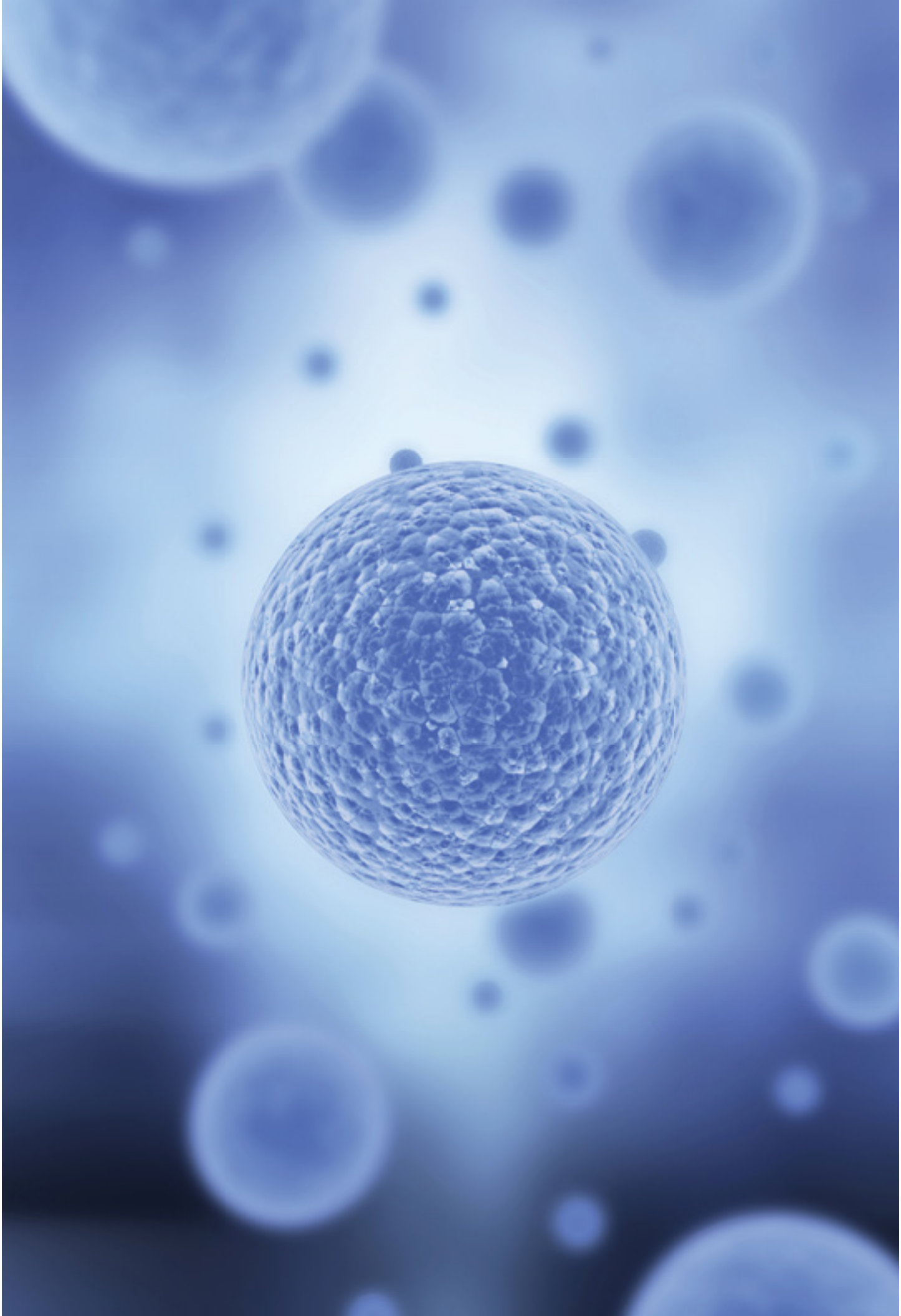
2015 OUTCOMES REPORT

OHSU Cancer Committee



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A message from the chairman

Kevin Billingsley, M.D.

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Dear colleagues and friends,

As chairman of the OHSU Cancer Committee, I am proud to present this year's report.

For 2015, we have focused on advances in melanoma treatment, including standardized screening and examination procedures and the most advanced surgical techniques and adjuvant therapies. If melanoma is found and treated early, an estimated 95 percent of patients live at least 10 years. This makes screening and early detection paramount. The OHSU Knight Cancer Institute partners with the National Cancer Institute and national and global advocacy organizations to improve sun safety, increase research participation and detect malignancies as early as possible.

