The success of the Cancer Program at Naval Medical Center San Diego (NMCSD) depends on the leadership of the Oncology Advisory Group (OAG), a multidisciplinary standing committee of the medical staff. The OAG includes medical representatives from all medical specialties involved in the care of the cancer patient, as well as representatives from patient administration, oncology nursing, pharmacy, tumor registry, clinical research, nutrition, social services, pastoral care, and the American Cancer Society. The OAG meets bi-monthly and is responsible for planning, initiating, stimulating and assessing all cancer related activities in the hospital, and the clinical supervision of the Tumor Registry.

NMCSD participates in the American College of Surgeons Commission on Cancer (CoC) Accreditations Program. The OAG is responsible for following the standards set forth by the college. Participation as a CoC accredited cancer program ensures that our patients receive quality care, cancer education, access to prevention and early detection programs, comprehensive care including state-of-the-art services, a multidisciplinary team coordinating the most appropriate treatment options, information on clinical trials and developing treatments, support services, a cancer registry which is vital to providing lifelong patient follow-up to monitor disease recurrence, ongoing monitoring and improvements in cancer care.

NMCSD successfully completed the triennial Commission on Cancer, Cancer Program Survey on 17 August 2016 and we remain accredited.

A message from Dr Preston Gable, Cancer Liaison Physician;

The Oncology Advisory Group would like to thank the hospital leadership—our current Commander, CAPT Roos, and our XO, CAPT Johnson as well as the entire Executive Steering Council for providing the support and leadership necessary for us to provide truly outstanding cancer care to our military beneficiaries. Cancer care is truly a team effort—the patient is at the center, and is supported on all sides by nursing, physicians from surgery, radiology, pathology, medical oncology, radiation oncology and gynecologic oncology as well as social workers, nutritionists, physical therapy, the tumor registry, our clinical trials office, and even our local American Cancer Society. Our leadership has fostered this team approach and it has paid off—NMCSD is a fourtime winner of the Commission on Cancer’s Outstanding Achievement Award! As a cancer patient in our system, you will be treated like family. After all, we are one big military family. While we can’t cure everyone, we will do our best to provide professional, compassionate health care, where the patient comes first.
The Tumor Registry

The Tumor Registry, under the administrative supervision of the Patient Administration Department and the clinical supervision of the Oncology Advisory Group, manages a complete database on all patients that have been diagnosed and/or treated for a malignant disease at NMCSD. The data collected by the registry is used for the evaluation of the care of our patients. The reports created enable the command to assess the cancer treatment given and also compare our data with that of other healthcare facilities.

The Tumor Registry documents and stores all the significant elements of the patient's history and treatment, which includes demographics, anatomic site, and extent or stage of disease at the time of diagnosis. The Tumor Registry also performs follow-up annually on all cancer patients to gather survival/treatment statistics. Lifetime follow-up is essential in providing the medical staff and researchers with outcome and end results data.

The Tumor Registry assists the Oncology Advisory Group with bi-monthly meetings, attendance at Tumor Boards, Quality Improvement of the Cancer Program at NMCSD, and the survey for the American College of Surgeons Accredited Cancer Programs.

Tumor Registry Services

- Up-to-date and accurate cancer data for researchers and medical administrators for prevention and control of cancer.
- Cancer statistics for supporting evidence for medical staff, clinical trials studies, and patient care improvement.
- Custom reports of cancer data and analysis available on request for staff, residents and interns.

