We will provide superior quality, accessible, comprehensive cancer treatment, prevention and patient support services for western North Carolina and the surrounding region.

—ONCOLOGY SERVICE LINE MISSION STATEMENT

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2012 was a year of partnerships for Mission’s Cancer Program. The complexity of cancer care and the shrinking healthcare reimbursement environment have fostered physicians, hospitals and community agencies to partner and join resources to meet the ever growing needs. Economic pressures for providers and patients have increased the cancer burden for many. Mission Health has risen to the forefront to reduce that burden. By establishing formal agreements with Cancer Care of Western North Carolina, the largest regional provider of medical oncology/hematology services, and Hope Women’s Cancer Centers, the most comprehensive women’s cancer service in the region, patients are able to access world-class cancer care without leaving WNC.

Research has shown that access to multidisciplinary expert care is the top priority for cancer patients. The Thoracic Lung clinic, highlighted in this report, is an excellent example of our physicians, nurse navigators, social worker and research nurses working together to discuss and plan care in a timely, coordinated manner with the patient and family.

Though our partnerships with UNC Chapel Hill Lineberger Comprehensive Cancer Center and Wake Forest Comprehensive Cancer Center we have access to national research trials and teleconferencing for education and medical consults.

Mission and the American Cancer Society share common goals of reducing healthcare disparities related to cancer and have partnered to target this issue in Madison County.

We are proud to share these highlights and the impact our partnerships are having on patient outcomes and quality of life when faced with a cancer diagnosis.

Michael Messino, MD
Cancer Service Line Leader

Karen Grogan, RN, MSOM, OCN, CENP
Executive Director Cancer Services
Committee Members

PHYSICIANS

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STAFF

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Executive Director, Cancer Services, Co-Chair

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Betsy Bent  
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Jeffrey Whitinge  
Michael Wortman, RN, OCN, CCRP

Committee Highlights

- **Integration with key physician providers**—Cancer Care of WNC in January and with Hope Women’s Cancer Centers in December—enhanced coordination and efficiencies of services.
- Achieved a **successful Children’s Oncology Group (COG) survey** on March 5th with no major deficiencies and a full, three-year accreditation.
- **Initiated the multidisciplinary Lung Clinic, with a pre-conference**, on April 12th. National guidelines are utilized in conference discussions and treatment planning. 140 patients have been presented at these conferences and 98 patients have been seen in clinic from April through December.
- The Thoracic team, with Asheville Imaging leadership and physicians, **initiated a low dose CT screening option for high risk smokers** based on National Comprehensive Cancer Network (NCCN) guidelines.
- Mission SECU Infusion Services became the provider of all chemotherapy, blood and other infusions for Cancer Care of WNC in the new Mission SECU Cancer Center.
- **Provided community and professional education on prostate cancer screening**, with national expert William Catelona, MD.
- Served as a **host site for American Cancer Society Cancer Prevention Study 3**.
- **Addressing healthcare disparities** in Madison County with the American Cancer Society through the Community Health Advisory program.
Mission Cancer providers are passionate about care and value the trust of our patients. We are constantly looking for ways to reduce the risk of harm, reduce waste in our processes and create an exceptional patient experience.

In 2012, we accomplished many initiatives to better serve our patients:

• Completed in-depth quality review of all colon cancer cases, comparing staging, treatment and outcomes to national statistics and best practices. Mission outcomes compared very favorably with state and national outcomes.

• Streamlined processes for reviewing and opening new clinical trials with Institutional Review Board (IRB), Research Institute and University of NC—Chapel Hill.

• Enhanced nutritional counseling services by hiring a full-time certified oncology nutritionist to the Mission SECU Cancer Center (in addition to a new dietician being hired for Inpatient Oncology unit for support and counseling).

• Initiated a Head & Neck cancer multidisciplinary team to coordinate plan of care and services.

• A survivorship steering committee was initiated to define the model for psychosocial support and coordination of a host of cancer survivor services.

• Radiation Oncologist completed an in-depth review of prostate cancer care, side effects and outcomes.

• Improved safety in ordering, preparing and administering Chemotherapy regimens through review, standardization and use of evidenced based templates.
MISSION HEALTH’S
Multidisciplinary Lung Clinic

The Multidisciplinary Lung Clinic began planning care for patients with a diagnosis of lung cancer or suspected lung cancer on April 16, 2012. Participants in the planning conference that precedes each clinic include: radiologist, pulmonologist, surgeon, medical oncologist, radiation oncologist, research nurse and the nurse navigators. Patients seen in the clinic may be seen by the pulmonologist, medical oncologist, radiation oncologist, nurse navigator, research nurse, oncology nutritionist and/or Cyberknife coordinator.

