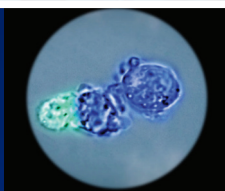




CANCER PROGRAM ANNUAL REPORT

2016



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Nationally recognized for the highest quality
cancer care and research



CHAIRMAN'S REPORT

JOSHUA M.V. MAMMEN, MD, PHD, FACS



Cancer Committee Chair
Joshua M.V. Mammen
MD, PhD, FACS

I am pleased to share our 2016 Cancer Center Annual Report. The American College of Surgeons Commission on Cancer (CoC) has more than 1,500 participating hospitals in the United States and Puerto Rico. This represents only 30 percent of all healthcare institutions but more than 70 percent of all new cancer patients. The CoC provides important metrics and tools for cancer centers to improve quality and personalize cancer care.

CoC accreditation signals to patients access to the full scope of subspecialty care and services. For patients and their families, accreditation is an important measure of quality care and a commitment by The University of Kansas Cancer Center to continually improve the care provided to cancer patients. The CoC performed its survey of our facility this year, and, while we have not yet received an official result, I expect that we will be reaccredited with additional recognition.

The University of Kansas Cancer Center was recognized in this last year for its excellent care of cancer patients. The *U.S. News & World Report* rankings once again listed The University of Kansas Cancer Center as one of the best cancer programs in the country. Additionally, The University of Kansas Hospital achieved designation by the American Nurses Credentialing Center's Magnet Recognition Program as a Magnet facility yet again, for an impressive third time.

As the number of patients we care for continues to increase, the need for additional facilities grows. The new inpatient facility, Cambridge North Tower, is under construction and on target to open toward the end of 2017. The new building will contain cutting-edge surgical, interventional and diagnostic facilities to enable our physicians to continue to provide the most up-to-date care for our cancer patients.

The University of Kansas Cancer Center is dedicated to the eradication of cancer. We continue to offer our patients many new options for cancer treatment and prevention. As we pursue this goal together, we will conduct new research, translate our findings into innovative therapies and investigate new ways to prevent and diagnose cancer. Together, we will continue to ensure that the patients and families we serve receive the highest level of care from diagnosis through treatment and survivorship.



Proposed Cambridge North Tower

■ CANCER REGISTRY REPORT

The University of Kansas Cancer Registry operates under the direction and guidance of the Cancer Committee and is located within Health Information Management. The Cancer Registry at our facility became accredited by the American College of Surgeons in 1934, and has maintained accreditation since. The reference date for the organization is 2004; however, the current electronic database contains data pertaining to patient demographics, cancer diagnoses, treatment information, staging and outcomes that go back to 1947. More than 94,385 cases have been added to the electronic registry for the accession years of 1947 through 2015. The registry participates in the American College of Surgeons Commission on Cancer Approvals Program. The Commission on Cancer, or CoC, provides standards and program review of healthcare facilities participating in its program.

The Cancer Registry has a staff of 17 certified tumor registrars (CTRs) and two temporary contracted CTRs. Cancer registrars collect and analyze all reportable and supplemental data; document Cancer Committee attendance and provide a cancer registry report for each meeting; document tumor conference information; supply reports of database information to medical and administrative staff; and report all cases to the Kansas Cancer Registry. Missouri cases are sent to the Missouri Cancer Registry. The registry also follows patients annually to determine health changes and provide information for survival and outcomes data.

The registrars collectively are members of the National Cancer Registrars Association (NCRA), the Kansas Cancer Registrars Association (KCRA), the Kansas City Area Tumor Registrars Association (KCATRA) and the Missouri State Tumor Registrars Association (MOSTRA). All participate in educational events annually to maintain certification status, and the CTRs also attend a regional or national cancer conference at least every three years.

In 2015, 6,286 new cases were added to the registry and 5,552 were analytic (cases diagnosed and/or treated by one of the facilities of The University of Kansas Cancer Center for the patient's first course of treatment).

Cancer Registry data is available for multiple uses, including reporting results and evaluating quality care, as well as for research and educational purposes. Periodic follow-up is an important function of the registry. It increases the likelihood that patients will receive appropriate medical care for early detection and treatment of recurrent or new cancers. Early detection can potentially improve survival. Information obtained through follow-up provides researchers and clinicians with

a means to study the disease process and efficacy of treatment modalities.

The follow-up rate for all analytic patients from the Cancer Registry reference date of 2004 is 86.01 percent. The CoC requires this rate to be at least 80 percent. The follow-up rate for analytic patients diagnosed within the last five years is 90.54 percent, which also meets CoC requirements for the five-year rate.

The Cancer Registry assists in the collection of the cancer conference data. Tumor conferences were presented on a weekly, bimonthly or monthly basis by an interdisciplinary team consisting of physician representatives from many different departments. The University of Kansas Cancer Center had 12 different cancer conferences in 2015. These events were tracked to provide consultative services to patients and help educate the medical staff and other healthcare professionals. National treatment guidelines, staging, prognostic indicators and clinical trial options are also discussed at these conferences. There were 312 tumor conferences held in 2015, which included multidisciplinary, breast, GI, lymphoma and myeloma, head and neck, thoracic, bone marrow, thyroid, neuro-oncology, genitourinary (GU), melanoma and sarcoma. A total of 1,398 cases were presented at these various conferences.

The Cancer Registry is staffed by the following Health Information Management personnel:

Management

- Theresa Jackson, RHIA – HIM director
- Tim Metcalf, BS, CTR – manager
- Ashley Wagner, CTR – lead registrar

Registrars

- Kerry Barkman, RHIT, CTR
- Christine Bartlett, RHIT, CTR
- Elaine Casper, RHIT, CTR
- Cari Dobosz, RHIT, CTR
- Ian Duff, BS, RHIA, CTR
- Kathrine Greene, RHIT, CTR
- Sandra Haenchen, RHIT, CTR
- Marsha Klein, BS, RHIT, CTR
- Joyce Knapp, RHIT, CTR
- Garrett Neiss, RT, CTR
- Mary Beth Piranio, BA, RHIT, CTR
- Andrea Reynolds, RHIT, CTR
- Marcelo Saculles, RHIT, CTR
- Terry Sigmund, CTR
- Marji Smith, RHIT, CTR

Contracted Registrars

- Julie Mammen, CTR
- Danielle Steele, RHIT, CTR ■

■ CP3R – CANCER PROGRAM PRACTICE PROFILE REPORTS

Commission on Cancer Standards 4.4 and 4.5 require The University of Kansas Hospital performance rates for the measures listed below (Table 1), which reflect our benchmark compliance rates. This offers the opportunity to review data to ensure our performance rates reflect the quality care that we provide. The Cancer Committee reviews and has the opportunity to modify treatment strategies to benchmark our alignment with national quality guidelines and recommended best practices, which will allow us to assure optimal patient outcomes. Below are the measures we reviewed in 2015. Breast conservation is a “surveillance” measure only, where treatment vs. outcome is not fully assessed. In addition, performance rates for this measure are impacted by patient treatment-option preference. We have met or exceeded all accountability and quality improvement goals. ■

