Message from the Cancer Committee

Renown Institute for Cancer had a very busy year in 2018. The highlight was receiving the Outstanding Achievement Award from the Commission on Cancer for our accreditation. The Commission on Cancer is a quality organization under the auspices of the American College of Surgeons. Every three-years, cancer programs that wish to be accredited undergo a survey that examines no less than 34 standards of excellence. Not only did Renown achieve the standards, it achieved commendation in six of them. We are very proud of the Renown Institute for Cancer program and all the physicians, nurses and allied health professionals who work every day to make this an outstanding center of excellence for our patients.

The cancer committee has oversight of all cancer-related activities at Renown. This begins with prevention and screening events to help reduce the incidence of cancer and reduce the late stage presentation of specific types of cancer. Navigation of patients, with the help of our many nurse navigators, begins at the time of diagnosis and extends throughout the patient’s treatment. We take pride in evaluating our care against evidence based national standards and continually find our care to be in the top 20%. The cancer committee initiates quality studies to look for areas of improvement and designs quality improvement measures when we find an area that can be improved. Our cancer nurses, social workers, palliative care specialists, geneticists, physical rehab specialists all assist the patient along their journey with cancer. We are making strides in offering long term survivorship services to our patients who continue to need additional evaluation and support.

The cancer committee looks forward to the challenges ahead and will continue to ensure that our patients in the northern Nevada area receive cancer care that is second to none.

James B. Harris, MD, FACS
Medical Director, Renown Cancer Accreditation and Quality Chair of Cancer Committee, CLP
Nevada State Chair, Commission on Cancer

IFC Annual Report 2018 - Leadership Report

We are very pleased to share this year’s annual report which highlights some of the 2018 key accomplishments for our cancer program. Our dedicated and committed multidisciplinary teams have worked steadfastly during the past year to expand and improve patient care and support services for the nearly 1,800 newly diagnosed cancer patients and nearly 2,600 cancer cases who entrust our team with their care.

Some of the new programs and services include:

- Implementation of a Symptom Management Program that focuses on preventing, identifying and/or treating symptoms that are caused by the cancer or cancer treatment with the goal of keeping patients at home and not in the ER or hospital
- Enhancement of the electronic medical record systems, leading to improved documentation and communication between care providers
- Initiation of a medical genetics clinic

In June 2018, the Renown Health’s Comprehensive Community Cancer Program received Gold Level Accreditation from the Commission on Cancer of the American College of Surgeons (COC). This honor means that the COC, the nationally recognized accrediting body for cancer programs with 32 Standards, excels in the areas of clinical care and coordination, research, support activities and cancer data management.

On September 21, our IFC leadership collaborated with 13 other cancer-related organizations to sponsor/host the Biden Cancer Community Summit, a world wide effort by Vice President Joe Biden and Dr. Jill Biden to raise awareness of important cancer issues and to set community goals to lessen the burden of cancer.

Aside from oncology services at Renown in Reno, access to quality cancer care in Northern Nevada’s rural regions remains a steadfast commitment of the Renown cancer program. Telemedicine and outreach Medical Oncology clinics have been a focus for growth. Over the past year, we expanded telehealth visit by 20%.

As you read through our 2018 Annual report, we encourage you to click on the links to our Institute for Cancer website for further details.

The Healthcare Team
Renown Institute for Cancer

2
Breast Cancer Program Center of Excellence

Our Comprehensive Breast Care Program is both accredited by the National Accreditation Program for Breast Centers and an ACR designated Breast Imaging Center of Excellence. Weekly, a multidisciplinary team collaborates to treat patients’ physical and emotional needs, providing expert guidance from diagnosis throughout treatment in order to ensure all treatment options are thoroughly explored. In addition, a multidisciplinary team of experts dedicated to improving care meets monthly to assess, plan, develop and implement best practice standards and guidelines.