In 2012, 47 patients were presented for discussion only and 104 patients were seen. For the 151 patients discussed and seen, the following treatment plans were recommended:

<table>
<thead>
<tr>
<th>Number of Treatment Plans</th>
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<tbody>
<tr>
<td>2nd Opinion (Continue Prescribed Plan)</td>
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<tr>
<td>Follow-up with Pulmonology at Specified Interval</td>
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<td>Palliative/Hospice Care</td>
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<td>Cyberknife</td>
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<tr>
<td>Additional Diagnostic Work-up Recommended (PET or EBUS)</td>
<td>39</td>
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<tr>
<td>Chemotherapy/Radiation Therapy</td>
<td>40</td>
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<tr>
<td>Surgery</td>
<td>30</td>
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<tr>
<td>Neo-adjuvant Treatment</td>
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</table>
The Multidisciplinary Lung Clinic chose to begin slowly, starting with case conferences only (no clinic patients) and then to gradually add patient cases. The maximum number of patients to be scheduled is nine for each clinic.

The chart to the left shows the number of patients seen each month during the 27 clinics held.

Patients have been seen in the lung clinic from 17 different counties throughout western North Carolina.

Components of the Thoracic program include:

- Prevention and Education
- CT Screening
- Diagnostics
- Multidisciplinary Treatment Planning
- Cancer Research
- Surgical Services
- Radiation Services/CyberKnife
- Chemotherapy Infusion Services
- Support Services/Integrative Health
- Personalized Genomic Medicine (in Development)
Cancer Data Services

The Cancer Registry is a department of the Cancer Center designed to collect, manage, analyze, and report information on cancer patients newly diagnosed and/or treated at Mission Hospital. We maintain one of the largest tumor registries in the country.

Statistical information gathered from this data is used by area physicians, the American Cancer Society, the North Carolina Central Cancer Registry, the National Cancer Data Base, and local hospitals to review trends and outcomes for cancer patients. Monitoring survival statistics and disease recurrence helps improve the standard of care for patients who have cancer, certain diseases of the blood and lymphatic systems, and non-malignant brain tumors, as well as providing data to prompt new research studies and clinical trials.

The Commission on Cancer (CoC) is a consortium of professional organizations including the American College of Surgeons (ACOS), dedicated to improving survival and quality of life for cancer patients through standard-setting, prevention, research, education, and the monitoring of comprehensive quality care. Under the guidance of the CoC, Cancer Data Services acts in concert with the Mission Hospital Cancer Committee to assure compliance to the standards pursuant to designation as a Comprehensive Community Cancer Center. In 2011, the American College of Surgeons granted Mission Hospitals Cancer Program a three-year Accreditation with Commendation.

In addition to case abstraction, the Registry coordinates case presentation at the weekly Cancer Conference, physician quality review of the Registry data, pathology review of College of American Pathology compliance, and quality review of the Cancer Program. Statistical and focus studies review care provided to our cancer patients and compare results with state and national averages.

In 2012, Mission Hospital received the Outstanding Achievement Award from the Commission on Cancer (CoC). Established in 2004, the CoC Outstanding Achievement Award is designed to recognize Cancer Programs strive for excellence in providing quality care to cancer patients. The award is granted to facilities that demonstrate a Commendation level of compliance with seven standards that represent six areas of cancer program activity: Cancer Committee leadership, cancer data management, research, clinical management, community outreach and quality improvement. Only 106 programs or 22% of programs surveyed in 2011 received this award. We are proud of the Mission Cancer Program receiving this achievement.
MISSION HEALTH’S
2012 Cancer Incidences

The statistics presented for Mission Hospital are based on the actual number of new cancer cases seen at the facility during 2011, with the exception of carcinoma in-situ of the cervix, squamous cell and basal cell skin cancers, and intraepithelial neoplasia cases. Excluded from the statistical analysis are cases that are diagnosed and/or treated at other facilities prior to referral to Mission Hospital at the time of progression of their disease. Comparison numbers for the United States and North Carolina are projected case numbers as provided by the American Cancer Society, North Carolina Centers for State Health Statistics, and the American College of Surgeons, Commission on Cancer, National Cancer Data Base.

**Analytic Case**
A case that was diagnosed at our facility or cases in which all or part of the first course of therapy was given at our facility after the reference date.

