AURORA CANCER CARE NEVVS & VIEVVS

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Message from the Vice President, Aurora Cancer Care



James Weese, MD, FACS Vice President, Aurora Cancer Care

Aurora Health Care employs over 33,000 caregivers, making it the largest private employer in Wisconsin. Aurora Cancer Care has many of the very best caregivers. For this reason, we wanted to be able to recognize exemplary work in taking care of our nearly 8,000 new cancer patients each year.

This year, I was asked to serve on the VIA Oncology Board of Managers.
I am the only member not affiliated

with the University of Pittsburgh. A generous stipend comes with this position and I turn this over to the Aurora Foundation. With these dollars, we have established three team awards and one individual award for outstanding services. We have named them as the **Marija Bjegovich**-

Weidman awards for Excellence in Oncology in honor of Marija, who stepped down this year as the Senior Director of Aurora Cancer Care. Marija has been with Aurora for over 35 years and has been a major force behind ACC's success. The awards fall into four categories; the first three were each given to teams of five or fewer caregivers.

The fourth award was given to an individual. There were many excellent nominees for each award.

The team award for performance improvement with positive measurable outcomes was given to Anne Weers, Dorry Mitchell, Zarina Dawoodbhai, Rita Wilbert and Kevin Clement for "Improving Referral Capture and Tracking Outcomes of Lung CT program." Part of our population health initiative, this program extends across the system and is doubling the number of patients who meet criteria for screening each year. Of those high-risk patients, about two percent are found to have lung cancer—many when the cancer is still early and highly curable.

The team award for a Patient or Caregiver Safety Initiative was given to Brenda Mauer, Kerry Twite and Peter Stuessy for "Rate/time Infusion Process Change for Oxaliplatin."

The award to an interdisciplinary team that developed a patient-centered program or service was given to Ana

Farnsworth, Angi Paradowski, Tracy Batcher and Jennifer Wiesmueller for "Development of a Sarcoma MDC (Multidisciplinary Clinic)."

The award for Individual Excellence was given to Kerry Twite for "Oncology Nursing Education."



ACC Caregiver Awards, pictured left to right: Marija Bjegovich-Weidman, Dr. Jim Weese, Peter Stuessy, Kerry Twite, Carol Huibregtse, Dr. Nick Turkal.

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Men ages 55-69 should make an individualized decision about prostate cancer screening in consultation

with their clinician.

Message from the Vice President... continued

Each of these awards was presented by Dr. Nick Turkal, CEO of Aurora Health Care, after his introductory remarks. The awards also come with a generous stipend.

To make the awards complete, Marija Bjegovich-Weidman was presented with an award for her many years of service and contributions to Aurora Cancer Care and the above awards were presented in her honor at the annual all-oncology dinner on September 18, 2017.

Helpful documents for joint decision making for prostate screening

James Weese, MD, FACS Vice President, Aurora Cancer Care

n 2012, the U.S. Preventive Services Task Force (USPSTF) put out a statement that there was no evidence to justify screening (using PSA or digital rectal exam) in men to detect prostate cancer. Unfortunately, this recommendation was based on flawed data and had several subsequent effects. A number of insurance carriers stopped covering PSA testing and many physicians stopped encouraging men to undergoing screening. This resulted in significant concern from multiple constituencies, but the guidelines remained until recently. Part of this was due to the concern that large numbers of patients were undergoing robotic prostatectomy because of the blossoming availability of the new technology and innovative forms of radiation therapy and there were no generally accepted guidelines to define which patients should undergo the procedure.

Many physicians remembered the time before screening when patients were diagnosed with prostate cancer after the disease had metastasized and was incurable. National statistics suggested the five-year survival for patients diagnosed with localized disease was approximately 90 percent compared to less than 40 percent if the disease had spread.

During this time, Aurora Cancer Care, in collaboration with our Urologists, Medical Oncologists and Radiation Oncologists, established the multidisciplinary GU Cancer Conference. As a group, patients were presented before undergoing radical prostatectomy and those patients with highergrade tumors were recommended for aggressive therapy (robotic or open prostatectomy or radiation therapy). Those with less aggressive tumors were followed with careful observation. Additional concern was raised by review

> of the National Cancer Data Base of the Commission on Cancer. Between 2011 and 2014, there was a concerning stage migration where the percentage of stage I and II prostate cancer fell from 82 percent to 76.8 percent of newly diagnosed prostate cancer patients and the stage III and IV incidence rose from 14.1 percent to 20.8 percent. This was on a national pool of nearly 190,000 patients diagnosed during those four years. Reviewing Aurora Cancer Registry statistics, between 2012 and 2016 the percentage of stage I and II fell from 81.1 percent to 74.3 percent and stage III and IV increased from 17.3 percent to 22.6 percent.

Of interest, this year the USPSTF revised their recommendations to "men ages 55-69 should make an individualized decision about prostate cancer screening with their clinician." As a result, a committee made up of Urologists and Primary Care Physicians have developed documents providing information to physicians and their patients. These are available in EPIC and have been approved by the Primary Care Leadership Council, the Urologists and the Cancer Leadership Council.

Oncology Precision Medicine Program update

Precision medicine—relying on molecular profiling of a patient's tumor—is becoming increasingly important in cancer treatment. With this in mind, Aurora Cancer Care launched a Molecular Tumor Board and Oncology Precision Medicine Clinic in March 2017. Our initial goal was to evaluate 50 patients during the first year—a goal we exceeded within the first four months.