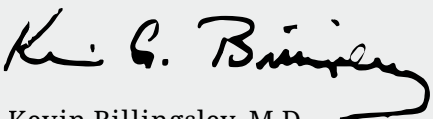
In this report, we also highlight the Commission on Cancer's Cancer Program Practice Profile Report, or CP3R. This web-based reporting tool offers providers information on consideration of and adherence to selected standards of care for breast, colon, lung and gastric cancers. The CP3R aims to improve patient care quality at the local level and allows hospitals to compare their care to that of other providers.

This year was truly historic for OHSU. We met the $1 billion fundraising challenge from Nike co-founder Phil Knight and his wife Penny, setting a new philanthropic record. More than 10,000 donors from all 50 states participated, inspired by our plans to radically transform early detection of lethal cancers. Early detection is one of the greatest needs in today's cancer care.

In addition, this year marks the creation of the OHSU Knight Cancer Network. This statewide organization for cancer prevention and outreach will help us better serve the entire state, including many Oregonians in rural areas.

As always, our goal is to help you offer patients the most advanced, timely and compassionate care available. We know that the strongest outcomes come from effective communication and close collaboration with patients and providers, and we aim to be your resource for the highest quality of cancer care in our community and beyond.

Sincerely,



Kevin Billingsley, M.D.

Establishment of the OHSU Knight Cancer Network

Grant provides vital support for rural Oregonians

This year marks the launch of the OHSU Knight Cancer Network, a statewide cancer outreach network. The network will provide hospitals, medical oncology practices, physicians and community-based health organizations — such as skilled nursing facilities, hospice care and home health agencies — access to OHSU Knight Cancer Institute expertise in cancer prevention, education, diagnostics, treatment, and survivorship. It will also offer support in directing patients to appropriate clinical trials. The network is the first of its kind in Oregon.

Margy Bertoldi was hired to serve as administrator of the network. She will provide administrative leadership to the program under the guidance of the OHSU Knight Cancer Institute's Deputy Director Tom Beer, M.D. and Ann Raish, vice president, oncology services.

The OHSU Knight Cancer Network is part of OHSU's commitment to increase engagement with communities statewide. The network's goals are to provide educational and training opportunities for health care professionals as well as develop strong support programs within community health care organizations. This will meet patients' needs more effectively by ensuring they have access to the best treatment at the most appropriate location.

Prevention and screening

The OHSU Knight Cancer Institute's Community Cancer Education Program is part of the National Cancer Institute's National Outreach Network. Knight Community Health Educators based in Bend, Ore., participated in the May 30 event. Bend is in central Oregon, a sunny, high-altitude region known for outdoor recreation and ranching. Skin cancer incidence is high there and elsewhere in rural Oregon. Knight Community Health Educators continue to provide screenings and prevention activities around rural Oregon.

Meeting prevention and screening standards

Each year, the OHSU Knight Cancer Institute provides at least one evidence-based prevention activity that meets the needs of our community. Oregon's high rates of melanoma incidence and mortality make this disease a high public health priority. The OHSU Knight Cancer Institute melanoma program is committed to delivering health promotion in the most effective, evidence-based manner to the right audience.

Melanoma research expo and outreach events

On May 30, more than 800 visitors attended the OHSU melanoma program's Cancer Research Expo and Sun Safety event. Held at the OHSU Center for Health & Healing, a highly accessible location in the Portland metropolitan area, the day featured a skin cancer research expo, skin cancer screenings by OHSU and community dermatologists, a community walk to raise melanoma awareness and research funds through AIM at Melanoma, and sun safety education.

This event gave attendees many melanoma education and research opportunities.

127	people joined the Melanoma Community Registry
244	completed a research survey
162	donated blood samples to the Knight Biolibrary
50	expressed interest in clinical trials
61	signed up to be part of the Oregon Clinical and Translational Research Institute's healthy controls group
252	had skin cancer screenings
150	played the "Wheel of Prevention" game developed by Knight Community Health Educators

Pairing basic research with sun safety education

Educating children on sun safety is an important step towards reducing the burden of melanoma and other skin cancers. OHSU researcher Amanda McCullough, Ph.D., works with the Environmental Protection Agency's SunWise program to provide age-appropriate sun-safety education to K-12 students. She has worked in the Beaverton, Ore., school district for nearly 10 years. Lessons include content on sun safety and UV radiation, using UV-sensitive beads and a UV-sensitive Frisbee. Teachers receive follow-up activities and information on the SHADE Foundation of America's joint poster contest with the EPA.