Program Highlights:
- American Society of Breast Surgeons (ASBS) surgically excellent physicians
- Radiologists and Pathologists specializing in breast cancer
- Digital and 3-D mammography with full range of imaging assisted biopsy options
- High-Risk Nurse Navigator and Lay Program Coordinator dedicated to follow-up care
- State-of-the-art radiation therapy and techniques including hypofractionated radiation therapy Partial Breast Irradiation options
- Advanced Breast Reconstruction procedures offering the full spectrum of breast reconstruction options

Lung Cancer Program Center of Excellence

The Lung Cancer Program specializes in the treatment of lung cancer through bringing together experts into a highly-coordinated care team to review and assure nationally recognized best practice. The Lung Cancer Program offers a complete diagnostic review of lung cancer, in-depth staging to molecular profiling, and a biweekly review of prospective treatment options through a multidisciplinary cancer conference. Innovative minimally invasive techniques are available for difficult to access tumors for biopsy, reducing potential complications during biopsy procedures.

Program Highlights:
- In-depth staging protocol, which determines the stage of the patient’s cancer assuring optimal treatment plans
- Molecular profiling of tumors - Personalized therapy with chemotherapeutic and targeted agents based on an individual patient's molecular characteristics
- Minimally invasive thoracic surgery including video-assisted thoracic surgery
- State-of-the-art radiation therapy including stereotactic radiosurgery using the advanced therapies such as image guided radiation and high-dose radiation
- Development of a Multidisciplinary Lung Cancer Clinic (L-MDC) to begin Winter of 2018 to ensure expedited treatment is provided to patients by coordinating diagnostic work-up and consults within a week.

GastroIntestinal & Liver Cancer Program Center of Excellence

The GI & Liver Cancer Program specializes in the treatment of all GI cancers, including foregut and colorectal sites, through a multidisciplinary cancer conference and dedicated cancer sub-committee working to outline best practice and cancer quality improvements.

Program Highlights:
- Partnerships with Gastroenterologist and Interventional Radiology physician specialists where patients are ensured the best in diagnostic procedures and biopsy
- Molecular profiling of tumors - Personalized therapy with chemotherapeutic and targeted agents based on an individual patient's molecular characteristics
- Minimally invasive GI surgery including da Vinci Surgical System
- State-of-the-art radiation therapy including stereotactic radiosurgery using image guided radiation therapy and high-dose brachytherapy
- Arterial delivery of chemotherapy to liver tumors
- Advanced surgical techniques including endoscopic surgery, microneurosurgery and advanced repair and reconstruction
Brain & Spine Tumor
Renown’s Brain & Spine Tumor Program is a multidisciplinary collaboration among neurosciences, oncology, radiation oncology, neuro-imaging and neuropathology. The Program is committed to delivering the highest level of neuro-oncology care through a dedicated and experienced team focused on providing the most effective therapies. These efforts are backed by state-of-the-art facilities and cutting-edge technology. Advances in medical and surgical therapies and a broad array of clinical trials have expanded the types of tumors that the Program can treat, resulting in customized care via the latest treatments available.

Program Highlights:
• State-of-the-art radiation therapy including stereotactic radiosurgery and 3D conformal radiation therapy
• Advanced surgical techniques including endoscopic surgery, microneurosurgery and advanced repair and reconstruction

Prostate & Genitourinary Cancers
Provides patients with the latest techniques and therapies for all types of genitourinary cancers, including prostate, bladder, kidney, adrenal, penile and testicular cancer.

Program Highlights:
• Equipped with state-of-the-art radiologic and cancer imaging.
• Bladder-sparing treatment of bladder cancer using surgery, radiotherapy and chemotherapy
• Minimally invasive surgery including laparoscopic and endoscopic techniques and the da Vinci Surgical System
• Cutting-edge treatment options including a 4-week course of image-guided intensity-modulated external beam radiotherapy for many prostate cancer patients
• Four types of prostatectomies or surgical removal of the prostate
• Targeted tumor ablation including hypo fractionated image guided radiation therapy, Non-invasive radiosurgery treatment of small volume metastatic disease

Head & Neck Cancer
The Head & Neck Cancer Program specializes in the treatment specialists and sub-specialists into a highly-coordinated care team. With a highly skilled team of Surgeons, Radiation Oncologists, Medical Oncologists, Dietitians, Speech & Lymphedema Therapists we provide patients with the very best in care.