TABLE 1

Measure	Measure Type	Goal	2011	2012	2013
Breast					
Image or palpation-guided needle biopsy (core or fine needle aspirate) of the primary site is performed to establish diagnosis of breast cancer.	Quality Improvement	80%	99.50	100.00	99.50
Tamoxifen or third generation aromatase inhibitor is recommended or administered within 1 year (365 days) of diagnosis for women with AJCC T1c or stage IB-III hormone-receptor-positive breast cancer.	Accountability	90%	97.30	96.20	96.40
Combination chemotherapy is recommended or administered within 4 months (120 days) of diagnosis for women under age 70 with AJCC T1cN0, or stage IB-III hormone-receptor-negative breast cancer.	Accountability	90%	92.00	94.60	98.90
Breast conservation surgery rate for women with AJCC clinical stage 0, I or II breast cancer.	Surveillance	Not Applicable	51.60	52.30	98.90
Radiation is administered within 1 year (365 days) of diagnosis for women under age 70 receiving breast conservation surgery for breast cancer.	Accountability	90%	92.10	94.40	94.30
Radiation therapy is recommended or administered following any mastectomy within 1 year (365 days) of diagnosis of breast cancer for women with >= 4 positive regional lymph nodes.	Accountability	90%	95.80	95.60	92.50
Colon					
Adjuvant chemotherapy is recommended or administered within 4 months (120 days) of diagnosis for patients under age 80 with AJCC stage III (lymph node positive) colon cancer.	Accountability	90%	100.00	93.80	90.00
At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer.	Quality Improvement	85%	92.60	100	95.20
Rectum					
Preoperative chemo and radiation are administered for clinical AJCC T3N0, T4N0 or Stage III; or postoperative chemo and radiation are administered within 180 days of diagnosis for clinical AJCC T1-2N0 with pathologic AJCC T3N0, T4N0 or stage III; or treatment is recommended for patients under age 80 receiving resection for rectal cancer.	Quality Improvement	Not Applicable	100.00	84.60	92.60

■ 2015 RESEARCH ROUNDTABLES

The University of Kansas Cancer Center and the Kansas Masonic Cancer Research Institute conduct a variety of educational activities. These include research roundtables, tumor conferences, symposia and interdisciplinary conferences. In addition to providing supplemental education to our students, physicians and researchers, the purpose of these activities is to achieve a greater level of collaborative research and multidisciplinary interaction.

JANUARY 12

Wei Ciu

“MRD detection in acute leukemia, issues re sens/spec, comparative analysis, current methodology and future plans”

MARCH 2

Daniel Krappmann

“Inhibition of MALT1 Protease in Aggressive ABC-DLBCL”

MARCH 7

Sid Ganguly, MD

Brea Lipe, MD

Sunil Abhyankar, MD

Richard Mundis, MD

Abdulraheem Yacoub, MD

Suman Kambhampati, MD

Tara Lin, MD

“ASH Review: Current Updates in Hematologic Diseases”

MARCH 28

Chao Huang, MD

Nirmal Veeramachaneni, MD

Michael Kelley, MD

Xinglei Shen, MD

Prakash Neupane, MD

Jessica Barton, MA

CCC-SLP, BCS-S

Laura Smith, RD, CSO, LD

“Lung and Head & Neck Cancer Symposium”

APRIL 23

Nevena Damjanov, MD

Joaquina Baranda, MD

Cathy Eng, MD, FACP

“2015 GI ASCO Review Dinner Symposium”

JUNE 29

Casey O’Connell, MD

“The Management and Treatment of Patients with Polycythemia Vera: A Case Based Analysis”

SEPTEMBER 12

Joaquina Baranda, MD

Peter Van Veldhuizen, MD

Prakash Neupane, MD

Pavan Reddy, MD

Suman Kambhampati, MD

Heinz-Josef Lenz, MD, FACP

“ASCO Review 2015”

OCTOBER 16

Jianjun Gao, MD, PhD

“Targeting MTAP deficient metastatic urothelial bladder cancer”

NOVEMBER 2

Rami Komrokji, MD

“PV: Polycythemia Vera and the Evolving Landscape For Best Patient Practices”

NOVEMBER 14

Joaquina Baranda, MD

Zachary Collins, MD

Mazin Al-kasspooles, MD

David Ilson, MD

Chris Lominska, MD

Peter DiPasco, MD

Jodie Barr, DO

Melissa Mitchell, MD

Amanda Amin, MD

Mark Evers, MD, FACS

“Multidisciplinary Oncology Conference”

NOVEMBER 30

Jamile Shammo Yerkan, MD

“Updates in the Understanding of Paroxysmal Nocturnal Hemoglobinuria (PNH)”

■ 2015 TUMOR CONFERENCES

*All cases prospective, except for one retrospective multidisciplinary conference case

Type of Conference	Interval	Number of Conferences	Number of Analytic Cases Presented
Departmental: ENT	Weekly	34	262
Departmental: Genitourinary (GU)	Bimonthly	15	42
Departmental: Thoracic	Weekly	47	278
Multidisciplinary	Weekly	37	73
Site-Focused: Bone Marrow/BMT	Weekly	43	239
Site-Focused: Breast	Weekly	30	56
Site-Focused: Gastrointestinal (GI)	Weekly	33	146
Site-Focused: Hemepath	Weekly	24	54
Site-Focused: Melanoma	Monthly	14	57
Site-Focused: Neuro-Oncology	Bimonthly	13	54
Departmental: Sarcoma	Monthly	10	48
Site-Focused: Thyroid	Monthly	12	89
Totals		312	1,398*

■ 2015 COUNTY DISTRIBUTION

Kansas by Place of Residence at Diagnosis	Missouri by Place of Residence at Diagnosis
Johnson: 18.42%	Jackson: 20.19%
Wyandotte: 8.24%	Clay: 9.10%
Leavenworth: 2.93%	Platte: 4.28%
Shawnee: 2.82%	Cass: 2.83%
Douglas: 1.53%	Buchanan: 1.46%
Other Kansas: 15.46%	Other Missouri: 10.77%
Total Kansas: 49.40%	Total Missouri: 48.63%
All Other States: 1.78% Unknown County or State: 0.19%	

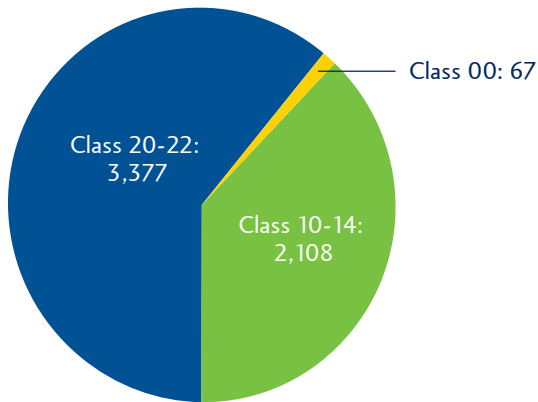
■ THE UNIVERSITY OF KANSAS HOSPITAL – 2015 PRIMARY SITE TABLE*

PRIMARY SITE	ANALYTIC	NONANALYTIC	TOTAL
Oral Cavity	248	21	269
Lip	5	0	5
Tongue	110	6	116
Oropharynx	4	1	5
Hypopharynx	4	0	4
Other	125	14	139
Digestive System	825	79	904
Esophagus	46	4	50
Stomach	48	3	51
Colon	184	34	218
Rectum	115	11	126
Anus/Anal Canal	18	4	22
Liver	182	10	192
Pancreas	155	8	163
Other	77	5	82
Respiratory System	647	64	711
Nasal/Sinus	14	2	16
Larynx	55	13	68
Other	7	0	7
Lung/Bronc-Small Cell	111	8	119
Lung/Bronc-Non Small Cell	432	40	472
Other Bronchus/Lung	28	1	29
Blood & Bone Marrow	515	98	613
Leukemia	280	40	320
Multiple Myeloma	156	24	180
Other	79	34	113
Bone	30	0	30
Connect/Soft Tissue	101	11	112
Skin	267	36	303
Melanoma	242	35	277
Other	25	1	26
Breast	1,151	65	1,216
Female Genital	290	32	322
Cervix Uteri	41	4	45
Corpus Uteri	153	17	170
Ovary	78	11	89
Vulva	8	0	8
Other	10	0	10
Male Genital	321	103	424
Prostate	289	92	381
Testis	29	9	38
Other	3	2	5
Urinary System	363	80	443
Bladder	121	45	166
Kidney/Renal	223	34	257
Other	19	1	20
Brain & CNS	191	51	242
Brain (Benign)	14	3	17
Brain (Malignant)	75	21	96
Other	102	27	129
Endocrine	183	17	200
Thyroid	125	9	134
Other	58	8	66
Lymphatic System	298	55	353
Hodgkin's Disease	44	5	49
Non-Hodgkin	254	50	304
Unknown Primary	89	2	91
Other/III-Defined	33	4	37
Reportable by Agreement	0	16	16
All Sites	5,552	734	6,286

6 *Includes malignant and reportable benign cases.