Oncology Advisory Group 2017

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCDR Jessica Shank</td>
<td>Chair/Gynecology Oncology</td>
</tr>
<tr>
<td>Dr. Preston Gable</td>
<td>CLP/ Hematology Oncology</td>
</tr>
<tr>
<td>CDR Louis Rivera</td>
<td>Surgical Oncology</td>
</tr>
<tr>
<td>CAPT Teresa Cox</td>
<td>Pathology</td>
</tr>
<tr>
<td>LCDR Jason Kehrer</td>
<td>Radiation Oncology</td>
</tr>
<tr>
<td>Dr. Cary Goepfert</td>
<td>Diagnostic Radiology/Breast Health</td>
</tr>
<tr>
<td>CAPT Craig, Norris</td>
<td>Tumor Board Coordinator/Hematology Oncology</td>
</tr>
<tr>
<td>CDR Heather Tracy</td>
<td>Palliative Care/Hematology Oncology</td>
</tr>
<tr>
<td>Jennifer Tschanz, RN, ONP</td>
<td>Outpatient Oncology Nursing</td>
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<tr>
<td>Sandra Gharabaghi, RN</td>
<td>Quality Control</td>
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<tr>
<td>Henry Ciaralli, CTR</td>
<td>Cancer Registry/Cancer Program Administrator</td>
</tr>
<tr>
<td>Brandy Taylor</td>
<td>Clinical Research Data Manager</td>
</tr>
<tr>
<td>Monica Dispenzieri, LCSW</td>
<td>Outreach Coordinator</td>
</tr>
<tr>
<td>Tracey Jones, LCSW</td>
<td>Psychosocial Services Coordinator</td>
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</table>
We have worked to improve breast, cervical, and colorectal cancer screening at NMCSD and to exceed national benchmarks for clinical preventive services and care. There are three areas where women can receive mammograms to be able to detect breast cancer early and treat if it is found. Naval Branch Health Clinic Chula Vista, Naval Branch Health Clinic Kearny Mesa and the Breast Health Center at NMCSD all offer mammography. Mammograms are scheduled by appointments, but each of the areas will walk-in patients if the schedule allows. In the Pharmacy patients can pick up the “Mammo While You Wait” cards and take to the Breast Health Center, where they will try to provide walk-in mammograms if the schedule permits. NMCSD uses the Mammography Reporting System to remind patients who have had mammograms here in the past thirty days prior to their due date. Additionally, the Pulmonology Clinic provides screening for patients meeting clinical criteria for lung cancer screening. Our goal is to prevent cancer when possible and to identify cancer early and provide treatment.

Well-woman exams and PAP tests for cervical cancer are provided through patient’s Primary Care Providers and the OB/GYN Department. More than 14,750 women enrolled to NMCSD have completed their cervical cancer screening exams.

A number of screening methods are available to prevent or detect colorectal cancer, such as colonoscopy, flex-sigmoidoscopy, and for those patients who have specific health conditions who should not undergo colonoscopy, NMCSD offers Colonography. Currently, clinical research and medical evidence indicates that colonoscopy is the best method to prevent colorectal cancer, however if patients elect not to have colonoscopy, test kits for stool specimens are available in each of the Primary Care Clinics. These test kits require only one specimen and may either be dropped off at any NMCSD lab or may be mailed in. More than 9,400 patients have completed their colorectal cancer screening. Staff at NMCSD continue to mail reminder letters to patients who are overdue or coming due for colorectal cancer screening.

Health Fairs were held at the hospital during October 2017 in recognition of National Breast Cancer Awareness and in several of the Branch clinics, resulting in an additional 24 mammograms being completed and an additional four scheduled at the convenience of the patients at a later date.

We offer Cancer 101 patient education which is a 90 minute multidisciplinary class for patients diagnosed with cancer and their family members twice a month in the Hematology/Oncology Clinic. Licensed Clinical Social Workers are available in the Hematology/Oncology Clinic and they assist patients in obtaining resources and in cancer navigation.