Program Highlights:
• In-depth staging protocol, which determines the stage of the patient’s cancer and the optimal treatment
• Diagnostic staging procedures
• Molecular profiling of tumors - Personalized therapy with chemotherapeutic and targeted agents based on an individual patient’s molecular characteristics
• State-of-the-art radiation therapy including stereotactic radiosurgery using the 3D radiation therapy
Gynecologic Cancers

Nationally known Gynecological Surgical Oncologist works closely with a team of expert radiation oncologists to provide exceptional care. Our team specializes in the diagnosis, surgery, treatment and management of cervical cancer, endometrial cancer, ovarian cancer, uterine cancer and vulvar cancer with compassion and thoroughness.

Program Highlights:
- Advanced strategies for early diagnosis and staging of all types of gynecologic cancers, including HPV testing and colposcopic assessment
- Interventional radiology for image-guided biopsy
- Minimally invasive surgery including laparoscopic surgery and the da Vinci Surgical System
- Robotic-assisted laparoscopic lymph node assessment
- Expansive access to clinical trials
- State-of-the-art radiation therapy including intensity-modulated radiation therapy and vaginal brachytherapy, or internal radiation

Melanoma & Skin Cancer

Committed to enhancing the care of melanoma and skin cancer patients our dedicated team of dermatologists offer cancer prevention and screening in the community. Based on the exceptional care we offer patients an array of multidisciplinary care options.

Program Highlights:
- Early diagnosis & staging including the minimally invasive sentinel lymph node biopsy
- Mohs Micrographic Surgery
- State-of-the-art radiation therapy, including the IMRT
- Expert reconstructive surgery and skin grafting
- Lymphedema therapy for symptom management relief, as needed
Our Oncology Nurse Navigation Program is a core component of the patient experience from a cancer diagnosis through cancer treatments. As an integral member of the care team, our nurse navigators are responsible for a number of services, both clinical and emotional, throughout the patient’s cancer experience.

What our Patients can expect from the Oncology Nurse Navigation Program:

- **Site Specific Navigators:**
  - A comprehensive assessment of every patients’ needs to help identify barriers to care which can then be addressed and handled more quickly
  - Improved patient outcomes through education, support, performance improvement monitoring and ability to expedite care
  - Educational and emotional support for the patient and family members
  - Identification of patients who would benefit from clinical trial participation
  - Referrals for advanced directives and Physician Orders for Life-Sustaining Treatment (POLST) completion

- **High Risk Nurse Navigator:**
  - Assures follow up on patients at high risk for cancer to ensure barriers are removed to enable recommended follow-up

In addition to patient support, nurse navigators help to

- promote community awareness and prevention
- coordinate multidisciplinary Centers of Excellence for breast, lung and GI/liver cancer sub-committees

In 2018, the Renown Oncology Nurse Navigation Program aligned their key metrics to National measurement to evaluate the program’s progress to reach and/or exceed national benchmarks for high quality navigation.

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**Distress**

The importance of screening patients for distress and psychosocial health needs is the first step in providing high-quality cancer care. Our Oncology Social Worker (OSW) receives referrals from our care team to address the distresses that patients experience socially, psychologically, financially and behaviorally. In addition, our OSW oversees a cancer program wide Psychosocial Distress Screenings (PDS) program. To date in 2018, there have been a total of 2,113 Psychosocial Distress Screenings (PDS) administered by our cancer team caring for patients at pivotal visits of their care. There were 607 patients with 1,506 PDS results requiring a referral to Oncology Nurse Navigation for follow up assessment and referral to services which assist patients while he/she undergoes cancer treatment.
Support Services

At Renown Institute for Cancer, our care extends beyond the scope of medical services to include resources that support our patients and their families in all areas of life. Along with state-of-the-art treatments, Renown assists patients in dealing with the financial, physical and emotional aspects of having cancer.

Oncology Social Work
Our Oncology Social Worker helps people navigate the health care system and finds support to manage the day-to-day challenges of living with cancer. We are grateful to have an Oncology Certified Social Worker that has a passion for making a difference in our patients’ lives. A cancer diagnosis presents a number of difficult situations that require decisions that often become overwhelming. By connecting patients to both Renown and community resources, the barriers to care, such as socio-economic, lodging, or transportation concerns, she is able to make the cancer experience less stressful for most patients and their families.