**Non-Analytic Case**
A case involving a patient who was diagnosed elsewhere and treated elsewhere, or was diagnosed and treated prior to the reference date at your facility. These patients are excluded from the survival statistics.
### 2012 Cancer Incidences

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<th>TOTAL</th>
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<td>Colon</td>
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Number of cases excluded: 24
In 2012, Mission Hospital held 50 Weekly Clinical Cancer Conferences, with facility wide participation and multidisciplinary attendance by Diagnostic Radiology, Pathology, Radiation Oncology, Medical Oncology, Gynecologic Oncology, Internal Medicine, the various surgical subspecialties, and Family Medicine.

Members of the nursing staff, oncologic ancillary departments, Cancer Data Services, Pharmacy, Administration, Genetics and Research also attended. The goal of this conference is to discuss optimal approaches to management of patients who present diagnostic or treatment challenges. Typically, three to five cases are presented each week and, for each case, an in-depth review of the pertinent diagnostic data with interactive discussion of the patient’s workup and management is undertaken. Presentations typically include a review of the patient’s past medical history, presenting complaints and an exam. The pertinent radiographic and pathologic findings are then reviewed followed by discussion about the management of each individual case. The salient information available in the medical literature, including NCCN treatment guidelines, is also discussed. The AJCC clinical staging and prognostic indicators are used to help with treatment planning, and the candidacy for enrollment in open clinical trials is considered.

The ultimate goal of each presentation is to enhance patient care, both for the individual patient and for the hospital’s oncology population as a whole. Each Weekly Clinical Cancer Conference is an educational activity and offers one hour of category one CME per conference upon completion of sign in and evaluation. In addition to the weekly Clinical Cancer Conference, the hospital also offers a site specific Weekly Breast Cancer Conference using a similar format. Both conferences are central components to Mission Hospital’s Oncology Program.

A finite number of didactic educational sessions are periodically held during the time allotted for the two cancer conferences. These presentations typically consist of lectures by nationally recognized speakers.

The three didactic lectures for 2012 included:

**APRIL 4, 2012**
Challenging Cases in Metastatic Breast Cancer
Andrew Seidman MD, Memorial Sloan-Kettering Cancer Center

**APRIL 25, 2012**
Incorporating Genomics in the Management of Ductal Carcinoma In Situ and Early Stage Invasive Breast Cancer
Patrick Hall, D. Ph, Genomic Science Liaison Manager, Genomic Health, Medical Affairs, Mission SECU Cancer Center

**JUNE 14, 2012**
A Multidisciplinary Approach to Personalizing the Treatment of Head & Neck Cancers
Marshall R. Posner, MD, Tisch Cancer Institute, Mount Sinai School of Medicine

Eric Kuehn, MD
Cancer Conference Coordinator
Prostate cancer is the most common cancer in American men with approximately 241,740 new cancer cases expected to be diagnosed in 2012. About one in six men will be diagnosed with this disease throughout their lifetime. In 2011, Mission Hospital diagnosed and/or treated 237 cases from western NC and beyond.
Prostate cancer is the 3rd most common cancer diagnosed and/or treated at Mission Hospital. The disease is much more common in elderly men, and this is illustrated by the fact that 42% of cases seen at Mission Hospital are between the age of 60-69 years.

In addition to age, nationality is also a risk factor for prostate cancer. African American men have a significantly higher risk than white American men. Frequently, the African American male is diagnosed at a higher stage, often associated with a delay in seeking screening or treatment.
Prostate Cancer

Screenings

Prostate screening for early detection has been a combination of digital rectal exam (DRE), checking prostate for size or nodules in lobes, and a blood test called prostate specific antigen (PSA). National guidelines for prostate screening have been controversial regarding risk versus benefit of early diagnosis and potential risk of “over” treatment. For most men, discussions about whether to screen for prostate cancer should begin at age 50. Certain individuals at higher risk for prostate cancer, such as black men and those with a father or brother diagnosed with prostate cancer before age 65, should consider screening at age 40.

Digital rectal exams should be considered on an individual basis when PSA blood levels fall between 2.5mg/ml and 4.0mg/ml. When PSA blood levels exceed 4.0mg/ml, further evaluation, perhaps including a biopsy of the prostate, is a reasonable approach, according to the American Cancer Society. However, patients should be informed that false positive and false negative result can occur.

Mission has offered an annual community prostate screening since 1991. In 2011, 197 men were screened (PSA & DRE) by area urologists and Radiation Oncologist. There is one confirmed case of prostate case at this time.

In 2012, this community screening was not offered due to new recommendations by the U.S. Cancer Preventative Task Force, which recommended against routine prostate screening. A national speaker, Dr. William Catelona, was brought to Asheville to provide education to our healthcare professionals and the general public concerning the prostate screening controversies and risk and benefits that screening and treatment offers.