NMCSD provides high quality care and has received accreditation from the Joint Commission and the American College of Surgeons. Furthermore, Naval Medical Centre San Diego was the first Naval Medical Center to Receive an Accommodation award for excellence in cancer care. If breast cancer is detected, the Breast Health Center offers world-class coordination of care and treatments. Patients with cancer may also be referred to the Hematology/Oncology Department for multidisciplinary care and chemotherapy, General Surgery, and to Radiation Oncology. Patients are referred for enrollment in Clinical Trials and we partner with the American Cancer Society to provide resources to patients.
Studies of Quality and Quality Improvement initiatives

Studies of Quality:

As an Academic Comprehensive Cancer Program, NMCSD is required to undertake at least two studies on the quality of cancer care and outcomes at the facility.

Annually the QI Coordinator under direction of the Cancer Committee develops, analyzes, and documents the required studies that measure the quality of care and outcomes for patients with cancer. Quality improvement is multidisciplinary. The study focuses on areas with problematic quality related issues relevant to our cancer population.

In 2017 The Oncology Advisory Group oversaw the following studies;

#1. While seeking to provide patient-centered care and honor patients end-of-life wishes regarding code status, we wanted to ascertain if this was documented in the outpatient records of patients with stage IV cancers and patients with upper GI and lung cancers. We reviewed the records of these patients for the last five years.

#2. Based upon new cancer treatment guidelines, we reviewed documentation of Deauville scores in patients diagnosed with Hodgkin’s Lymphomas from 2012 to 2017. Deauville scoring helps identify patients who respond to therapy. Patients with positive PET scans with advanced Hodgkin Lymphomas may be referred for different treatments to improve progression-free survival compared to those with negative PET scans.

Quality Improvements:

As an Academic Comprehensive Cancer Program, NMCSD is required to initiate at least two quality improvements related to cancer care and outcomes at the facility.

Annually, two patient care improvements are required. One improvement should be based on the results of a completed study that measures cancer patient quality care and outcomes and one improvement can be identified from another source or from a completed study.

In 2017 the Oncology Advisory Group developed:

1. Gastroenterology staff collaborated with staff in the Pathology Department to re-evaluate patients diagnosed with right-sided colorectal hyperplastic polyps in 2007 to identify those patients who have sessile polyps may need more frequent colonoscopies based upon recent research studies.

Records for patients for the last two years who received rituximab to identify the number of patients who completed hepatitis panels within twelve months of treatment were reviewed.
### Clinical Trials

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<table>
<thead>
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<th>Type of Trial</th>
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<td>Annual Analytic Caseload</td>
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<td>574</td>
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<tr>
<td>Percent</td>
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<td>12%</td>
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</table>

Clinical research advances science and ensures that cancer patients receive the highest possible level of care. NMCSD patients who participate in clinical trials have the opportunity to advance evidence-based medicine.

NMCSD enrolls cancer in patients in several ongoing trials, that include, but are not limited to the following;

**BREAST: CALGB/Alliance E1Z11**  A Cohort Study to evaluate Genetic Predictors of Aromatase Inhibitor Musculoskeletal symptoms (AIMSS). NMCSD 2014.0053

**BREAST: A011401** Randomized Phase III Trial Evaluating the Role of Weight Loss in Adjuvant Treatment of Overweight and Obese Women with Early Stage Breast Cancer.

**BREAST: NSABP B-51**  A Randomized Phase III clinical trial evaluating Post-Mastectomy Chest wall and Regional Nodal XRT and Post-Lumpectomy Regional Nodal XRT in patients with Positive Axillary Nodes before Neoadjuvant Chemotherapy who convert to Pathologically Negative Axillary Nodes after Neoadjuvant Chemotherapy

**LUNG: A151216**  Adjuvant Lung Cancer Enrichment Marker Identification and Sequencing Trial.

**LUNG: A081105** Randomized Double Blind Placebo Controlled Study of Erlotinib or Placebo in Patients with Completely Resected Epidermal Growth Factor Receptor (EGFR) Mutant Non-small Cell Lung Cancer (NSCLC).