Registered Dietitian Services
Our Registered Dietitians provide individualized nutrition care to patients and work with caregivers in helping patients achieve optimal nutrition at home. Our dietitians work closely with each patient’s healthcare team members to provide a comprehensive care plan that address issues such as nutritional supplements, managing nutrition-related symptoms, and/or eating problems as a result of cancer treatment. Ultimately, the dietitian’s job is to help the patient reach a goal of overall better quality of life through good nutrition... before, during and after cancer treatment.

Spiritual Care
Healthcare involves attending to the whole person - mind, body and spirit. Attention to spiritual wellness can help improve a patient’s overall health and quality of life, and therefore, our Spiritual Care team is an integral part of our healthcare team. Spiritual caregivers and chaplains, as well as spiritual and religious professionals who volunteer, are available to meet with you and your family. This team of professionals are trained to counsel people of all faiths and can talk with you about your diagnosis and help you cope with the emotions that accompany illness, treatment and recovery. A chaplain can also provide counseling on faith-related issues, support you and your family during difficult conversations and offer prayer, if desired.

Financial Resource Advocates
Renown offers full-time, professional financial counselors who specialize in oncology care to help patients and their families to better understand insurance coverage and the complete financial picture prior to their first appointment. Our financial advocates help patients navigate the cancer journey by understanding the costs of cancer and medication assistance programs.

Sally deLipkau Cancer Resource Center
The Sally deLipkau Cancer Resource Center is dedicated to helping patients and loved ones empower themselves with information that can help them understand the disease better and receive information about supportive care programs, including those through the American Cancer Society. All services provided by the center are free and available to cancer patients and survivors in the community. These dedicated volunteers help patients with boutique services including wigs, scarves, hats, camisoles and comfort items.

Symptom Management Program
Beginning in July 2018, a multidisciplinary team of palliative care nurses, rehabilitation therapists, registered dietitians, oncology nurse navigation, oncology social worker, financial resource advocates joined with our oncology specialty care physicians, advanced practice nurses and registered nurses for a weekly review of patients with complex cancer needs. This collaboration has shown to ward off cancer or treatment symptoms before they become problematic and prevent unnecessary Emergency Room visits and/or inpatient admissions by discussing what support is needed each of the patients presented weekly. This best practice program has proved to be an extremely helpful way of offering holistic care to our patients with complex cancer needs.
Reintegration into life following the sometimes complex treatment for cancer can be difficult and confusing. National best practice standards identify that a patient should receive a survivorship care plan that outlines the treatment they received, the potential long term effects of that treatment and the surveillance/testing that should occur in the future. This care plan should be also shared with the patient’s primary care provider.

The Renown Cancer Survivorship Program continues to provide this high quality, comprehensive cancer care following active treatment. Our program exceeds national standard of 50% of all cancer patients receiving a Survivorship Care Plan, delivering care plans to 66% of all cancer patients and 89% of all breast patients in 2017. In addition, the cancer center is on track to exceed expectation for the plan delivery for the 2018 cancer patients.

The survivorship program provides a variety of services and is coordinated by a dedicated Survivorship Care Oncology Certified Nurse Navigator in collaboration with the medical staff, cancer center nursing, dietitians, rehabilitation therapists, integrative medicine providers and numerous community agencies. Services and programs include:

- Providing a treatment summary document and survivorship visit to appropriate patients
- Comprehensive upper and lower lymphedema assessment, education and treatment program
- “Eating Well After Cancer Treatment” weekly workshops and weight management counseling
- Cancer rehabilitation therapies
- Psychological and social support through counseling and support groups
- Cancer survivorship education and supportive workshops (Cancer Fatigue, Yoga for Cancer Survivors, Shine a Light on Lung Cancer, Mind Body Meditation)

These services and programs provide our patients the education, support and resources necessary for a healthy survivorship following cancer treatment.
Program Highlight: Physics in Radiation Therapy

The first responsibility of the Medical Physicist is to the patient: to assure the best possible treatment given the state of technology and the skills of the other members of the radiation oncology department. A Medical Physicist brings a unique perspective to the clinical team in a radiation oncology program, that of a scientist trained in physics, including radiological physics, and also in clinical, basic medical, and radiobiological sciences. The Medical Physicist performs an important role working as part of a team alongside Radiation Oncologists, Medical Dosimetrists, Radiation Therapists, and others, to assure the accurate delivery of all aspects of a treatment prescription. In addition to this, they are responsible for all technical aspects of radiation therapy from CT simulation to treatment planning, all the way through to the end of treatment.