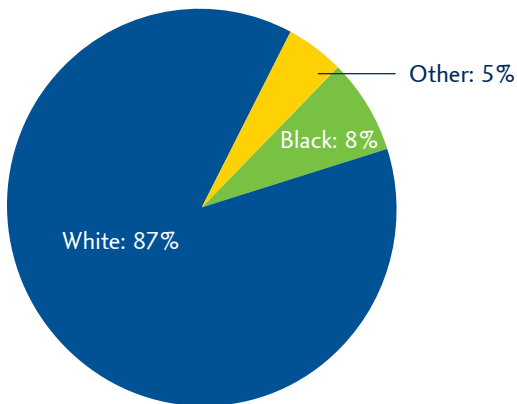
2015 STATISTICAL GRAPHS – ANALYTIC CASES

CLASS DISTRIBUTION

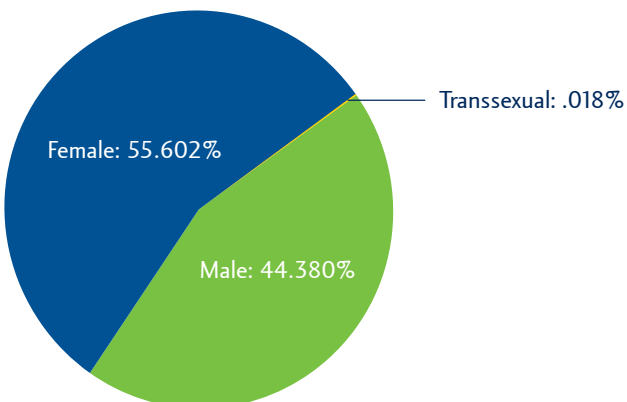


Class 00: Diagnosed here, all treatment elsewhere.
 Class 10-14: Diagnosed here, all or part of first-course treatment here.
 Class 20-22: Diagnosed elsewhere, all or part of first-course treatment here.

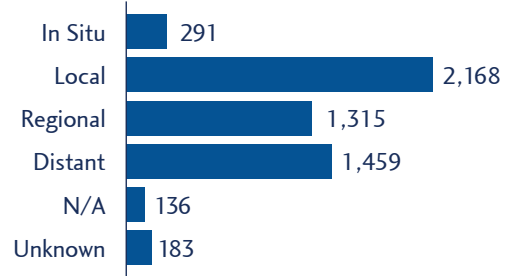
RACE DISTRIBUTION



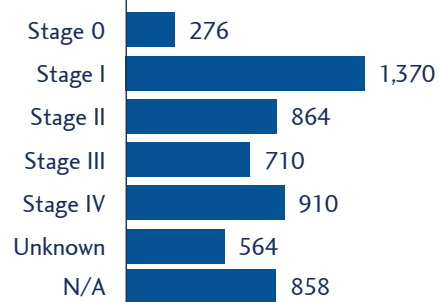
SEX DISTRIBUTION



SEER SUMMARY STAGE AT DIAGNOSIS (n=5,552)

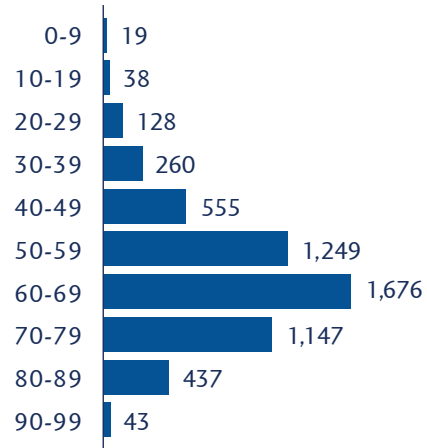


AJCC STAGE GROUP AT DIAGNOSIS* (n=5,552)

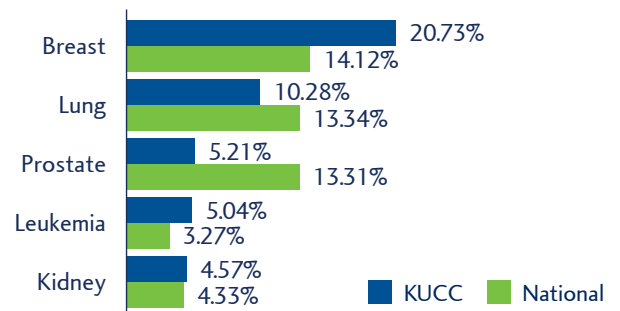


*Class 00 not included/required by CoC.

AGE AT DIAGNOSIS (n=5,552)



TOP FIVE PRIMARY SITES: AMERICAN CANCER SOCIETY STATISTICS



■ MIDWEST CANCER ALLIANCE WORKS TO EXPAND ACCESS TO CANCER CARE ACROSS KANSAS

HOPE KREBILL, BSN, RN, MSW, EXECUTIVE DIRECTOR
MIDWEST CANCER ALLIANCE

Eighty-five percent of individuals with cancer receive treatment at community cancer centers, yet research to improve cancer treatment is most often conducted at academic medical centers¹. This can lead to a vast gulf between discoveries at academic medical centers and healthcare providers who treat the majority of those with a cancer diagnosis.

The University of Kansas Cancer Center launched the Midwest Cancer Alliance (MCA) in 2007, a membership-based outreach network, with the primary purpose of leveraging regional resources to provide access to clinical trials and promote and translate evidence-based clinical and community health practices. MCA members include hospitals, physician groups and research organizations located within the cancer center's catchment area.

Currently, 20 partner organizations are MCA members. These sites reach both rural and urban underserved population centers in a geographically dispersed region. Through collaboration with members, MCA is charged with enhancing research infrastructure and proactively executing cancer prevention and control strategies to reduce the burden of cancer in our region.

Our efforts can be categorized as follows:

- Leverage regional organizational assets to create and maintain a clinical trial infrastructure among healthcare providers and organizations that supports the development of and accrual to treatment and population health studies in collaboration with cancer center researchers.
- Provide leadership and support to educate current and future healthcare providers and the next generation of researchers.
- Impact cancer in our region by partnering with key stakeholders, community advocates and regional leaders to develop and promote adoption and implementation of research-based cancer prevention, diagnosis, treatment and survivorship practices.

MCA provides the structure to engage cancer center researchers with community healthcare providers and patient advocates to bring their perspective into the development, accrual and translation of research. MCA sites have successfully opened and accrued to National Clinical Trials Network (NCTN) cancer treatment trials and population health studies.

In addition to accruing to studies locally, MCA members have developed a strong understanding of the cancer center's research panel, including Phase 1 research. Recently, MCA expanded to include Kansas Patients and Providers Engaged in Prevention Research (KPPEPR), a primary care practice-based research network, and launched The University of Kansas Cancer Center's PIVOT (Patient and Investigator Voices Organizing Together), the cancer center's patient research advocacy council. Examples of our efforts to support the research infrastructure include partnering on the Stormont-Vail electronic health record clinical trials alert and with Truman Medical Centers' launch of its biobank program.

Biobank

Truman Medical Centers (TMC) is the largest provider of safety net medical care for uninsured and under-insured patients in the Kansas City metropolitan area. TMC handles more than 329,000 outpatient visits annually. In collaboration with MCA, TMC designed and constructed an area specifically designated to serve as the oncology research lab with primary use as the biobank.

Electronic health record clinical trials alert

Clinical research coordinators spend an inordinate amount of time identifying potential participants. We hypothesized that implementing a clinical trials alert (CTA) system could significantly reduce that time. Initiated by Stormont-Vail Cancer Center (SVCC) in Topeka, Kansas, in collaboration with MCA, SVCC has developed and implemented an Epic-based CTA system.

MIDWEST CANCER ALLIANCE WORKS TO EXPAND ACCESS TO CANCER CARE ACROSS KANSAS

All MCA sites are equipped with telemedicine technology. This allows providers in rural areas to attend cancer center tumor conferences and have access to second opinions with practitioners at the academic medical center, obviating the need for their patients to travel. The telemedicine technology also helps support educational programming for healthcare providers and the public. Since 2007, MCA has extended more than 13,600 professional education units to nurses and physicians located at MCA-member sites. In 2015, we provided 1,513 education units.