In 2014, Hilary Nichols, a summer intern the McCullough lab, worked with OHSU researchers to survey approximately 200 Oregon educators on participation in the EPA SunWise program. The research group also worked on a sun safety education program for young workers in the City of Portland Department of Parks and Recreation. This program included videos and memes directed to a young adult audience. Data analysis is ongoing for these studies.

Sun safety recommendations

Appropriate sun protection measures can help reduce the incidence of melanomas in Oregon and elsewhere. The OHSU melanoma program recommends three elements of photoprotection:

1	**Photoprotective clothing**	This is the most important element. If an area can be covered with clothing, there is no need for sunscreen.
2	**Sunscreen**	For areas not covered by clothing. Our physicians recommend a zinc oxide-based physical sunblock.
2	**Avoiding unnecessary light**	Choosing morning or evening, rather than midday, for outdoor activities, and opting for shade instead of direct sun make a significant difference in an individual dose of UV radiation.

Quality study and improvement — liver resection fast track

Impact of fast tracking liver resection patients to medical surgical oncology unit

Until recently, all patients undergoing liver resection at OHSU were admitted to the intensive care unit postoperatively. However, not all these patients require ICU-level care. Drawbacks include lower patient mobility, longer time to urinary catheter removal and a longer hospital stay. In turn, these factors increase cost and the risk of potential complications, while diverting resources from patients in need of intensive care.

To test an alternative to this tradition, a surgical oncologist agreed to admit patients undergoing liver resection directly to a medical-surgical oncology (MSO) unit. Screening criteria for admitting liver resection patients directly to an MSO unit were developed and implemented. Nurses on the MSO unit were educated on the specific needs of post-liver resection patients. The post-anesthesia unit nurses agreed to complete phase 1 post-anesthesia care, then hand patients over to MSO nurses.

Methods

Clinical data from the University HealthSystem Consortium database was used to pull patient outcome data. Patients were identified by hospital code and primary procedure code (50.22 hepatectomy, 50.3 hepatic lobectomy). These codes limited the study to patients treated by the participating surgical oncologist for the study period of April 2014-March 2015. The methodology was repeated for April-June 2015 to identify five patients for comparison. In addition, the records of five study patients were reviewed for data on postoperative ambulation and urinary catheter removal and to identify complication data.

Results

- The average length of stay (LOS) for liver resection patients was seven days. Study patients averaged five days.
- The average LOS in the ICU was two days. Study patients averaged 0.2 days in the ICU.
- The average direct cost of care for liver resection patients was $18,029. For study patients, it was $14,946.

- The five patients whose records were reviewed ambulated on the first day after surgery, or POD-1. They walked an average of 3.8 times per day. Urinary catheters were removed on POD-1.
- One patient in the study developed a post-operative ileus, had urinary retention and was transferred from the MSO unit to the ICU for a day.

Conclusions

Limiting ICU admission of liver resection patients to those who require intensive care may decrease overall patient LOS and cost of care. This practice could also increase availability of ICU beds for patients who need these resources. Admitting patients directly to an MSO unit after liver resection may also decrease the risk of complications because of earlier ambulation and urinary catheter removal.

Cancer Program Practice Profile Report (CP3R)

The Commission on Cancer's Cancer Program Practice Profile Report or CP3R, is a Web-based reporting tool that offers providers a platform to assess adherence to and consideration of standard of care therapies for major cancers. CP3R currently reports estimated performance rates for five quality improvement measures and five accountability measures from four primary sites including breast, colon, gastric and lung. The most recent data set available to review is from 2013. The CP3R reporting tool aims to promote improvement in the quality of patient care at the local level and also allows hospitals to compare their care to that of other providers.