Physics in Radiation Therapy can be a difficult concept to grasp without first understanding what it takes to deliver lethal doses of radiation to tumors deep inside the body with sub-millimeter accuracy, while simultaneously limiting the radiation to surrounding healthy tissue. Medical Physicists, however, possess an in-depth knowledge and understanding of the physics behind radiation therapy. They understand why it is important that the treatment planning systems are calculating radiation dose distributions as accurately as possible, but also what the effects are when subtle changes to the plan or treatment delivery are introduced. This comes from an intimate understanding of how the technology works, and how radiation interacts with tissue. As the field advances and technology becomes more complex, the advantage of having someone with this knowledge and understanding becomes more apparent. Here in the Renown Institute for Cancer, our technology is state-of-the-art. Having the most advanced and up-to-date software and equipment allows us to deliver the best possible care to our patients, and to this we are committed.

One might wonder why technology is so important. You might even ask “Aren’t all treatment machines the same?” or “Why does it matter what software you use?” You ask these questions because, unlike a Medical Physicist, you don’t know that older machines and cheaper machines can’t match the reliability and consistency of newer, top of the line equipment like we have here at Renown. You also couldn’t possibly know that the newer and more sophisticated planning software can determine with much greater accuracy how much radiation will be delivered to the tumor and surrounding healthy tissue. Technology has advanced far from the days when German physicist Wilhelm Roentgen first discovered X-Rays back in 1895, but the highly trained team of experts here at the Institute for Cancer will always be ready to take on these changes, and win the fight against cancer.

“I am often met with wonder and surprise when I tell people that I am a Medical Physicist and I work in Radiation Therapy. Most people understand that radiation is used to kill cancer, but few people understand what a Medical Physicist has to do with this. Perhaps they think I am there to make sure people are safe from the radiation, or that I perform maintenance on the treatment machine. They would at least be partially correct in this assumption, but the role of a Medical Physicist is much greater.”

– John Zullo, MS, Director of Medical Physics, Renown Health

Cancer Registry

A Cancer Registry is a systematic collection of data about cancer and tumor diseases. The data collected provides essential information to researchers, healthcare providers, and public health officials to better monitor and advance cancer treatments, conduct research, and improve cancer prevention and screening programs.

As a Commission on Cancer (CoC) accredited cancer program, our hospital based Cancer Registry maintains data on all patients diagnosed and/or treated here at Renown otherwise known as “analytical cases”. Information maintained in the cancer registry includes: demographic information, medical history, diagnostic findings, cancer therapy and follow up details. The data is used to evaluate patient outcomes, quality of life, provide follow-up information, calculate survival rates, analyze referral pattern, allocate resources at regional or state level, report cancer incidence as required under state law, and evaluate efficacy of treatment modalities.

The Renown Health Cancer Registry is staffed by a Senior Certified Tumor Registrar (CTR), one Certified Tumor Registrar and one uncertified CTR’s currently working on their certification and one Cancer Registry Coordinator. CTR’s are specially trained in collecting this data. They also follow patients for the rest of their lives, thus providing accurate survival, recurrence, and outcomes information.

2018 has proven to be a very busy year for our Cancer Program, and therefore for our Cancer Registry. Due to the increased volume of cases we added a new member to the Team; earned compliance with commendation on 3 Standards during our recent tri-annual accreditation survey; worked with both the State Central Cancer Registry and the Center for Disease Control to ensure all cancer cases are being captured and reported as required; and streamlined internal work processes.

On the following pages there is a snapshot view of the cancer cases from 2017 at Renown Health. Note the 5 year trend continues to demonstrate program growth, with nearly 2,600 total cancer cases diagnosed and/or treated at Renown Institute for Cancer, a 10% increase over prior year.