**LUNG: E4512**  A Phase III Double-Blind Trial for Surgically Resected Early Stage Non Smal l ICell Lung Cancer: Crizotinib versus Placebo for Patients with Tumors Harboring the Anaplastic Lymphoma Kinase (ALK) Fusion Protein (Pending IRB Approval)

**LUNG: EA5142**  ANVIL – Randomized Phase III Study of Nivolumab after surgical resection and adjuvant chemotherapy in non-small cell lung cancers

**MELANOMA: EA6141** Randomized Phase II/III Study of Nivolumab plus Ipilimumab plus Sargramostim versus Nivolumab plus Ipilimumab in Patients with Unresectable Stage III or Stage IV Melanoma

**PROSTATE: CPDR** A comprehensive research program to study prostate cancer and prostate disease in the tri-service military healthcare system.

**RECTAL: N1048:** PROSPECT- A Phase II/III Trial of Neoadjuvant FOLFOX, with Selective use of Combined Modality Chemoradiation for Locally Advanced Rectal Cancer Patients Undergoing Low Anterior Resection with Total Mesorectal Excision.
2016* saw an increase in the number of lymphomas (12%). There were significant decreases in the number of Prostate (10%), Thyroid (35%), Uterine (23%) and Colorectal (45%) cancer case. The table to the right illustrates the top 10 sites of 2016 in comparison to the totals from 2015.

<table>
<thead>
<tr>
<th>Site</th>
<th>2016</th>
<th>2015</th>
<th>Change</th>
<th>+</th>
<th>-</th>
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<td>125</td>
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<td>Melanoma</td>
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<tr>
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<td>63</td>
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<td>Corpus Uteri</td>
<td>17</td>
<td>22</td>
<td>-5</td>
<td>23%</td>
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<tr>
<td>Colorectal</td>
<td>16</td>
<td>29</td>
<td>-13</td>
<td>45%</td>
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<td>15</td>
<td>17</td>
<td>-2</td>
<td>12%</td>
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</table>

**NOTE:** *2016 is the last complete year of cancer data available at time of publication of this report.*
The most prevalent incidences of cancer were Breast Cancer, Lung Cancer, Prostate Cancer, Melanoma, and Thyroid Cancer. Together these 5 cancers accounted for 59% of all reported cancers in 2016 as demonstrated in the pie charts at left.
The chart to the left compares the system incidence of 2015 to 2016. The five most prevalent cancers show little variance in number year to year. In 2016 NMCSD saw an increase in Lymphomas by 12%. On the flip side, Thyroid cancers decreased by 15% and Colorectal cancers decreased by 13% compared to 2015.

A site comparison between NMCSD and projected cancers in California and Nation-wide shows very little variation. NMCSD does have a higher incidence of breast cancer in comparison to state and national figures as illustrated by the following chart to the right. NMCSD also had a significantly lower percentage of colorectal cancer.
## 2016 Primary Site Table

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<tr>
<th></th>
<th>All</th>
<th>Male</th>
<th>Female</th>
<th>0</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>UNK</th>
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<tbody>
<tr>
<td></td>
<td>574</td>
<td>298</td>
<td>276</td>
<td>67</td>
<td>206</td>
<td>86</td>
<td>71</td>
<td>71</td>
<td>28</td>
<td>45</td>
</tr>
</tbody>
</table>

### HEAD & NECK

- Lip/oral cavity: 7, 6, 1, 0, 0, 0, 2, 1, 0
- Tongue: 7, 4, 3, 0, 3, 1, 1, 2, 0, 0
- Tonsil: 4, 4, 0, 0, 0, 0, 0, 4, 0, 0
- Oropharynx: 4, 2, 2, 0, 0, 0, 0, 4, 0, 0
- Nasopharynx: 1, 1, 0, 0, 0, 0, 0, 1, 0, 0
- Larynx: 5, 4, 1, 0, 4, 0, 0, 1, 0, 0
- Salivary glands: 3, 3, 0, 0, 2, 1, 0, 0, 0, 0
- Other head & neck: 1, 1, 0, 0, 1, 0, 0, 0, 0, 0