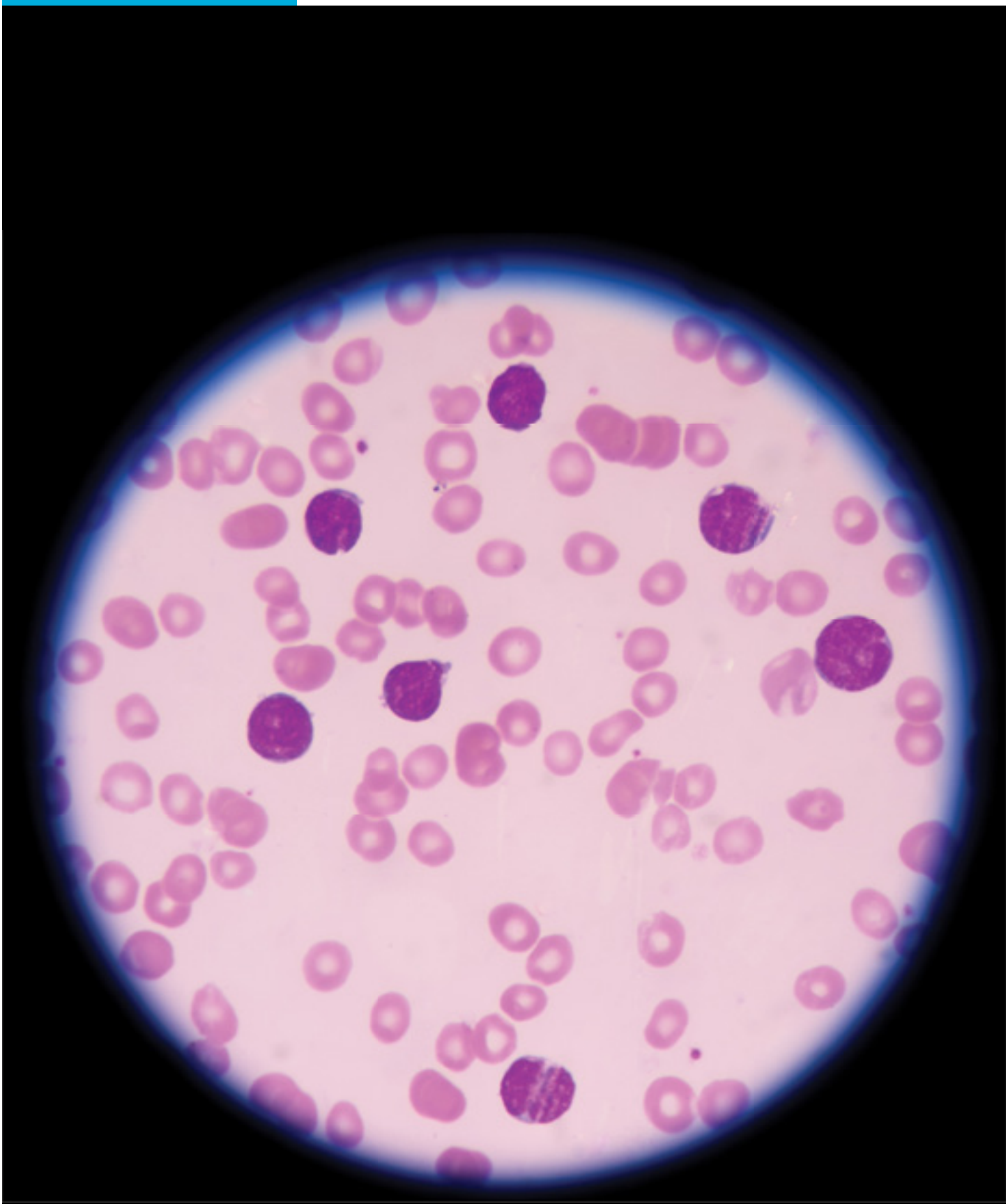
Annually, the Commission on Cancer requires their accredited facilities to review performance levels for selected accountability and quality improvement measures. OHSU appoints a cancer liaison physician (CLP) to their Cancer Committee who is responsible for analyzing and presenting this data to the committee each year. The OHSU Cancer Committee CLP for 2015 is Liana Tsikitis, M.D.

Dr. Tsikitis and the Cancer Committee members review every case for every CP3R measure that falls below 100 percent to ensure no quality of care issues have occurred. An action plan is developed for any CP3R measure that falls below thresholds established by the CoC.