Analytic Cancer Case Trend

<table>
<thead>
<tr>
<th>Year</th>
<th>Analytic</th>
<th>Non-Analytic</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>1799</td>
<td>722</td>
</tr>
<tr>
<td>2016</td>
<td>1815</td>
<td>532</td>
</tr>
<tr>
<td>2015</td>
<td>1819</td>
<td>417</td>
</tr>
<tr>
<td>2014</td>
<td>1705</td>
<td>375</td>
</tr>
<tr>
<td>2013</td>
<td>1462</td>
<td>308</td>
</tr>
</tbody>
</table>
Below shows the distribution of the top 10 cancer cases by gender. Note that following breast for women and prostate for men as the number one cancer diagnosed, lung/bronchus is second followed by colon/rectum as third for both men and women.

### Renown Cancer Diagnosis by Gender

#### Male

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>(% of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prostate</td>
<td>223 (19%)</td>
</tr>
<tr>
<td>Lung/Bronchus</td>
<td>144 (12%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>111 (9%)</td>
</tr>
<tr>
<td>Melanoma of the Skin</td>
<td>74 (6%)</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>71 (6%)</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>58 (5%)</td>
</tr>
<tr>
<td>Oral Cavity &amp; Pharynx</td>
<td>55 (5%)</td>
</tr>
<tr>
<td>Kidney &amp; Renal Pelvis</td>
<td>49 (4%)</td>
</tr>
<tr>
<td>Leukemia</td>
<td>50 (4%)</td>
</tr>
<tr>
<td>Pancreas</td>
<td>34 (3%)</td>
</tr>
</tbody>
</table>

#### Female

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>(% of Total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>480 (35%)</td>
</tr>
<tr>
<td>Lung/Bronchus</td>
<td>130 (9%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>77 (6%)</td>
</tr>
<tr>
<td>Uterine Corpus</td>
<td>75 (5%)</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>53 (4%)</td>
</tr>
<tr>
<td>Thyroid</td>
<td>51 (4%)</td>
</tr>
<tr>
<td>Melanoma of the Skin</td>
<td>44 (3%)</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>41 (3%)</td>
</tr>
<tr>
<td>Kidney &amp; Renal Pelvis</td>
<td>35 (3%)</td>
</tr>
<tr>
<td>Leukemia</td>
<td>32 (2%)</td>
</tr>
</tbody>
</table>

The 2017 Primary Site Table shown above shows that breast (484) cancer cases were the highest volume of cancers diagnosed and treated at the Renown Institute for Cancer. Lung (274), prostate (223), colon/rectum (188), and melanoma of the skin (120) cancers round out the top 5 cancer diagnoses and/or treated at Renown Health.
Participant evaluations noted learnings on ways to decrease risk for colorectal cancer responses included: Weight Management (18%); Routine physical activity (27%); Reduce amount of red meat (20%); Modify alcohol intake (6%); Smoking cessation (4%); Increase fruits and vegetables (25%). Responses for ways to screen included Colonoscopy (46%); FIT (33%) and Combination (21%).

Radon Awareness
Radon Awareness was an educational event with distribution of free radon home test kits. Outreach activity were held in collaboration with Nevada Cooperative Extension Radon Education Program to increase awareness of radon and health risk. 153 radon kits with radon education were provided and 139 questionnaires were returned. The program evaluation tested participant’s knowledge of radon and health risks. We provided education to increase awareness as well as free radon kits for home testing. Eighty (58%) of participants did not have previous knowledge of radon. Seventy-one (51%) did not know radon was leading cause of lung cancer in nonsmokers.

Screening Programs
Lung Cancer Screening
The Renown Lung Cancer Screening Program (LCSP) followed the American College of Radiology and CMS guidelines to include individuals who are 1) aged 55 to 77 years, 2) no symptoms of lung cancer, 3) no history of lung cancer 4), 30 pack-a-year smoking history, and 5) currently smoke or have quit within the past 15 years. Each person who meets these screening guidelines will then meet with an Advanced Practice Nurse for a “shared decision making visit.”

Since March 2016, the Renown LCSP has had 1,804 referrals: 580 in 2016, 821 in 2017, and 403 in Q1&2 of 2018. 957 participants completed the LDCT screening, including 118 annual screenings. Of those screened, 12 patients have been diagnosed with cancer, as seen in the table below.