Translation of evidence-based programs has been a focus of the MCA from the beginning. This has been accomplished through introducing and aiding in the adoption of evidence-based programs in collaboration with local communities. MCA has focused on survivorship, smoking cessation and wellness programs delivered in partnership with local sites using the interactive televideo technology. In addition, on-site programs such as cancer screenings, skin cancer prevention and HPV vaccination have been delivered throughout the state.

WORKING TO REDUCE CANCER INCIDENCE IN KANSAS

Kansas has a prostate cancer incidence of 133.5 (130.8, 136.2) per 100,000 compared to the national incidence rate of 123.1 (122.8, 123.3).² African American men in Kansas have a prostate cancer incidence rate of 197.8 (181.7, 214.9).² In addition, prostate cancer is the third-leading cause of cancer deaths for men in Kansas.³ MCA has supported cancer screenings across the state, reaching 22 rural and urban communities in 2015. An informed decision-making process has been implemented at the screening events; men meet with a physician to discuss risks, including family history, and together they determine the need to complete a screening. If a man has an elevated PSA, the urologist contacts the man and refers him for follow-up. In 2015, 313 men chose to proceed with prostate screening, 51 of whom had abnormal test results.

Skin cancer prevention is a particular focus, as an increasing number of individuals are diagnosed with melanoma in Kansas (from an

average annual age adjusted rate of 21.31 in 2004-2008 to an average age adjusted rate of 23.61 per 100,000 in 2009-2013)⁴. MCA has implemented an evidence-based strategy of using a biometric education program and implementing Pool Cool, an evidence-based, sun safety education program intended for use at aquatic facilities. In summer 2014, in collaboration with the Kansas Cancer Partnership and MCA members, 21 aquatic facilities received training in this evidence-based approach in the Kansas City/Topeka areas. In 2015, the number increased to 33 pools, extending the program's reach from Kansas City to Stockton, located 306 miles away in western Kansas. Training at all 33 sites incorporated approaches and key activities from the original Pool Cool model, reaching 669 aquatics staff. Behavioral Risk Factor Surveillance System (BRFSS) data will be tracked to see if the number of sunburns decreased after the implementation of these evidence-based approaches.

Human papillomavirus (HPV)-related oral cancers are also increasing in Kansas, according to the Kansas Cancer Registry⁵. To address this burgeoning epidemic, several ongoing efforts are supported through the outreach network. Since May 2015, the cancer center and MCA have supported multiple efforts to improve HPV vaccination rates in the state, which are among the lowest in the nation. The efforts were kicked off with professional meetings led by Melinda Wharton, MD, MPH, director of the National Center for Immunization and Respiratory Diseases of the Centers for Disease Control and Prevention. Efforts over the last year and a half have included professional education programs, community outreach programs and consistent messaging on HPV vaccination.

MCA, its member sites and oncologists have partnered with their local community and primary care providers to promote HPV vaccination. This has resulted in five community screenings of the Someone You Love: HPV Epidemic documentary (one urban and four rural/semi rural) to educate community members and providers on the importance of vaccination. Evaluations from two of the events showed a positive change in intention to promote vaccination among friends and

continues

MIDWEST CANCER ALLIANCE WORKS TO EXPAND ACCESS TO CANCER CARE ACROSS KANSAS

family. Of the 30 individuals who completed the pre/postsurvey of the video, basic knowledge was high. When asked pre whether they discussed the vaccine with others, participants indicated that they discouraged (n=1), neither encouraged nor discouraged the vaccine (n=3), never discussed the vaccine (n=8), or did not respond (n=1). Seventeen encouraged the vaccine. At post, 26 responded saying they would encourage the vaccine. In addition, other MCA member sites selected HPV as their priority prevention activity. We are also tracking increased vaccination rates at the state level. Orders of publicly purchased HPV vaccine have increased since June 2015 (Table 1).

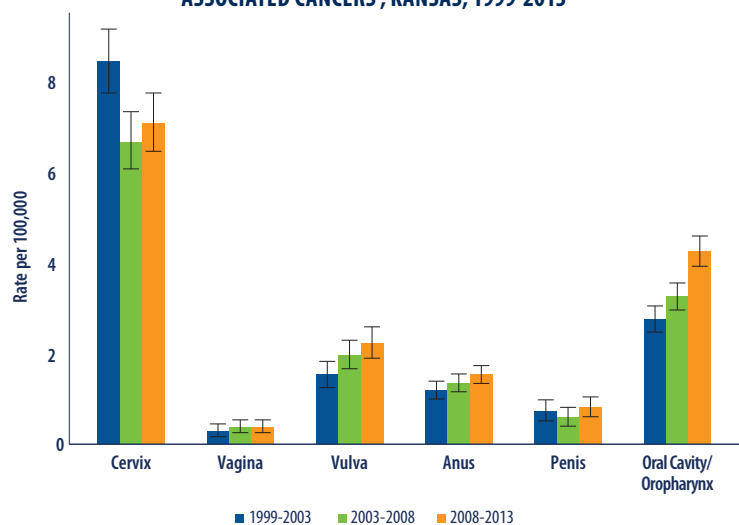
The University of Kansas Cancer Center values its partnerships with healthcare providers and communities across the region. These partnerships have supported improved HPV vaccination rates, enhanced access to cancer screenings and increased access to clinical trials. Ultimately, these partnerships focus on reducing the burden of cancer in our region. ■

TABLE 1
CUMULATIVE YEAR-TO-DATE OF PUBLICLY* ORDERED HPV VACCINATION DOSES, KS (2014-2015)⁶

	2014	2015	% Change
January	1,850	1,360	-26.5%
February	3,340	3,060	-8.4%
March	4,930	4,730	-4.1%
April	7,360	7,090	-3.7%
May	9,460	9,170	-3.1%
June	11,200	11,610	3.7%
July	13,680	14,860	8.6%
August	17,830	19,610	10.0%
September	20,190	25,660	22.7%
October	24,270	28,270	16.5%
November	27,140	31,390	15.7%
December	28,860	33,180	15.0%

* Defined as orders for publicly funded vaccine (e.g., Vaccines for Children, 317, state/local, or CHIP doses).

AGE-ADJUSTED* INCIDENCE RATES FOR INVASIVE HUMAN PAPILLOMAVIRUS (HPV)-ASSOCIATED CANCERS, KANSAS, 1999-2013



* Age-adjusted using the 2000 U.S. Standard Population.

SOURCE: CDC Vaccine Tracking System (VTrcksS). January 2016.

1. NCI Community Cancer Centers Program Pilot: 2007–2010. National Cancer Institute website. ncccp.cancer.gov/Media/FactSheet.htm. Accessed Jan. 24, 2016.
2. State Cancer Registry and the CDC's National Program of Cancer Registries Cancer Surveillance System (NPCR-CSS) November 2015 data submission.
3. 2007-2011 Kansas Cancer Registry; 2009-2013 Kansas Vital statistics.
4. Kansas Cancer Registry kumc.edu/kcr/zsearch.aspx Accessed Jan. 24, 2016 and Nov. 28, 2016.
5. Kansas Cancer Registry, Human Papillomavirus (HPV)-Associated Cancers, 1999-2013. Accessed at kumc.edu/kcr/cancerstats/22%20kcr%20myr%20hpv%202004-2013.pdf Nov. 28, 2016.
6. CDC Vaccine Tracking System (VTrcksS). January 2016.