Diagnostic Work-Up

When there is a concern about prostate cancer, a transrectal ultrasound may be done. A CT scan may also be completed, evaluating the pelvis for metastatic disease. Advanced prostate cancer frequently spreads to the bone and, therefore, a bone scan may be ordered to detect boney metastases.

Most prostate cancers are cell types known as adenocarcinoma. Grade and Gleason scores are assessed—the higher the Gleason score the more likely the cancer to grow and spread quickly.

First Course Treatment

Men have several options to consider for treatment. For some men, watchful waiting or active surveillance with periodic blood tests, biopsy or DRE may be the best choice. Prostate cancer treatments include cryotherapy, radiation therapy, hormone therapy, chemotherapy and surgery. A combination of treatment modalities is commonly used. An extensive discussion concerning PSA level, diagnostic work up results, Gleason score and potential side effects of various treatment modalities, should occur between the patient and physician.

At Mission 65% of the 2011 analytic cases received surgery as the 1st course of treatment, 27% chose RT as the 1st line of treatment. Over the past 6 years there has been a shift in more patients receiving surgery as 1st line of treatment. In 2006, approximately 46% of patients of early stage prostate cancers were treated surgically, while 54% were treated with primary radiation. The addition of robotic surgery technology is a primary driver of this change.
Because prostate cancer tends to be a relatively slow growing malignancy, overall survival numbers are generally quite high for non-metastatic disease. Mission Hospital’s five-year survival data confirms this, with five year survival rates for all stages of prostate cancer being 93%.

**Prostate Cancer Stage I**
*Observed Survival 2000-2007*

**Prostate Cancer Stage II**
*Observed Survival 2000-2007*

**Prostate Cancer Stage III**
*Observed Survival 2000-2007*
SURVIVAL STUDY OF
Colon and Rectal Cancer

The 2011 site analysis study is on colon and rectal cancer cases captured in 2011, the last full year of data. Mission Hospital has diagnosed and/or treated 102 cases of colon and 39 cases of rectal cancer patients.

The data collection includes but is not limited to, patient demographics, patient identification, sex, age, tumor size, extension and histology, lymph node involvement, metastases, AJCC staging, collaborative staging, first course of treatment, subsequent treatment, surveillance and follow-up care for the life of the patient. Of those 141 cases, 79 (56%), are female and 62 (44%), are male. The ages range from 21-91 years, as shown from the graph below.

Following NCCN guidelines, the physician takes a history and physical to determine any history of colorectal cancer in the family. The screening for colorectal cancer usually starts at age 40 with family history of colorectal cancer, without family history at age 50, a routine colonoscopy should be done. A biopsy is obtained to determine histology and extent of lesion and is evaluated by chest/abdomen/pelvis CT scan, CEA, endorectal ultrasound or pelvic MRI, rigid proctoscopy or sigmoidoscopy, for clinical staging. This will be the foundation for treatment.

Colon and Rectal Cancer by Age and Sex
According to NCCN guidelines, surgery is the first option for early stage colon and rectal cancer. Out of 102 cases of colon cancer, 96 had surgery as first course of treatment or 94%, and 33 of 39, or 85% cases of rectal cancer had surgery.

Forty cases of colon cancer were treated with surgery and postoperative chemotherapy from AJCC stage group 1-4, with 99 being unknown stage, patient had excisional biopsy from colonoscopy, refused further workup, and was not recommended chemotherapy, contraindicated due to other risks. Three cases were recommended chemotherapy, but patient or guardian refused treatment.

Colon and rectal cancers by AJCC stage group at Mission Hospital:

Colon Cancer by Stage at Diagnosis

Rectal Cancer by Stage at Diagnosis

Chemotherapy was given to 30 of 42 rectal cancer patients. Ten patients with Stage I disease had surgery with no further treatment. Two patients with Stage 2 had surgery only. Sixteen patients with Stage 2A-3 disease had surgery post chemotherapy (four with radiation treatment). Two patients with AJCC Stage 3A-4 disease had chemotherapy before and after surgery (three with radiation).

Three patients had chemotherapy post-biopsy, whether a single agent or multiple agents used, was unknown and no surgery documented. One AJCC Stage 4 patient chemotherapy treatment was contraindicated due to other risk factors, but was given radiation treatment to alleviate symptoms. One AJCC Stage 4 patient, was recommended chemotherapy and radiation and refused treatment.
SURVIVAL STUDY OF
Colon and Rectal Cancer

Treatment at diagnosis in Mission Hospital data represents more cases are being treated at an earlier stage and therefore most are surgical. Mission Hospital has available on site, stomal therapy, chemotherapy, and radiation therapy. American Cancer Society resources are available on-site at Mission Hospital and early detection, screening and support groups are offered by referral.

