 70-85% at 10 years and a much higher rate for low-grade disease. The management of NMIBC consists of local resection with added intravesical chemotherapy for higher grade disease. Follow up evaluation with surveillance cystoscopy is crucial to detect any recurrence.

The overall prognosis of patients with MIBC has not changed in the last 30 years. Current treatment recommendations include Cisplatin chemotherapy followed by removal of part or all of the bladder (cystectomy). Other treatment options may include chemoradiation. In patients who undergo cystectomy, systemic recurrence rates vary by stage, but range from 20-30% for pathologic stage pT2, 40% for pT3, >50% for pT4 and approximately 70% for node-positive disease. Most recurrences will occur within the first two to three years after cystectomy. Quality of life (QOL) assessments may often determine the best individualized treatment plan for each patient.
Lung Cancer CHRISTUS Regional Nodes Resection Compared to National Cancer Database Lymph Nodes Resection Quality Study

**Purpose of Study:** Improve the rate of patients that have at least 10 regional lymph nodes removed and examined for AJCC stage IA, IB, IIA, and IIB. **Data Analysis:** CHRISTUS St. Michael Health System met this measure 30.8% (4/13) in calendar year 2015 according to the National Cancer Database. The comparative rates were 45.4% across the Commission on Cancer Database and 48.2% in Texas. **Recommendations:** Develop and implement a procedure to ensure that 10 regional lymph nodes removed and examined for AJCC stage IA, IB, IIA, and IIB.

**Question:** In lung cancer surgery patients, how does implementation of a procedure to ensure 10 regional lymph nodes are removed and examined impact the rate of lymph node resection and examination? CHRISTUS St. Michael Health System is performing below the Commission on Cancer and Texas rates for the metric “At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected.” The most recent data available in the National Cancer Database is 2015 which shows the CoC rate of 45.4%, Texas rate of 48.2% and CSMHS rate of 30.8%.

The objective of this study is to increase the rate of lung resections that meet the metric, “At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected?” The metric “At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected” will be collected and compared with the 2015 National Cancer Database reporting.

**Measurement:** Outcomes will be measured using National Cancer Database indicators and Meditech. Comparisons will be made between the National Cancer Database 2014, 2015 and current performance. This quality improvement initiative was expanded to all surgeon completing lung resections. The metric “At least 10 regional lymph nodes are removed and pathologically examined for AJCC stage IA, IB, IIA, and IIB resected” was improved to 75% compliance with the measure for the last two months of 2018, which is 29.6% higher than the CoC rate from 2015.
The Cancer Program at CHRISTUS St. Michael Health System has a dedicated team of cancer committee professionals whose goal is to evaluate and improve patient outcomes. Cancer Committee coordinators are appointed from within the committee’s membership to coordinate important aspects of the cancer program. The Cancer Committee’s composition includes physician members from diagnostic and treatment specialties. Additional members are added to represent the scope of services offered at CHRISTUS St. Michael. The team approach of the cancer committee’s composition of members greatly enhances all aspects of cancer care.

Cancer conferences improve the care of patients with cancer by providing multidisciplinary treatment planning and contribute to physician and allied health medical staff education. A total of 15 percent of the annual newly diagnosed cases are presented at these meetings throughout the year. The cases chosen are patients whose treatment is not yet initiated or treatment has been initiated, but discussion of additional treatment is also needed.

The multidisciplinary tumor board conferences are held on the second and fourth Fridays at CHRISTUS St. Michael and Educational Conferences are held on the fifth Fridays of the appropriate months. The moderator for these conferences is Hesham Hazin, M.D. CHRISTUS St. Michael hosts the only Multidisciplinary Tumor Board Conference in the region.

The CHRISTUS St. Michael Cancer Committee wishes to thank all physicians presenting their cases to be discussed by the multidisciplinary team, and for participating in the discussion of stage, including prognostic indicators, and treatment planning using evidence-based treatment guidelines.

High-quality cancer registry data is essential to accurately assess treatment outcomes and patient survival. Successful operation of the cancer registry requires credentialed staff who are trained and knowledgeable in all aspects of oncology data collection and case abstracting. Abstracting is defined as coding and entering patient and disease specific information into the cancer registry database. The Cancer Registry staff accessioned 753 newly diagnosed cases in 2018 with an additional 116 non-analytic or recurrent cases being collected. Our staff has collected data over the past twenty-nine years on 22,509 total patients and 24,272 total primaries. Of this number, we have 4,923 living patients and a 5-year follow-up rate of 98 percent. A 90 percent rate is set by the CoC. CHRISTUS St. Michael has a 94 percent rate for their 1989 reference year with the CoC set rate being 80 percent.

I want to thank Donna Marlar, CTR, and Amy Whitfield, CTR, for their dedication to their profession.

Cancer Registrars are fighting the war on cancer one patient at a time by providing quality data.

Dianne Ketchum, CTR, Owner/Manager Cancer Registry Services of Texarkana, LLC

Photo: Amy Whitfield, Donna Marlar & Dianne Ketchum
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