<table>
<thead>
<tr>
<th>Lung Cancer Stage At Diagnosis in Lung Screening Program</th>
<th>Stage IA or IB</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage IA or IB</td>
<td>8 (67%)</td>
<td>1 (8%)</td>
<td>2 (17%)</td>
<td>1 (8%)</td>
</tr>
</tbody>
</table>

The Renown Intake Oncology Coordinator (IOC) program has performed diagnostic work-up and follow-up on 47 participants. The Renown Pulmonary Group Nodule clinic has closely followed all 118 participants. In 2018, the Renown High Risk Nurse Navigators assists with high risk navigation, annual LDCT reminders and data reporting. A reference guide is sent to primary and specialty care providers individually and communicated with admin and physician leaders. Workflow for ordering the initial referral to the program and for ordering annual screening continues to be a gap. Communication with the contact center and provider leadership is ongoing. Planned for 2019 is a collaboration with the Renown Population Health Outreach team to improve the electronic Health Maintenance Topic reminders for annual screening.

Breast Cancer Screening
For the 2018 calendar year we attended WCSD Women’s Wellness Day, Moms on the Run, Juneteenth and the Women’s & Children’s Center Medicaid Open Enrollment Event to help increase breast health awareness by providing patients education, prevention and early detection programs. At each event education was provided on the importance of getting breast screening exams at their risk appropriate age, cancer genetic risk assessment for patients to review with their primary care providers, and scheduling age and risk appropriate breast imaging exams for patients. Renown has also partnered with Susan G. Komen of Nevada to provide screening mammography, diagnostic mammography and breast biopsies at no cost to patients who are uninsured or under insured.

Prevention Programs
“Know Your Hereditary Risk” Event
Presentation by Robert Nathan Slotnick, MD, PhD, Medical Geneticist, to a Reno Jewish community group on hereditary risk for cancer. Testing was offered at a reduced cost with a saliva screening test in collaboration with UNR Medical students. Genetic testing was competed best practice based from the National Comprehensive Cancer Network (NCCN) Guidelines for high risk cancer. Results of testing: Completed testing of 22 individuals; abnormal results were 39% of the participants; specific pathological mutations were noted in 11% of the participants. All with positive results were followed up with a medical genetic consultation.

2018 Colon Cancer Lecture - Renown Senior lecture series
Presentation by Dr. Craig Sande, gastroenterologist, on colorectal prevention with evaluation given post presentation based on American College of Gastroenterology/ USPSTF guidelines. 95% of the participants evaluated the presentation as “excellent.”
Timeliness of Colon Cancer Care

Rectal Cancer Quality Study

Purpose of study: There were two metrics that were of interest of the Gastrointestinal Center of Excellence in 2018. The first metric was related to variations in the timeliness of care from diagnosis to treatment as a few cases reviewed at cancer conference seemed longer than expected. The second was a re-evaluation of pre-treatment assessment for staging and/or treatment decision making. Below are the Problem statements:

A. Evaluate the length of time from a patient diagnosed with rectal cancer to beginning treatment, noting if there were variations based on treatment location.
B. Evaluate if all patients received an MRI or EUS prior to treatment.

Criteria used: To determine variation in work up and delays in treatment, 6 months of 2017 rectal cancer cases were evaluated using two specific data points:
1. Diagnosis date to 1st course of definitive treatment (Benchmark1 = 60 days)
2. Workup utilization of MRI and EBUS (NCCN Guidelines: Rectal Cancer)

Data Analysis and Findings: 38 rectal cancer cases were evaluated of which 22 were ineligible due to the following reasons:
1. 5 were ineligible due to a diagnosis of colon cancer, not rectal cancer
2. 12 were ineligible due to being out of the set criteria time frame for the proposed study
3. 5 were ineligible due to inability to obtain needed data to compare cases to set criteria

A. Diagnosis date to 1st course of definitive treatment

<table>
<thead>
<tr>
<th>Cases</th>
<th># Cases</th>
<th>Days from Diagnosis to Initial Treatment</th>
<th>Range</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cases</td>
<td>16</td>
<td></td>
<td>29-201</td>
<td>64.3</td>
<td>45</td>
</tr>
<tr>
<td>Renown Health</td>
<td>12</td>
<td></td>
<td>30-157</td>
<td>52.6</td>
<td>44</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td></td>
<td>29-201</td>
<td>99.5</td>
<td>71</td>
</tr>
</tbody>
</table>

a) 11 of the 16 All Cases (68.8%) were under 60 days, below the COC benchmark
b) 10 of the 12 Renown Health Cases (83.3%) were under 60 days, meeting the COC benchmark
c) 1 of the 4 Other Cases (25%) were under 60 days, below the COC benchmark

As can be seen by Graph 1 below, patients that were diagnosed and treated at Renown were more likely to meet the 60 day treatment start benchmark.

