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The mission of Temple University Hospital is to provide the highest quality of healthcare both in the community and academic setting.

The Oncology Services offered by Temple University Hospital supports our mission in the form of diagnostic work-up and treatment options offered to our patients while keeping our commitment to the community we serve. Temple University Hospital is an Academic Comprehensive Cancer Program approved by the American College of Surgeons, which assures that the program meets the highest national standards for high quality, comprehensive and coordinated cancer care. This report is designed to provide a brief overview of our available services and displays the number of cancer cases we have diagnosed and treated at our facility in 2013.

Temple University Hospital provides outstanding cancer care in the fields of Oncology/Hematology, Radiation Oncology, Bone Marrow Transplantation, Gynecologic Oncology, Surgery, Urology, Otorhinolaryngology, Pain Management, Pulmonology, and Support Care Services. In addition, the full spectrum of tertiary diagnostic treatment services of Temple University Hospital are available to oncology patients. While actively undergoing care, our patients are eligible to participate in a network of clinical trials and protocols. During and following their treatment, we also offer a wide range of support groups for our patients as well as their family members. Our community outreach efforts include professional and public education programs, participation in health fairs, and providing both low-cost and free cancer screenings in the Philadelphia area.
The Temple Cancer Center has been awarded Three-Year Accreditation with Commendation through 2014 by the Commission on Cancer (CoC) of the American College of Surgeons—a consortium of 42 national professional organizations that reflect the full spectrum of cancer care. To earn accreditation, Temple Cancer Center successfully completed an onsite CoC review that assessed its compliance with 36 standards, including assurance that patients are afforded access to a full range of diagnostic and treatment services. It is recognition of the quality of our comprehensive, multidisciplinary patient care.

The Cancer Committee is comprised of physicians from varying specialties and other healthcare professionals active in oncology services. Our Cancer Committee provides oversight to the cancer program and strives to enhance the quality of care we provide to all of our patients.

There is a full series of tumor boards where, through retrospective and prospective discussion, diagnosis and treatment options for individual patients are discussed by a team of multidisciplinary physicians and support staff. In accordance with American Joint Committee on Cancer (AJCC) standards, all cases presented include a discussion on the tumor type, clinical and pathological staging, and a plan of treatment in accordance with the appropriate guidelines, including a discussion of the patient’s eligibility for a matching clinical trial if available. These conferences provide physician education, while at the same time support excellent clinical care by seeking to quickly assess the best alternative for our patients. Each patient is evaluated and an individualized plan of care is created by the appropriate group of physicians within those disciplines.

Temple University Hospital will continue to provide comprehensive and compassionate care as we strive to recognize and meet the needs of our extraordinary patients.
TEMPLE CANCER CENTER

The Temple University Hospital Cancer Center provides multidisciplinary ambulatory clinical care to the Hematology/Oncology adult patient (young adult through geriatric) receiving multiple oncology services including chemotherapy, radiation therapy, surgical care, and supportive case management. Skilled physicians and staff offer comprehensive care that addresses the complexity of a cancer diagnosis, including some of the most advanced diagnostic procedures and treatment options for all types of cancer. Temple’s multidisciplinary team includes specialists from medical oncology, hematology, radiation oncology, surgical oncology, pulmonology, gastroenterology, gynecologic oncology, radiology, urology, neurosurgery, and pathology. Each patient is evaluated and an individualized plan of care is created by the appropriate group of physicians within those disciplines. The physician and nursing staff are supported by an onsite laboratory and pharmacy. Support staff also includes social workers, a patient navigator, and a registered dietitian dedicated to the Cancer Center. Access to in-house and national clinical trials is available and supported by Registered Nurse Data Managers. The infusion unit has 18 chairs and 2 beds to accommodate patients for complete infusion services such as chemotherapy, hydration services, blood product transfusion, IV iron, intravenous immunoglobulin, and apheresis services.

RADIATION ONCOLOGY

Temple’s Department of Radiation Oncology is one of the most experienced programs in the region. As an academic program, there is participation in both institutional and national investigational studies, including protocols from the Radiation Therapy Oncology Group (RTOG) and other cooperative groups. The department houses three Elekta Synergy linear accelerators, including a Synergy® S; a Gamma Knife® 4C; a dedicated CT scanner; a Nucletron 32-channel microSelectron® HDR Brachytherapy unit; and a BSD hyperthermia unit. This combination of technologies allows Temple’s physicians to treat patients whose options may previously have been limited.