LEAN QUALITY IMPROVEMENT STUDY

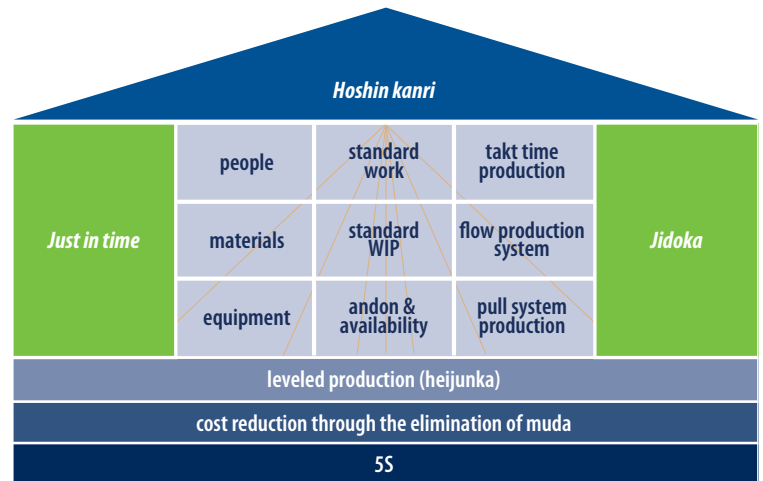
DEBBIE FERNANDEZ, LMLP, MHSA

QUALITY ACCREDITATION AND REGULATORY COMPLIANCE MANAGER

5S is the foundation of the Toyota Management System, or Lean, as it is commonly referred to. 5S stands for sort, set in order, shine, standardize and sustain. It is the first step in the Lean house (Figure 1) that facilitates flow within the system and helps make defects visible. At The University of Kansas Cancer Center, we identified exam Suite 1 at the Westwood location as our model for 5S among the exam suites, procedure room, storage and dirty utility rooms. In its current state, there was no standardized setup or inventory cost strategy. We experienced long wait times for patients, in part due to staff looking for necessary equipment/supplies during busy clinics, which led to decreased patient and staff satisfaction.

We conducted a weeklong Kaizen workshop, consisting of a 16-member multidisciplinary team led by our chief executive officer and executive vice president, chief nursing officer and chief operating officer. The focus of the Kaizen workshop was to perform the 5S activities – sort, set in order and shine – in the exam suites, procedure room, storage and dirty utility rooms. These areas are used to store necessary supplies and provide outpatient services to medical, surgical and gynecological oncology patients. The cancer center quality team, in collaboration with the Lean promotion office and nursing staff, completed data collection and analysis. Baseline data was collected for inventory dollars, time to stock the exam and storage rooms, supply acquisition time in the storage room, for the

FIGURE 1: LEAN HOUSE



clinic suite and team center, and environmental, health and safety (EHS) 5S metrics (Table 1).

Day one of the 5S workshop consisted of educating the staff about 5S, touring an existing area that had completed the plan-do-check-act (PDCA) cycle of 5S work and completing a waste-walk within the exam area to identify areas of waste and opportunity. The day ended with an idea generation activity to brainstorm potential improvement activities to test during the week. Day two consisted of defining the purpose of each area to be sorted, completing a baseline EHS 5S, identifying key stakeholders, coordinating with the home teams and performing the actual sorting of

continues

TABLE 1: METRIC OPERATIONAL DEFINITIONS

Metric	Definition/Methodology	Baseline
Inventory	Total cost of supplies	
Time to stock exam rooms	Average time to stock 4 exam rooms. Data was collected, averaged and annualized across MTA daily reported values.	6160 minutes/year
Time to stock storage room	Average time to stock a weekly supply shipment in the storage room. Data was measured from opening boxes to discarding boxes, then annualized.	988 minutes/year
Supply acquisition time	Average time to find a predetermined list of items in the storage room, clinic suite or team center. Data was collected, averaged and annualized across 3 MTAs familiar with the area and 3 controls unfamiliar with the area. Each participant was timed for each supply and started from the same location before each trial.	Storage Room: 1803 minutes/year MTA (clinic suite): 4013 minutes/year CNC (team center): 2350 minutes/year
EHS (5S)	Data was based on staff examination of the area and ranked on a 1-5 scale.	All areas: 1

supplies and equipment within each designated area. Days three and four were dedicated to setting items in order and shining the areas. Key questions asked on days three and four were if the changes would be safe for patients and improve efficiency. We used red tags and holding areas to place equipment and supplies that were identified as unnecessary, overstock or expired.

After completing the 5S workshop, data were remeasured post-Kaizen and at 30-, 60- and 90-day intervals (Table 2). We gauged improvement based on a favorable or unfavorable percent change. In some instances, favorable was represented by a decrease from baseline (i.e. inventory costs). At 90 days, 11 of 13 (85 percent) measures demonstrated a favorable percent change. Immediately following the Kaizen workshop, the supply acquisition time-storage indicated an unfavorable percent change. We used subsequent PDCA cycles to improve the standardization and layout of the storage room supplies, ultimately resulting in a favorable 80 percent change at 90 days.

At 90 days, the procedure room inventory displayed an unfavorable 9 percent change. We attributed this to supplies that were originally categorized as overstock during the workshop, but later determined to be necessary before 90 days. Overall, inventory costs were reduced by 51 percent as a result of the 5S workshop.

Lastly, time to stock the exam rooms displayed an unfavorable 23 percent change. This is most likely due to the extra time required to inventory supplies to the correct par level within the rooms. Preworkshop, these par levels within the exam suites did not exist.

TABLE 3: KAB

KAB Item #	Description
1	Determine process and responsibility for routinely stocking exam supply cart
2	Complete putting magnetic reorder labels on supplies
3	Complete facility punch list
4	Complete set in order and labels to lab care in procedure room 2
5	Define pharmacy and lab supply replenishing process in procedure rooms
6	Complete office supply punch list

TABLE 2: TARGET METRICS

Measure	Post-Kaizen	30-day	60-day	90-day
Inventory (dollars)	35%	23%	45%	51%
Store Room	66%	40%	34%	55%
Suite 1	2%	3%	84%	88%
Procedure Room	7%	15%	14%	(9%)
Time to stock exam rooms	n/a	9%	9%	(23%)
Time to stock storage room	n/a	16%	58%	37%
Supply acquisition time-Storage	(23%)	30%	73%	80%
Supply acquisition time-MTA Suite 1	98%	83%	89%	90%
Supply acquisition time-CNC Suite 1	82%	84%	96%	82%
EHS (5S) Scheduler Desk-Suite 1	200%	200%	200%	200%
EHS (5S) Exam Rooms-Suite 1	200%	200%	100%	100%
EHS (5S) Storage Room	200%	0%	200%	200%
EHS (5S) Procedure Room Area	200%	200%	200%	200%

Finally, we completed a Kaizen action bulletin (KAB) after the workshop to follow up on items that were not addressed during the workshop (Table 3). We successfully completed all six (100 percent) KAB items. Implementation of 5S was sustained by daily 5S audits of each area to ensure that supplies were in the correct place, at the right time, confirming that staff had what they needed, when they needed it.

Overall, results from this 5S workshop and 90-day follow-up demonstrated favorable improvements in inventory, time to stock, supply acquisition and EHS 5S metrics. The standards that were developed and tested in Suite 1 were implemented across all exam suites, 2-12, and in the storage and soiled utility areas on Level 1 at The University of Kansas Cancer Center in Westwood. Once these areas demonstrate consistent improvement, the 5S standards will continue to be implemented across all cancer center locations. ■

■ ACKNOWLEDGEMENTS

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■ MONITORING COMPLIANCE WITH EVIDENCE-BASED GUIDELINES, CERVIX UTERI CANCER REVIEW, 2015 CASE ANALYSIS

ANDREA JEWELL, MD

ASSISTANT PROFESSOR, GYNECOLOGIC ONCOLOGY

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, UNIVERSITY OF KANSAS MEDICAL CENTER

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

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CANCER OF THE CERVIX UTERI

In 2015, an estimated 12,900 new cases of cervical cancer occurred in the United States (per ACS 2015 facts and figures). Incidence rates over the last several decades have declined for young white females. In previous years, from 2007 to 2011, cervical cancer rates for women under age 50 were stable for whites and decreased by 3.4 percent per year for blacks. Occurrence rates for women age 50 and older declined by 2.5 percent per year for whites and 3.8 percent per year for blacks. Over the same time period, death rates for cervical cancer also remained stable for women under age 50 and decreased by 1.1 percent per year for women over age 50. These improvements can be directly linked to improved compliance with Pap test screenings, which allow earlier detection of disease.