1 Benchmark: The Commission on Cancer National Accreditation Program for Rectal Cancer states “accredited rectal cancer programs must ensure that 80% of previously untreated patients begin definitive treatment within 60 days of the patient’s initial clinical evaluation.”
2 National Comprehensive Cancer Network Guidelines: Rectal Cancers V3.2018

B. Workup utilization of MRI and EUS

As is illustrated in Graph 2 below, 15 of the 16 cases (94%) met NCCN Rectal Cancer guidelines.

Graph 2: Percent of Rectal cases that had a MRI or EUS before initial treatment

Study A Conclusions and Actions: Not all rectal cancer cases are within the accepted benchmark for the time to treatment following a rectal cancer diagnosis. As a direct result of this study, a Referral Checklist or Algorithm has been developed and will be used by all providers caring for patients who are newly diagnosed with rectal cancer. This algorithm includes referrals to Specialty Physicians, Nurse Navigation, Genetic Risk Assessment, Staging Tests, and other relevant information.

Reassessment: The algorithm will be reevaluated for effectiveness after six months of use.

Study B Conclusions and Actions: Rectal cases diagnosed and/or treated at Renown Health are following NCCN Guidelines for workup/pre-treatment studies. No action is required.
During the middle of the 4th inning, the announcer gave pause and asked all audience member to raise their signs and show how they supported the survivors. This was a very powerful, moving and a bit emotional for the survivors in attendance to receive the respect from a stadium full of people.

Also, Renown Institute for Cancer had a special guest of honor, a cancer survivor that has received treatment for over three years, throw out the first pitch before the game. It was an honor for the patient to have so many people rooting him on as the ball he threw from the pitcher's mound crossed home plate to the catcher's glove.

Even though this event is for the patients and their loved one, the staff that care for these patients have a fabulous time at this event. The staff get to interact with the patients outside of a patient care environment. Connecting with patients is the true reward for the staff and seeing patients surviving and thriving, getting on with life, putting cancer behind them, even if it is just for an evening.
Cancer Committee
Required and Appointed Membership

James B. Harris, MD, Chair and Commission on Cancer Liaison Physician
Jo Duszkiewicz, MSA, Cancer Program Administrator
Julie Locken, MD, Diagnostic Radiology
Christie Elliott, MD, Pathology
Michelle Chu, MD, Surgery
Aaron Bowman, MD, Medical Oncology
Garrett Green, MD, Radiation Oncology
Kelly Worley, RN, OCN, Oncology Nurse
Jocelyn Mata, LSW, MSW, OCSW, Oncology Social Worker, Psychosocial Services Coordinator
Angelique Kennedy, BSN, CPN, Quality Improvement, Quality Improvement Coordinator
Kelle Brogan, MD, Palliative Care Director
Cathleen Cheyney, CTR, Certified Cancer Registrar, Cancer Registry Quality Coordinator
James Cohen, MD, Cancer Conference Coordinator, Medical Director, Infusion
Myrna Forestiere, MOD, Community Outreach Coordinator
Shannon Pierpoint, BSN, CCRP, OCN, Clinical Research Coordinator
Christos Galanopoulos, MD, MBA, Chief Department of Surgery
Brian Juell, MD, Medical Director, Breast Program
Craig Sande, MD, Medical Director, Gastrointestinal Program
John Ganser, MD, Medical Director, Thoracic Program
Michael Hardacre, MD, Section Chief, Radiation Oncology
Peter Lim, MD, Gynecologic Oncology
Christina Szot, MD, Pulmonary, Lung Screening Program
Erik Olson, MBA, CEO, Acute Care
Susan Cox, Director, Radiation Oncology
Blaine Guinn, PharmD, Pharmacy
Cathleen Zoller, ACS Representative
Kendra Webber, Rehabilitation Services
Abigail Sargent, Lymphedema Therapy
Rebecca Lindstedt, Dietary Services