**Treatment modalities include:**

- Three-dimensional Conformal Radiation Therapy (3D-CRT)
- Stereotactic Radiosurgery (SRS) and Stereotactic (Ablative) Body Radiation Therapy (SBRT)
- Intensity Modulated Radiation Therapy (IMRT)
- Volumetric Modulated Arc Therapy (VMAT)
- Image Guided Radiation Therapy (IGRT)
- Gamma Knife® Radiosurgery
- High Dose Rate (HDR) and Low Dose Rate (LDR) Brachytherapy
- Hyperthermia
- Total and Sub-total Skin Electron Beam Therapy (TSEB)
The Temple Bone Marrow Transplant (BMT) Program is located at Jeanes Hospital, a Temple Health hospital. The Temple BMT Program offers bone marrow and peripheral-blood stem-cell transplantation, including collection and laboratory processing. The comprehensive program performs both autologous (self-donor) and allogeneic (HLA-matched donor/matched unrelated donor) transplants in adults who have been diagnosed with a hematologic malignancy, leukemia such as aplastic anemia, lymphomas such as Hodgkin’s disease, multiple myeloma, immune deficiency disorders, and some solid tumors such as breast and ovarian cancer. The Temple BMT Program offers treatment protocols for patients aged 16 through 70. For patients over 40 or those who would not qualify for high-intensity regimens, low-intensity or mini-transplant programs are available using matched related or unrelated donors. The program has been in operation since 1988. There is active participation in protocols from our own institutions, the Eastern Clinical Oncology Group (ECOG), and the Bone Marrow Clinical Trials Network (BMT-CTN).
ADDITIONAL CHEMO/INFUSION SERVICES

Located at Temple University Hospital – Northeastern Campus (NEC) is a Chemo/Infusion Unit that is able to provide outpatient chemotherapy infusion and blood transfusion to treat patients with a need for hematologic and oncologic treatment regimens.

SUPPORT SERVICES AND OUTREACH

Trained social workers and professional staff, including an American Cancer Society Patient Navigator, provide patient and family services, information about transportation assistance for appointments, and support groups for a wide range of cancer diagnoses. Language interpretation services are available 24 hours a day.

INTERVENTIONAL RADIOLOGY

Interventional Radiology provides minimally invasive oncology treatments, including:

- Venous access implantation, including chemotherapy ports
- Drug eluting chemotherapy absorbing particles placed inside blood vessels
- Radioembolization with Y90 Yttrium therapy
- Ablation techniques, including microwave ablation, to attack neoplasms within the body
- A full consultation service and compassionate aftercare

REHABILITATION SERVICES

- **Oncological Rehabilitation**: Temple’s Department of Physical Therapy provides rehabilitation services for cancer patients who suffer from orthopaedic and musculoskeletal problems after surgery, radiation, or chemotherapy. Customized treatment plans help cancer patients resume a more independent lifestyle and improve their quality of life.
- **Lymphedema Therapy**: Complete Decongestive Therapy (CDT) is a technique for controlling lymphedema. CDT combines manual lymph drainage, compression bandaging, exercises, and careful skin care. Temple offers private, one-on-one CDT treatment sessions with therapists certified by the Lymphology Association of North America.

PALLIATIVE CARE

Palliative care supports patients and families struggling with advanced illness. The goals of palliative care include keeping symptoms well-controlled and providing understandable information to help in making informed decisions about care. The Palliative Care Team includes four physicians, a social worker, a nurse practitioner, and a chaplain.
MULTIDISCIPLINARY SPECIALTY PROGRAMS

These specialty programs offer an integrated approach to care, with teams meeting weekly to review all cases and treatments for patients with:

- Breast Cancer
- Gastrointestinal (GI) Cancer
- Genitourinary Cancer
- Gynecologic Cancer
- Head & Neck Cancer
- Lung Cancer

SURGICAL ONCOLOGY

Specially trained surgical oncologists at Temple provide sophisticated options for the surgical removal of cancerous tumors or tissue.