### DIGESTIVE SYSTEM

- Esophagus: 3, 3, 0, 0, 0, 0, 2, 1, 0, 0
- Stomach: 5, 5, 0, 0, 0, 1, 1, 2, 1, 0
- Small intestine: 2, 0, 2, 0, 0, 0, 1, 1, 0, 0
- Colon: 15, 7, 8, 0, 1, 1, 5, 8, 0, 0
- Appendix: 1, 1, 0, 0, 0, 0, 0, 0, 1, 0
- Rectum: 1, 1, 0, 1, 0, 0, 0, 0, 0, 0
- Anus & Anal Canal: 1, 0, 1, 0, 0, 0, 1, 0, 0, 0
- Liver: 3, 3, 0, 0, 2, 0, 0, 1, 0, 0
- Pancreas: 13, 7, 6, 0, 3, 3, 2, 5, 0, 0

### RESPIRATORY SYSTEM

- Bronchus & Lung: 64, 37, 27, 0, 27, 3, 14, 19, 1, 0
- Thymus: 1, 1, 0, 0, 0, 0, 0, 0, 0, 1

### MUSCULOSKELETAL SYSTEM

- Connective & Soft Tissue: 4, 2, 2, 0, 3, 0, 1, 0, 0, 0

### HEMATOPOIETIC SYSTEM

- Leukemia: 11, 6, 5, 0, 0, 0, 0, 0, 0, 11
- Multiple Myeloma: 9, 5, 4, 0, 0, 0, 0, 0, 0, 9
- Other blood/Bone Marrow: 1, 1, 0, 0, 0, 0, 0, 0, 0, 1

### MELANOMA

- Melanoma: 68, 52, 16, 29, 28, 3, 2, 1, 5, 0
## 2016 Primary Site Table

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<th>Cancer Site</th>
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<tr>
<td><strong>BENIGN/BORDERLINE</strong></td>
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<tr>
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</table>
In 2016 there were slightly more men than women diagnosed and/or treated for cancer at NMCSD.

The chart at left breaks down site groups by gender. It should be noted that gender specific cancers i.e. Genital cancers are excluded.

The chart below breaks down the top sites by gender
Active duty service members accounted for 11% of our cancer patients in 2016. Of those, 66% were active duty sailors. Active duty Marines account for 25%. All other branches make up the final 9%.

The chart at right illustrates the breakdown of our active duty patients by branch of service in 2016.

Unlike our overall patients population. Males out number females 3:1 in our active duty patient population as demonstrated in the chart below.
The breakdown of cancer patients is illustrated in this pie chart. Caucasians make up the majority of our cancers, followed by Filipinos. This breakdown is the historic trend at NMCSD.

Totals are shown in the chart at left, while percentages are shown below.

This Graph illustrates the ratio of women to men was significantly higher in Asians, Asian Pacific Islanders and Filipinos.
Median age at diagnosis is illustrated here. Respiratory system cancers had the highest median age at diagnosis of 68.4, while Benign CNS tumors median age at diagnosis of 35.3. The median age of all cancer patients in 2016 was 55.6.

### 2016 System Breakdown by Patient Age at Diagnosis

<table>
<thead>
<tr>
<th></th>
<th>TOTALS</th>
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<tbody>
<tr>
<td>HEAD &amp; NECK</td>
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<td>DIGESTIVE SYSTEM</td>
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<tr>
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<td>1</td>
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<tr>
<td>ALL SITES</td>
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<td>52</td>
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</table>
Stage of disease at diagnosis is an important prognostic indicator. The majority of cancer patients were diagnosed with Stage I disease in 2016 and 63% of all cancer patients were diagnosed with early stage disease. The pie chart at left and the one below illustrate stage of disease by number and percentage respectively.

The bottom chart illustrates stage of disease at diagnosis by age group.