C3PR measures focused on in 2013

MEASURE NAME AND DEFINITION		COC STANDARD	OHSU	OREGON STATE	ALL COC APPROVED PROGRAMS
BREAST					
NBX	Image or palpation-guided needle biopsy (core or FNA) of the primary site is performed to establish diagnosis of breast cancer (Quality Improvement)	80%	95.7%	88.9%	90.3%
HT	Tamoxifen or third generation aromotase inhibitor is considered 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%	98%	96.1%	91.3%
MASTRT	Radiation therapy is considered 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%	100%	86.4%	87.7%
BCSRT	Radiation is administered within 1 year (365 days) of diagnosis for women under the age of 70 receiving breast conservation surgery for breast cancer (Accountability)	90%	99.2%	93.8%	91.6%
MAC	Combination chemotherapy is considered or administered within 4 months (120 days) of diagnosis for women under 70 with AJCC T1cN0, or stage IB - III hormone receptor negative breast cancer (Accountability)	90%	100%	95.2%	92.3%
COLON					
ACT	Adjuvant chemotherapy is considered or administered within 4 months (120 days) of diagnosis for patients under the age of 80 with AJCC stage III (lymph node positive) colon cancer (Accountability)	90%	92.3%	91.5%	89.3%
12RLN	At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer (Quality Improvement)	85%	*85.7%	90.6%	90%
GASTRIC					
G15RLN	At least 15 regional lymph nodes are removed and pathologically examined for resected gastric cancer (Quality Improvement)	N/A	80%	64%	54.3%
LUNG					
LNOSURG	Surgery is not the first course of treatment for cN2, M0 lung cases (Quality Improvement)	N/A	100%	94.2%	92%
LCT	Systemic chemotherapy is administered within 4 months to day preoperatively or day of surgery to 6 months postoperatively, or it is considered for surgically resected cases with pathologic lymph node-positive (pN1) and (pN2) NSCLC (Quality Improvement)	N/A	100%	95.6%	89.7%

*While 21 patients met inclusion criteria for this measure, 3 had fewer than 12 nodes removed. For one patient, resection was minimized due to 2 additional complex primary malignancies; another patient was undergoing polypectomy and it was unclear if invasive cancer was present. No reason was noted or identified for the third patient.



2014 analytic cases — site and stage distribution

SITE	MALE	FEMALE	TOTAL	0	I	II	III	IV	UNK	NA
Breast	4	481	485	52	241	139	31	21	0	1
Lung	197	117	314	1	80	32	89	109	3	0
Melanoma (Skin)	207	164	371	125	187	34	19	5	1	0
Prostate	223	0	223	0	20	133	26	41	3	0
Brain / CNS (Benign)	50	68	118	0	0	0	0	0	0	118
Leukemia	124	105	229	0	0	0	0	0	0	229
Lymphoma	101	75	176	0	42	34	23	70	2	5
Liver	119	48	167	0	69	44	30	19	2	3
Thyroid	43	102	145	0	92	11	17	22	3	0
Kidney	77	47	124	0	62	12	12	30	1	7
Colon / Rectum	96	71	167	5	28	36	53	39	6	0
Pancreas	74	65	139	3	16	73	13	31	3	0
Brain / CNS (Malignant)	55	36	91	0	0	0	0	0	0	91
Soft Tissue	68	42	110	0	29	25	40	13	0	3
Other Urinary	13	5	18	5	4	1	1	5	1	1
Esophagus	62	10	72	0	11	17	29	10	5	0
Lip / Oral Cavity / Pharynx	145	71	216	5	41	23	40	107	0	0
Bladder	68	25	93	27	13	20	17	16	0	0
Corpus Uteri	0	61	61	0	41	3	7	7	2	1
Eye and Orbit	42	25	67	0	27	16	7	0	4	13
Multiple Myeloma	37	30	67	0	0	0	0	0	0	67
Other Hematopoietic	51	30	81	0	0	0	0	0	0	81
Ovary	0	42	42	0	3	6	18	12	3	0
Other / Ill-Defined Sites	10	3	13	0	0	0	0	2	0	11
Larynx	34	1	35	2	8	7	8	9	0	1
Other Digestive	10	19	29	2	4	7	3	5	2	6
Small Intestine	17	13	30	0	5	1	6	15	1	2
Unknown Primary	13	8	21	0	0	0	0	0	0	21
Bones and Joints	19	12	31	0	11	18	0	1	1	0
Other Skin	19	14	33	1	16	2	4	1	2	7
Anus	13	14	27	3	5	4	7	7	0	1
Other Female Genital	0	26	26	2	8	2	9	2	0	3
Other Endocrine	30	33	63	0	0	1	1	0	0	61
Cervix	0	21	21	0	11	3	6	0	0	1
Other Respiratory	17	11	28	1	0	3	7	4	0	13
Stomach	34	19	53	0	15	10	10	16	2	0
Other Male Genital	23	0	23	0	8	8	6	0	1	0
TOTALS	**2095**	**1914**	**4009**	**234**	**1097**	**725**	**539**	**619**	**48**	**747**

NOTE: Figures above represent patients first seen at OHSU in 2014 and include analytic cases only (diagnosed here and/or received part or all first course here). Basal and squamous cell skin cancer and CIS cervix not collected.