ROBOTIC ONCOLOGIC SURGERY

Temple’s dual-station da Vinci® Surgical System employs next-generation endoscopic technology that allows Temple surgeons and their specialty-trained teams to perform surgery through small incisions, typically ¼ to ½ inch in length, through which robotic probes are introduced. Benefits to patients may include reduced blood loss, reduced chance of infection, faster healing time, smaller scars and shorter hospital stays.

CLINICAL TRIALS AND RESEARCH

The Temple Cancer Center’s Clinical Trials Program expands the options available to patients by offering them the opportunity to participate in new, and potentially better, treatment protocols for both hematologic and solid tumor malignancies.
One thousand eight hundred twenty-two patients (1,822) diagnosed with cancer were seen and treated at Temple University Hospital in 2013. Of these patients, 1,325 were analytic cases while 497 patients were non-analytic; 941 were men and 881 were women. The data from our Tumor Registry is submitted to the Pennsylvania Cancer Registry as well as the National Cancer Database in accordance with standard guidelines. This data is used for planning national and statewide cancer prevention and control activities, as well as studies conducted at Temple University Hospital in the care and prevention of cancer-related diseases.

The top five sites for cancer treatment at Temple University Hospital in 2013 were Prostate (281), Lung (269), Breast (192), Kidney and Renal Pelvis (109), and Non-Hodgkin Lymphoma (89).

The most frequent stage at which these patients presented was as follows: Prostate (Stage II), Lung (Stage IV), Breast (Stage 1), Kidney and Renal Pelvis (Stage 1), and Non-Hodgkin Lymphoma (Stage IV).

The goal of the registry is to provide accurate and timely data to healthcare providers and administration for use in studies, research, and planning.
TUMOR REGISTRY DATA

2013 Prostate Cancer Cases By Stage

- Stage 0: 0.00%
- Stage I: 10.10%
- Stage II: 68.27%
- Stage III: 12.50%
- Stage IV: 0.48%
- Unknown: 8.29%

2013 Lung Cancer Cases By Stage

- Stage 0: 27.21%
- Stage I: 27.94%
- Stage II: 19.12%
- Stage III: 9.56%
- Stage IV: 10.29%
- Unknown: 5.88%

2013 Breast Cancer Cases By Stage

- Stage 0: 2.15%
- Stage I: 20.00%
- Stage II: 25.00%
- Stage III: 40.00%
- Stage IV: 20.00%
- Unknown: 5.00%

2013 Kidney & Renal Pelvis Cancer Cases By Stage

- Stage 0: 67.74%
- Stage I: 8.60%
- Stage II: 7.53%
- Stage III: 12.90%
- Stage IV: 1.08%

2013 Non-Hodgkin Lymphoma Cancer Cases By Stage

- Stage 0: 0.00%
- Stage I: 12.50%
- Stage II: 20.00%
- Stage III: 25.00%
- Stage IV: 40.00%
- Unknown: 2.50%
Supportive Services of the Temple Cancer Center Social Work staff include individual and family counseling, transportation, pharmacy, equipment, financial, home care, and hospice services, in addition to consultation and planning with Temple in-patient and out-patient staff.

The Supportive Services of the BMT Social Work team focus on but are not limited to: psychosocial evaluation, education and information regarding transplantation options and impact of treatment, crisis intervention, impact of illness, loss and grief, adjustment issues, bereavement, and concrete needs such as housing, financial concerns, insurance issues, and transportation needs.

The Temple Cancer Center offers newly diagnosed cancer patients the services of a full-time American Cancer Society Patient Resource Navigator who helps them better understand their diagnosis and treatment, provides assistance with day-to-day needs such as transportation or helping to pay for a wig, and is available for emotional support. The navigator’s goal is to address any barriers to treatment that a patient may have so that patients can begin treatment without delays.
Monthly Cancer Support Groups are offered to all Temple Cancer Center patients. Temple’s Prostate Cancer Support group is the largest such group in the Philadelphia region. Our monthly Breast Cancer Support group is directed toward the newly diagnosed, women on treatment, and long-term survivors. A Head & Neck Cancer Support group meets monthly and discusses issues concerning these patients. Our Latino Cancer Support group is presented in Spanish by professionals in their field of cancer support and is presently the only Latino support group in the Philadelphia area. A Lung Cancer Support group hosts guest speakers and meets monthly to discuss issues concerning these patients. A twice monthly Radiation Oncology Orientation program is held for new patients and their family members so they can learn what to expect during their radiation treatment as well as tour the department. Also in partnership with the American Cancer Society, “Look Good Feel Better” support groups are offered to all female patients in both English and Spanish. The Bone Marrow Transplant Program provides Graft Versus Host Disease (GVHD) groups and Bone Marrow Transplant (BMT) Couples groups for couples where one partner is preparing to have or has had a bone marrow transplant. In addition, a BMT New Patient Orientation program is held monthly to prepare patients for what to expect during their transplant and to tour the inpatient BMT unit.
The Temple Cancer Center provided the following outreach activities:

- Support Group Activities
  - Look Good Feel Better (English and Spanish)
  - Lung Cancer Support Group (monthly)
  - Prostate Cancer Support Group (monthly)
  - Head & Neck Cancer Support Group (monthly)
  - Breast Cancer Support Group (monthly)
  - Latino Cancer Support Group (monthly)
  - Art Therapy Support Group (monthly)
  - Bone Marrow Transplant Support Groups (monthly)
    » Couples, Graft Versus Host Disease, and Caregivers
- Informational Booth (monthly) in Temple University Hospital lobby
  - Different cancer information was provided based on each month’s cancer designation (i.e. colorectal for March)
- Temple Cancer Center collaborated with Fox Chase Cancer Center to provide cancer education to the community (1,777 people) in Temple’s primary service area.
- In partnership with Fox Chase Cancer Center, informational tables are set up monthly at the Tioga Lobby entrance of Temple University Hospital to provide educational materials to staff, patients, and visitors. Materials consist of pamphlets on screening and prevention for prostate cancer, ovarian cancer, skin cancer, etc. Materials have been disseminated to 418 individuals.
- On June 5, 2013, the Temple Cancer Center held a National Cancer Survivor’s Day celebration which consisted of informational booths, tips for healthy eating, exercise, and various other activities. Approximately 54 survivors participated in the activities.

<table>
<thead>
<tr>
<th>SUPPORT GROUP NUMBER OF ATTENDEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>RADIATION ONCOLOGY ORIENTATION</td>
</tr>
<tr>
<td>LATINO LOOK GOOD FEEL BETTER</td>
</tr>
<tr>
<td>HEAD &amp; NECK SUPPORT GROUP</td>
</tr>
<tr>
<td>LATINO SUPPORT GROUP</td>
</tr>
<tr>
<td>BREAST CANCER SUPPORT GROUP</td>
</tr>
<tr>
<td>LUNG CANCER SUPPORT GROUP</td>
</tr>
<tr>
<td>98</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>77</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>39</td>
</tr>
<tr>
<td>111</td>
</tr>
</tbody>
</table>
The Temple Cancer Center provided the following activities to support cancer screening:

- The Cancer Center partnered with the Linda Creed Foundation and Health Partners Plans to provide mammography screening to underinsured women living in the Philadelphia region over age 40 years, not screened in the last year. Breast screening mammograms and breast health education were provided to Health Partners Plans members to promote early detection in June, September, and October. One hundred mammograms were provided in total and 125 women were provided with breast health education.

<table>
<thead>
<tr>
<th>Dates</th>
<th># of participants</th>
<th>Outcome / follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/21/2013</td>
<td>49</td>
<td>8 patients required additional evaluation – 2 biopsies recommended</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 biopsy completed: benign; 1 lost to follow-up</td>
</tr>
<tr>
<td>8/2/2013</td>
<td>20</td>
<td>5 patients required additional evaluation – no biopsies recommended</td>
</tr>
<tr>
<td>10/4/2013</td>
<td>37</td>
<td>4 additional evaluations – 1 biopsy recommended and scheduled</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>17 patients required additional evaluation – 3 biopsies recommended</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 – benign; 1 – scheduled; 1 – lost to follow-up</td>
</tr>
</tbody>
</table>

- Temple University Hospital promoted colonoscopies for all hospital employees as part of colorectal cancer awareness month in March. Five employees took advantage of the service and had a colonoscopy. Written reports were sent to all patient’s primary care physicians. Any patients with positive findings had an appointment scheduled with a gastroenterologist.
The Temple Cancer Center provided the following activities to support cancer prevention:

- Temple Cancer Center hosted a breast cancer education and awareness event (P.I.N.K.) at the Triumph Baptist Church in Philadelphia on October 26, 2013—55 men and women attended.
- Monthly smoking cessation clinics were available onsite through the Temple Lung Center as well as referrals to the Pennsylvania Free Quitline (1-800-QUIT-NOW).
- Temple staff, faculty, and family members participated in the National Ovarian Cancer Coalition (NOCC) Run/Walk on September 14, 2013 in Philadelphia. Dr. Enrique Hernandez was the “Guest Speaker” promoting the need for gynecologic screening for women who were at risk.
LARYNX CANCER CASE AUDIT

The Monitoring of the Use of AJCC Stage in Compliance with National Treatment Guidelines

Dr. Jeffrey Liu

Weekly discussions are held at tumor boards regarding patients’ staging and the appropriate treatment options given the stage of the patient in conjunction with recognized national guidelines. The Cancer Committee also reviews our CP3R data to assure we are indeed being compliant in this area.

An audit of all larynx cancer patients from 2011 was performed. Each of these cases was reviewed by Dr. Jeffrey Liu of head and neck surgery.

Fifteen cases were identified that met criteria. Thirteen of 15 cases received treatment consistent with NCCN guidelines. One patient was recommended concomitant chemo radiation therapy but refused chemotherapy and selected radiation therapy alone. Another patient did not have insurance, refused radiation therapy at Temple University Hospital because he lived in another state (New Jersey), but was unable to receive radiation therapy in New Jersey without insurance.

Fifteen cases from 2011 were reviewed for compliance with national guidelines* given the stage at presentation. The findings of this audit are demonstrated in the table to the right.

QUALITY: STUDIES AND IMPROVEMENTS

The Temple Cancer Center is committed to continual quality improvement and is dedicated to the pursuit of identifying initiatives that will improve patient care. In 2013, under the guidance of the Cancer Committee, the Cancer Center conducted two studies of quality. One study concentrated on assessing patient wait times upon arrival in the Medical Oncology Department for a therapeutic infusion. The study helped identify areas where operational improvements were needed to decrease the patients’ pre-infusion wait times and make the delivery of care a better overall experience. The second study concentrated on our follow-up with positively diagnosed patients in the GI department. The results of the study confirmed that our post-diagnosis processes were effective, and patients were being alerted of their diagnosis and scheduled for therapeutic services in a timely manner.

Temple University Hospital’s Cancer Committee implemented two quality improvements that directly impacted and improved patient care.

- The Bone Marrow Transplant Program implemented an Oral Care Protocol to decrease the incidences of mucositis toxicity in patients undergoing an allogeneic transplant. It is a patient-driven/nurse-managed protocol in which the patient follows the oral care instructions and records their compliance throughout the day. The protocol showed an improvement in the reliance of TPN/PCA nutritional intake, mucositis grade and length of stay (LOS) when comparing pre- and post- implementation data.

<table>
<thead>
<tr>
<th>ALLO</th>
<th>Pre (27)</th>
<th>Post (36)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TPN %</td>
<td>9 (33%)</td>
<td>6 (17%)</td>
</tr>
<tr>
<td>PCA %</td>
<td>13 (48%)</td>
<td>12 (34%)</td>
</tr>
<tr>
<td>Mucositis Grade ≥ 2</td>
<td>17 (63%)</td>
<td>11 (31%)</td>
</tr>
<tr>
<td>LOS</td>
<td>12.7 Days</td>
<td>9.30 Days</td>
</tr>
</tbody>
</table>

- The Radiation Oncology Department hosts a prostate clinic on Friday afternoons for post-treatment and follow-up visits for patients who have undergone radiation therapy treatments. The department had noticed a high number of missed appointments during the prostate clinic and studied the causation behind these missed appointments. The finding showed that: “No recent PSA” and “Unaware of Appointment” were the two factors with the highest incidences, 28 and 22, respectively, out of 92 total missed appointments. The QI workgroup implemented reminder letters that included pre-filled lab slips, as well as personal reminder calls three days prior to the appointment. The post-implementation data showed that “No PSAs” and “Unaware of Appointment” incidences both decreased by more than 60%, contributing to an overall decrease in missed appointments by 15%.