In March 2011, Mission Hospital held a prevention and screening program to raise awareness about colon and rectal cancers in the Main Lobby of the Mission and St. Joseph Hospital by displaying educational material and sign-up for colonoscopies, 26 people—both Mission employees and guests—took advantage of this opportunity.

Mission Hospital staging data at diagnosis in 2010 is on average the same area of percentage rates compared to the National Cancer Data Base, except that in stage II disease versus stage III disease, Mission Hospital diagnosed at a later stage, however in 2011 there was improvement on capturing colon cancer and rectal cancer at an earlier stage.

Please see following graph from the NCDB comparison benchmark, comparing Mission Hospital to 15 other comprehensive programs in North Carolina data:
MISSION HEALTH’S
Community Partnership

Mission Cancer Services and American Cancer Society have partnered with others to address health disparities through the Community Health Advisory (CHA) Program and the Health Equity Grants (HEG) program.

Health Equity Grants (HEG) program
The HEG program exists to increase cancer screening through community outreach, education, and coordination with screening services, for communities affected by disparities.

Disparities Identified (based on 2008 data)
- Women in Madison County die at a higher rate from breast cancer than the state and the nation.
- Only 31% of Madison County women enrolled in Medicare were screened with mammography. The NC state screening rate was 42%.
- Only 8% of Madison County residents were screened for colon cancer (with any modality). The NC state screening rate was 11%.
- African American women in Buncombe County are having a lower breast cancer incidence rate, but higher mortality rate.

Model to Address Disparities
The HEG program is based on the Community Health Advisory model, which identifies and trains local individuals who then seek to improve the health of people in their communities. This model has been around for more than two decades and is a proven health promotion program.

Overarching Objectives
- Implement evidence-based intervention of Community Health Advisors (CHAs) to demonstrate impact on health disparities reduction.
- Successfully translate academic intervention to volunteer model, rural Appalachia and Native American populations.
- Train volunteers to deliver prevention and early detection messages and navigate women to breast, cervical and colorectal cancer screenings.
- Develop volunteer leaders to build screening capacity in CHA communities.
MISSION HEALTH’S

Community Partnership

Results of CHA and HEG

• 25 un-insured or under-insured women have received breast, cervical and colorectal cancer screenings since May of 2012.

• 600 families have received breast cancer educational materials through a partnership with the Madison County Public School System.

• Having partnered with the Madison County Health Department for a BCCCP fund-raiser, 50 more women will receive mammograms in 2013.

• 22 Hispanic/Latino women are being navigated to cervical and breast cancer screenings.

• Outreach campaigns are being developed by community and religious organizations to service far-reaching areas of the county.

• A collaboration between Community Health Worker (CHW) programs and the American Cancer Society’s (ACS) South Atlantic Division to increase breast, cervical and colorectal cancer screening through education and awareness.

Mission Breast Program Nurse Navigators have been vital to the success of the 2012 Madison County Community Health Advisory and Health Equity Grant partnership by providing breast education, advocacy and outreach to the Hispanic/Latino community.

— Morgan Daven, VP of Health Disparities and Community Outreach for the American Cancer Society

MISSION HEALTH’S

Cancer Care of WNC

In December 2012, Cancer Care of Western North Carolina’s Asheville practice moved into the Mission SECU Cancer Center. Cancer Care of WNC (CCWNC) was founded in 1990 under the direction of Michael Messino, MD. The clinic’s main office is located in Asheville and currently operates four satellite clinics in the region, covering Brevard, Franklin, Spruce Pine, and Sylva.

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The nine-physician practice is grounded with a strong focus on excellent patient care and service. The nurse practitioners and physician assistants work closely with physicians to help provide continuity and easy access to care. Our dedicated and friendly staff provide a strong structure for the heart of the practice—our patients.

CCWNC has experienced continued growth over the past 23 years of service in WNC. The practice has maintained the Quality Oncology Practice Initiative (QOPI) certification since 2008 and is one of the first five practices to obtain certification in North Carolina. In October 2011, the practice collaborated with Mission Health in a physicians service agreement (PSA). Becoming an integral part of the developing cancer program serving the Western regions of NC, the practice will continue to provide evidence based care to oncology patients and support the growth of a Cancer Center of Excellence at Mission.

Thank you for sharing this journey.
Mission Health has been named one of the nation’s Top 15 Health Systems and Mission Hospital one of the nation’s Top 100 Hospitals by Truven Health Analytics for the second year in a row.