OHSU cancer committee and leadership teams 2015

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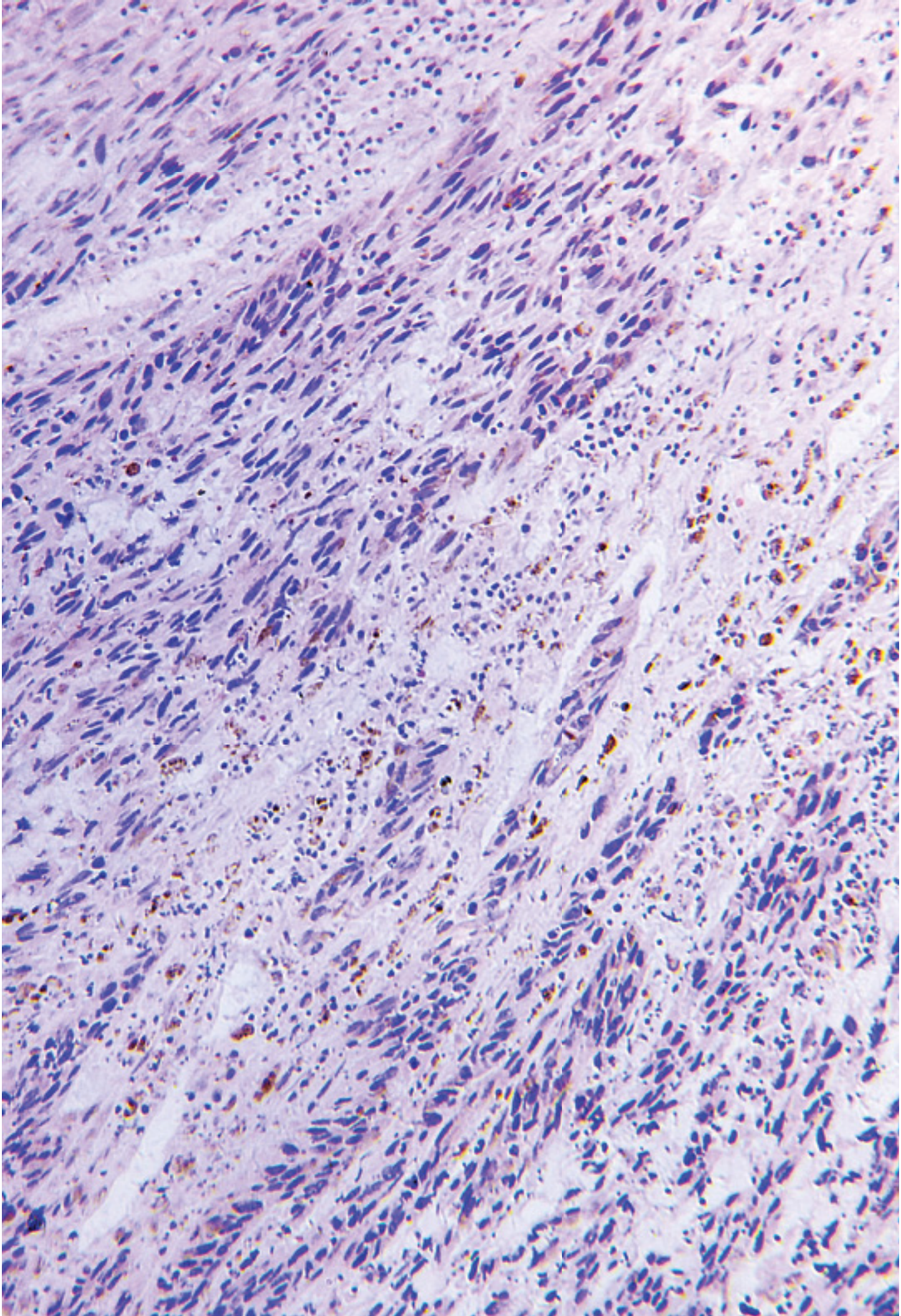

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