SYMPTOMS AT PRESENTATION

Abnormal vaginal bleeding is the most common symptom of cervical cancer. It may also present as abnormal menstrual cycles with heavier flow and extended or irregular cycles. Spontaneous bleeding upon douching, intercourse or pelvic exam can also be a warning sign. Postmenopausal bleeding and increased vaginal discharge are also symptoms that should be explored by a medical professional to rule out this cancer. Unfortunately, preinvasive lesions are usually asymptomatic.

RISK FACTORS

Persistent infection with certain types of the human papillomavirus (HPV) has been directly linked to cervical cancer. HPV exposure can be related to multiple sexual partners or intercourse at a young age. It also can be contracted later in life or from a single sexual partner. HPV infections are common in many healthy women, and are typically cleared by a well-functioning

immune system. A persistent HPV infection can increase the risk of cervical cancer. This is especially true in the immunocompromised, smokers, grand multiparous and long-term oral contraceptive users.

ROUTINE SCREENING

Screening is advised for women of average risk at age 21-65. Women with HIV, and who are otherwise immunocompromised, should be considered for screening earlier than age 21. From age 21 to 29, cytology alone every three years is recommended. From age 30 to 65, co-testing with cytology and HPV testing is recommended every five years. Since the Pap test can result in a false negative, HPV screens and screening for precancerous lesions can be helpful in conjunction with the Pap test in screening and prevention. Women with a negative cervical history can stop screening after age 65 or after hysterectomy. Women with a history of cervical dysplasia or cancer should be screened for 20 years after completion of treatment.

PREVENTION

The HPV vaccine provides primary prevention. Currently, there are two FDA-approved vaccines, Gardasil and Gardasil 9, to be given to males and females age 9-26. The recommended age to start the vaccine series is 11. Gardasil covers HPV strains 16 and 18, which cause 70 percent of cervical cancers, as well as HPV strains 6 and 11, which cause genital warts. Gardasil 9 covers HPV strains 31, 33, 45, 52 and 58 in addition, therefore offering protection for 90 percent of the known strains that cause cervical cancer. The vaccines will not treat established HPV infections, so routine screening is still recommended. Secondary prevention is provided by cervical screening and management of abnormal cervical cells. Treating precancerous lesions can prevent this disease.

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MONITORING COMPLIANCE WITH EVIDENCE-BASED GUIDELINES, CERVIX UTERI CANCER REVIEW, 2015 CASE ANALYSIS

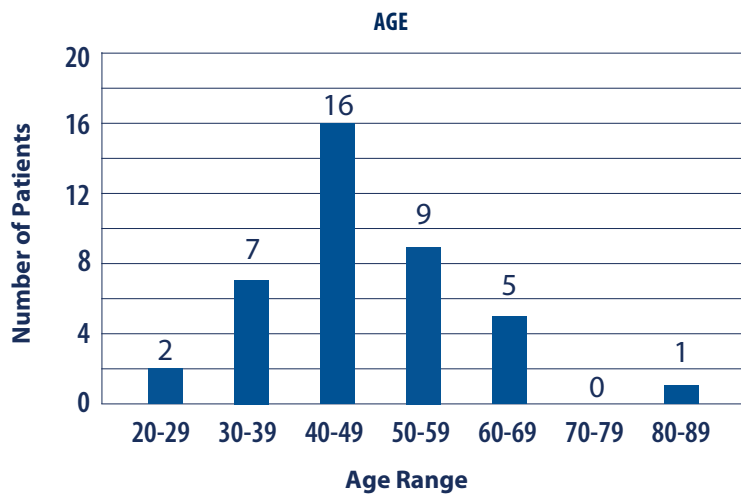
NATIONAL GUIDELINES FOR TREATMENT

The University of Kansas Cancer Center follows evidence-based national treatment guidelines for determining treatment based on stage of disease as found in the National Comprehensive Cancer Network (NCCN). These guidelines are site-specific and based on a number of presenting factors and stage of cancer at presentation and recurrence. For the diagnosis and workup of invasive cervical cancer, a loop electrosurgical excision procedure (LEEP) or cold knife conization is often used for precancerous lesions associated with HPV infections. The LEEP excises abnormal tissue with an electrically heated wire loop; conization removes a cone-shaped piece of cervical tissue

that contains the cancer cells. Surgery is the mainstay for early stage cervical cancer, however, and alternative treatment of chemotherapy and radiation is another viable option. For advanced or metastatic disease, chemotherapy is often the sole treatment. In recent years, the immunotherapy Avastin or bevacizumab has shown improved survival rates as an addition to chemotherapy alone.

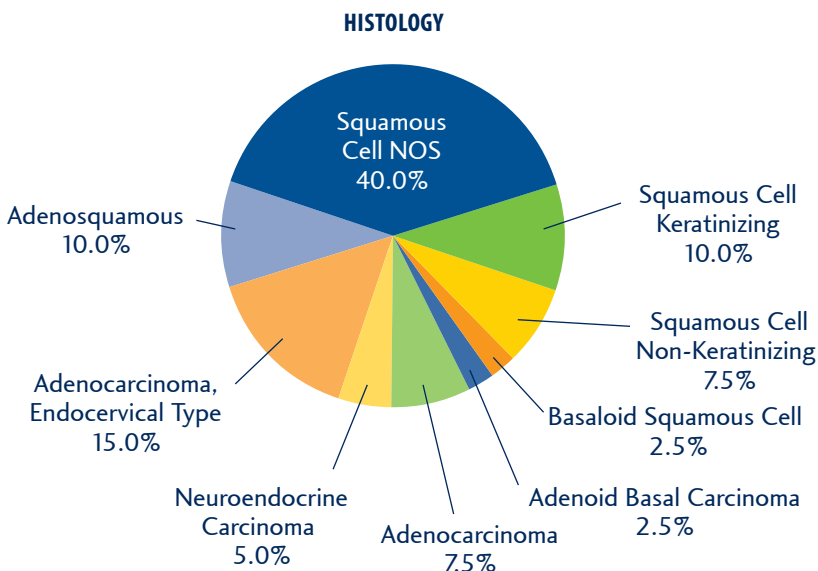
THE UNIVERSITY OF KANSAS CANCER CENTER CERVIX UTERI PATIENT POPULATION

Interestingly, in reviewing our 2015 cervix uteri cancer population, we had the following distributions, which are consistent with nationally published numbers:



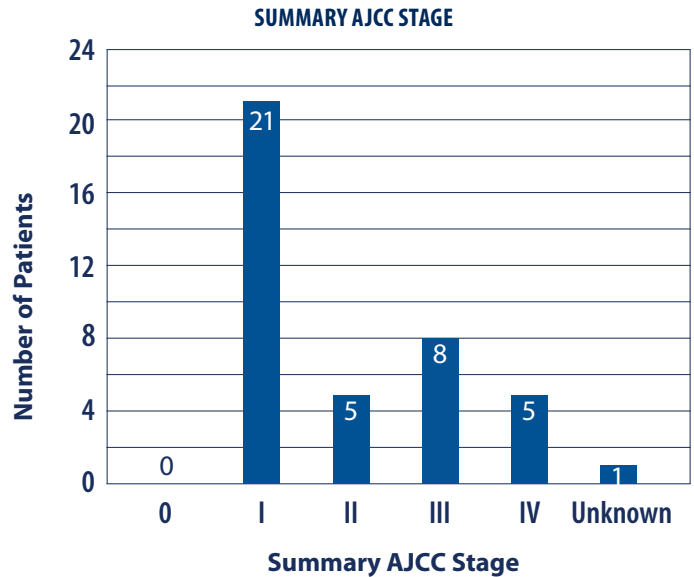
RACE	
Race*	Number
White	33
Black	2
Asian	1
Oriental	3
American Indian	0
Other	1
Totals	40

*NOTE: Asian includes Asian Indian, Pakistani and other Asian.
Oriental includes Chinese, Japanese, Filipino, Korean and Vietnamese.
Other includes all races not listed above and/or unknown.



**MONITORING COMPLIANCE WITH EVIDENCE-BASED GUIDELINES, CERVIX UTERI CANCER REVIEW,
2015 CASE ANALYSIS**

SUMMARY AJCC STAGE	
AJCC Stage	Number of cases
0	0
IA1	1
IA2	1
IB	0
IB1	12
IB2	7
IIA1	1
IIB	4
IIIA	1
IIIB	7
IVA	1
IVB	4
Unknown	1



TREATMENT EVALUATION

A total of 40 patients with cervical cancer were diagnosed at our institution in 2015.

There were no AJCC Stage 0 in situ or “pre-cancerous” lesions in our population. This is because these lesions are not reportable by the Cancer Registry. Neither state nor national central registries collect this data.

Unknown stage: One case could not be staged because nodes were not removed or identified radiographically to allow full AJCC Summary Staging.

A stage IB1 adenoid basal carcinoma was found on cold knife conization for cervical dysplasia that did not undergo further surgical staging due to the good prognosis of the lesion. Patient is still without recurrence of adenoid basal carcinoma.

continues

**MONITORING COMPLIANCE WITH EVIDENCE-BASED GUIDELINES, CERVIX UTERI CANCER REVIEW,
2015 CASE ANALYSIS**

TREATMENT EVALUATION

Rx Type	AJCC IA1	AJCC IA2	AJCC IB1	AJCC IB2	AJCC IIA1	AJCC IIB	AJCC IIIA	AJCC IIIB	AJCC IVA	AJCC IVB	Unknown	TOTAL
Surg	1	1	9									11
Surg/Chem/Rad				3		2				1	1	7
Surg/Rad			3									3
Chem/Rad				3	1	2	1	6		1		14
Surg/Chem/Immu										1		1
Chem										1		1
Rad				1				1				2
None - Patient Refused Chemo									1			1

SUMMARY

In summary, review of data demonstrated appropriate treatment per NCCN guidelines was administered for our 2015 cervical cancer population.

Of note, there were four patients who deviated from the common algorithm of care, which is to be expected.

- A stage IB2 patient received only radiation because she refused chemotherapy.
- A stage IVB patient had a simple hysterectomy, as it was believed her pathology arose from the ovary. It was found to be metastatic disease from the ovary, and the patient received adjuvant systemic therapy after surgery.

- A stage IIIB patient received only radiation treatment because of inability to tolerate chemotherapy due to renal failure.
- A stage IB1 neuroendocrine patient refused adjuvant treatment with chemotherapy or radiation.

The main takeaway for treatment of this cancer is the importance of primary and secondary prevention for this often preventable disease, and the role of concurrent chemotherapy with radiation in definitive treatment of nonsurgical patients. ■

■ NATIONAL CANCER INSTITUTE DESIGNATION

COUNTDOWN TO NCI COMPREHENSIVE CANCER CENTER STATUS

In 2012, we reached a significant milestone by achieving National Cancer Institute (NCI) Cancer Center designation. But our journey is not over. We have embarked on a goal to attain the most elite designation available: NCI Comprehensive Cancer Center designation. We submitted our application for consideration of this status on Sept. 26, 2016.

Achieving comprehensive designation will enable us to offer the highest level of research, prevention, treatment and survivorship available. Of the more than 5,000 cancer centers in the United States, just 69, or 1.3 percent, are NCI-designated. Of those, only 47 have achieved comprehensive status.

Comprehensive designation is awarded after a rigorous review process that shows the center pursues scientific excellence and has the capability to integrate diverse research approaches to cancer. Comprehensive Cancer Centers are expected to initiate and conduct early phase, innovative clinical trials and to participate in the NCI's cooperative groups by providing leadership and recruiting patients for trials. Comprehensive Cancer Centers must also conduct activities in outreach and education, and provide information on advances in healthcare for both healthcare professionals and the public.

NCI DESIGNATION IS TRANSFORMING OUR REGION

- Patients treated at NCI centers have a 25 percent greater chance of survival.
- Expanded access to innovative treatments by opening 209 treatment trials.
- 90 percent of Kansas City patients now receive life saving cancer treatment in their own backyard.
- Economic driver – 3,600 jobs created and \$2.5 billion in economic development by 2018.

OUR JOURNEY NEEDS TO CONTINUE

- Exponential growth in cancer cases – 45 percent increase projected by 2030.
- Cancer is the No. 1 cause of death in Kansas and the No. 2 cause of death in Missouri.
- 1 in 2 men and 1 in 3 women will be diagnosed with cancer in their lifetime.

COMPREHENSIVE DESIGNATION TAKES US FURTHER

- Cancer is becoming a disease of disparity.
- Focuses on cancer prevention, early detection and improved health outcomes.
- Advances translational research.

COMPREHENSIVE DESIGNATION DELIVERS COMMUNITY BENEFITS

- Improves access to prevention services and cancer treatment for underserved and minority communities.
- Aims to decrease smoking rates, increase HPV vaccinations and reduce obesity rates.
- Extends the highest level of research, prevention, treatment and survivorship available.

ACCELERATING PROGRESS: BECAUSE CANCER DOES NOT WAIT

- Develop highly-personalized cancer treatments for each unique patient.
- Offer leading-edge cancer treatments here at home.
- Recruit the best physician scientists.
- Leverage partnerships for further innovation in drug discovery and development. ■

■ CANCER PATIENT SUPPORT SERVICES

NURSE NAVIGATION SERVICES

Our nurse navigators guide patients from their first call through their treatment process and follow-up. They answer questions and offer emotional support every step of the way. Nurse navigators make sure patients are prepared to meet with specialists and their cancer care team by collecting medical records, getting orders for tests when needed and identifying support services for patients and their caregivers.

SOCIAL SERVICES

Our social workers assist patients in both inpatient and outpatient settings. In addition to helping patients and their loved ones cope with distress related to their cancer diagnosis and treatment, our social workers provide resources for lodging, transportation, home care services and financial concerns, including medication assistance programs. They also provide information on Social Security disability and Medicaid and make referrals to community resources that offer numerous classes and programs.

PSYCHO-ONCOLOGY SERVICES

Our licensed psychologists provide patients and their caregivers support for the mental, emotional and behavioral aspects of the cancer experience. They provide assessment, consultation and evidence-based therapeutic interventions and counseling for individuals, groups, families and couples. They also help patients adjust to the lifestyle and behavior changes that accompany cancer diagnosis, treatment and survivorship. Short-term crisis resolution and grief counseling for caregivers and family members are also available.

NUTRITION SERVICES

Our 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 to provide comprehensive care, with the goal of keeping patients strong, maintaining muscle mass, promoting healing, treating nutritional deficiencies and minimizing complications and side effects of cancer. Ultimately, the dietitian's goal is to promote overall better quality of life

before, during and after cancer diagnosis and treatment through good nutrition.

SPIRITUAL SERVICES

We offer pastoral care/spiritual services for our patients and hospital visitors to help them meet their spiritual needs. Members of our spiritual care team are available on request to everyone. All of our spiritual care teams are ordained ministers and able to offer prayer, pastoral counseling and worship services.

FINANCIAL COUNSELING SERVICES

Our financial counselors help patients navigate the cancer journey by understanding the costs of cancer and insurance implications, and the complex application process for Medicaid and other financial assistance programs. They also assist patients in securing financial benefits from these programs and from private health insurance. The Patients in Need Fund at Missys' Boutique at our Westwood campus helps uninsured and underinsured patients receive the boutique's cancer-related services and products at no charge.

EDUCATIONAL RESOURCE SERVICES

Our patient resource centers provide answers, resources and support for cancer patients, their families and the community. Staffed by an experienced oncology nurse, each center offers information about specific types of cancer, treatments, clinical trials and other cancer-related issues. A variety of cancer-related programs and educational classes are offered throughout the community as well. Others are available through televideo.

PRACTICAL AND EMOTIONAL SUPPORT GROUPS

Our staff facilitates support groups and educational programs for patients and families affected by gynecologic, breast, renal cell, head and neck, prostate and other cancers, along with groups for caregivers. Patients and families also receive information about community cancer support groups and agencies that provide practical and emotional support.

Turning Point: The Center for Hope and Healing in south Kansas City, a program of The University of Kansas Hospital, provides educational programs at different locations

continues

CANCER PATIENT SUPPORT SERVICES

throughout the greater Kansas City area at no charge. Topics include mind/body, movement, nutrition, art and more for all patients with chronic illnesses. It also offers programs for children of all ages and their family members.

ONCO-REHABILITATION SERVICES

Our onco-rehabilitation physiatrist works with cancer patients and caregivers in inpatient and outpatient settings to help them maintain and improve their functional abilities, alleviate pain, minimize fatigue and improve quality of life. Occupational therapists focus on helping patients with activities of daily living, and speech pathologists help patients who have difficulty with communication, cognition or swallowing.

PERSONAL APPEARANCE SERVICES

Missys' Boutique, located at our Westwood campus, is an accredited appearance center dedicated to helping patients overcome appearance obstacles with dignity and style. Services include bra and wig fittings. Products include breast forms, postsurgery bras and camisoles and a wide assortment of clothing and accessories.

SURVIVORSHIP SERVICES

Surviving cancer begins the day of diagnosis and continues every day after. Survivorship services include:

- Providing patients with treatment summaries
- Providing ongoing care of survivors and their caregivers
- Scheduling follow-up appointments
- Referring patients to appropriate support services to address late effects such as energy balance or cognitive concerns

FERTILITY PRESERVATION SERVICES

Cancer treatments result in fertility challenges following treatment. We provide fertility preservation services in which eggs and sperm are harvested from the body, preserved through freezing and transplanted back after treatment.

PALLIATIVE CARE

Palliative care focuses on how well patients with a terminal illness can live better every day. We provide for the medical, emotional and spiritual needs of patients of all ages with illnesses at any stage. Outpatient services are offered through the Allen J. Block Outpatient Palliative Care Program.

GENETIC COUNSELING

Through genetic consultation, we are able to help patients proactively. With a full assessment of risk factors and family history, we can better understand the underlying cause of a patient's disease. This allows us to more accurately predict the patient's response to treatment and create a highly individualized treatment plan.

PHARMACY PATIENT ADVOCATE SERVICES

We provide pharmacy patient advocates, or PPAs, who answer patients' questions or concerns, reorder medications and streamline payment processing.

SECOND OPINION SERVICES

We offer second opinions to provide patients and referring physicians the opportunity to receive multidisciplinary opinions and the confidence to begin treatment.

NATIONAL CANCER INSTITUTE CANCER INFORMATION SERVICE

The NCI Cancer Information Service provides the latest and most accurate information to patients, their families, the public and healthcare professionals. This national information and education network is a free public service of the NCI. Call toll-free 800-4-CANCER. ■

■ BIOSPECIMEN BANK

The Biospecimen Bank at The University of Kansas Cancer Center supports cancer research by serving as a bank for human tissues and fluids. Researchers use these biospecimens to study causes, prevention, detection, diagnosis and treatment of cancer. Find out how you can make a tissue or fluid donation by calling toll-free 855-211-1475.

■ GLOSSARY OF TERMS

Accession number: A unique number assigned to each patient entered into The University of Kansas Hospital's Cancer Registry. The first two digits specify the year of diagnosis. The last four numbers are the numeric order in which the case was entered into the database.

Adjusted (observed) survival rate: Whenever reliable information on cause of death is available, an adjustment can be made for deaths due to causes other than the disease under study. Patients who died without disease are treated in the same manner as patients "last seen alive during the year."

AJCC stage: A staging system developed by the American Joint Committee on Cancer and the International Union Against Cancer. It takes into account the tumor size (T) and/or depth of invasion, lymph node involvement (N) and distant metastases (M). A combination of T, N and M elements gives an overall classification of stage 0, I, II, III, IV or unknown stage.

Analytic case: A case that is first diagnosed and/or receives all or part of the first course of treatment at The University of Kansas Cancer Center.

Distant: A malignant neoplasm that has spread to parts of the body remote from the primary tumor either by direct extension or by discontinuous metastasis to other organs, tissues or lymph nodes.

In situ: A neoplasm that fulfills all microscopic criteria for malignancy without invasion.

Localized: A locally staged neoplasm that is restricted to the organ of origin.

Nonanalytic case: A case that was diagnosed elsewhere and received all the first course of treatment at another institution, presenting here for recurrence or progression of disease.

Regional: A neoplasm that has spread by direct extension to immediately adjacent organs or tissues and/or regional lymph nodes.

Systemic: A neoplasm that is disseminated throughout the body or found in blood and/or bone marrow.

Unknown: A neoplasm whose stage cannot be determined by a medical authority or indeterminate stage from the medical record.

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■ REFERENCES

Cancer Facts & Figures, 2015, American Cancer Society.

Electronic Registry Systems, ERS Software.

National Comprehensive Cancer Network (NCCN) Guidelines for Cancer Treatment by site

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■ 2015 CANCER COMMITTEE MEMBERS

JOSHUA MAMMEN, MD, PhD
Committee Chair
Hematology/Oncology

Mazin Al-kasspooles, MD
General Surgery

Paul Arnold, MD
Neurosurgery

Teri Banman, RN, OCN
Cancer Center Navigation

Joaquina Baranda, MD
Hematology/Oncology

Christi Bartlett, MD
Palliative Care Team

Joe Blasko
Representative for
American Cancer Society

Rhonda Cherry, LMSW
Social Work

**Carol Cleek, RN, MSN, CCNS,
CCRN**
Senior Director of Nursing

Debra Collins, MS, CGC
Genetic Counseling

Pam Crawford
Strategic Marketing Manager

Meagan Dwyer, PhD
Onco-Psychology Program Director

Kirsten Erickson, PhD
Clinical Trials Office

Debbie Fernandez, LMLP, MHSA
Quality Analysis Coordinator

Tanya Folker
Clinical Pharmacy

**Julie Ginter, MS, L/CCC-SL PT,
MS, MBA**
Director, Rehabilitation Services

**Cathy Glennon, RN, MHS, OCN,
NE-BC**
Patient Health Education
Program Director

Ashley Huber
Chaplain

Marc Inciardi, MD
Radiology

Theresa Jackson, RHIA
Director, Health Information
Management

Thu Janes, RN
Assistant Director,
Patient Continuity of Care

Roy Jensen, MD
Director, The University of Kansas
Cancer Center

William Jewell, MD
General Surgery

Marsha Klein, BS, RHIT, CTR
Cancer Registrar

Jennifer Klemp, PhD, MPH
Breast Cancer Prevention Center

Janet Kliethermes, MA
Pathology

Hope Krebill, BSN, RN, MSW
Executive Director,
Midwest Cancer Alliance

Christopher Lominska, MD
Radiation Oncology

Joseph McGuirk, DO
Hematology/Oncology

Tim Metcalf, BS, CTR
Manager, Cancer Registry

Carrie Michel, MS, RD, CSO, LD
Clinical Nutritionist

Kirk Miller, MD
Radiology

Mark Myron, MD
Medical Oncology

Michele Park
CTMS Administrator

Yara Nielenshultz, RN
Quality Coordinator

Maria Pena, RN
Quality Coordinator

Rachel Pepper, RN
Director of Nursing

Jan Peterson, LSCSW
Social Work Case Manager

Karin Porter-Williamson, MD
Palliative Care

Michael Salacz, MD
Medical Oncology

Lisa Serig, MBA
CCP Director, Operations

Leigh Anne Scott, PharmD
Pharmacy

Nik Schutz
Midwest Cancer Alliance

Ossama Tawfik, MD, PhD
Pathology and Laboratory Medicine

Mark Thompson, MD
Radiation Oncology

Terri Thompson, MBA
RT Director, Radiation Oncology

Terance Tsue, MD
Otolaryngology, Cancer Center
Physician-in-Chief

Ashley Wagner, CTR
Lead Cancer Registrar

Fen Wang, MD, PhD
Radiation Oncology

Jeff Wright
Vice President, Cancer Services

Hadley Wyre, MD
Urology Surgery

Da Zhang, MD
Pathology and Laboratory Medicine

913-588-1227 • KUCancerCenter.org



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