Jen Godden, PharmD, BCOP Specialty Pharmacy Coordinator, Oncology Pharmacogenomics Co-Director, Aurora Oncology Precision Medicine Program

Molecular Tumor Board

Each Friday morning, participating members from around the state use video technology to join in discussion that centers on finding treatments for patients based on molecular profiling results. Our team consists of members from medical oncology, surgical oncology, radiation oncology, pathology, pharmacy, genetic counseling and research. In November, we completed review of our 100th patient in a multidisciplinary fashion.

Oncology Precision Medicine Clinic

Medical oncologists Mike Thompson, MD, PhD, and Tony Ruggeri, MD, meet with patients at the Aurora St. Luke's Medical Center Vince Lombardi Cancer Clinic each Friday. Patients are referred by their primary oncologist for facilitation of precision medicine testing. During these visits our team provides patient education, coordination of biopsies or tissue acquisition, facilitation of financial aid paperwork, submission of molecular testing forms and help with drug acquisition.

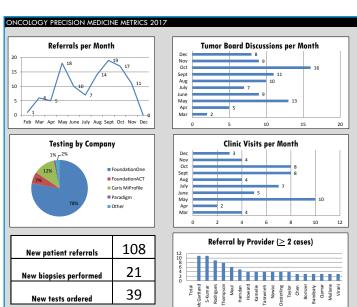
Outcomes and Metrics Generation

We are working to quantify the impact made by the Precision Medicine team in the care of our patients. We have created a dashboard to visually display metrics (see charts). We plan to collect and share additional outcomes including the number of patients with an actionable genetic variant,

the number of patients who received a targeted treatment, the number of patients with germline findings and others.

Syapse Integration

The Precision Medicine team has been working closely with Aurora's EPIC team to integrate Syapse, a Precision Medicine software platform, with our electronic medical record. The program will go live for all medical oncologists in November. Syapse provides a platform for viewing of molecular panel test results, as well



as functionality for organizing Molecular Tumor Board discussion and recommendations. A significant advantage of the program will be future access to the Oncology Precision Network (OPeN) network.

OPeN is a proposed data-sharing network that would bring together Precision Medicine patient experiences from multiple organizations. Using this software, our providers can access de-identified patients with similar molecular characteristics and review what treatments they received and how they responded. Our Precision Medicine team recently attended the inaugural OPeN network meeting in Zion National Park. Also attending were Intermountain Healthcare, Stanford, Catholic Health Initiatives, University of Miami and Henry Ford, among others. We were given the opportunity to present the Aurora Precision Medicine experience and learn from other organizations. It also was a chance to direct how we would like the network to function for our caregivers.

Conclusion

The Aurora Oncology Precision Medicine program has had a successful first six months thanks in large part to excellent collaboration from providers and caregivers throughout the system. We thank you for your support and look forward to working with you to continue to offer this important treatment option to the patients of Aurora Cancer Care.

If you have a patient with molecular profiling results you would like to submit for discussion, please send a staff message through EPIC to SLM ONC Precision Medicine Consult Pool.

If you would like us to coordinate molecular panel testing for a patient, please place a "Service to Oncology Precision Medicine" referral in EPIC.

See the Aurora Health Care blog for more information about the program: http://ow.ly/ cOJx30bald6

We have also published on our experience setting up the program: Implementing an Oncology Precision Medicine Clinic in a Large Community Health System http://ow.ly/DYBk3Oehyr8

AURORA CANCER CARENEWS & VIEWS

Hereditary Cancer Prevention and Management Center at ASLMC and ABMC



Deborah Wham, MS, CGC Manager, Certified Genetic Counselor Genomic Medicine Program Aurora Health Care

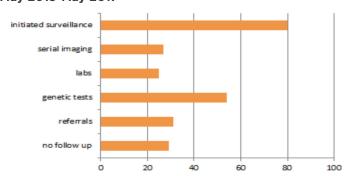
he Aurora Hereditary Cancer
Prevention and Management Center
(HCPMC) was established in May 2015
by oncologist Michael Mullane, MD, and
Deborah Wham, MS, CGC. The concept of
the clinic is to provide continuity of care
for individuals and families with complex
or difficult hereditary cancer conditions.
Michael Mullane, MD, and the Aurora
Genomic Medicine Department have
collaborated to establish this program
aimed at providing preventive care to the
highest-risk individuals. At the Aurora

HCPMC, patients and at-risk relatives undergo an evaluation and discuss management and prevention recommendations. This clinic is the first of its kind in the Midwest and continues to be the model for health care organizations looking to establish hereditary cancer management clinics around the country. For example, Dr. Mullane was asked to give a lecture about the concept and execution of the HCPMC in June 2017 at the annual American Society of Clinical Oncology meeting. Additionally, Deborah Wham, certified genetic counselor and manager of the Genomic Medicine Program presented a poster at the National Society of Genetic Counselors conference in September 2017 with outcomes from the HCPMC.

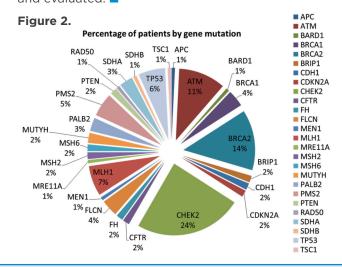
Since its inception, Aurora has gone from a twice-amonth clinic to a weekly clinic. It is now available at Aurora St. Luke's Medical Center and Aurora BayCare Medical Center. In the first two years, 186 patients were seen in the clinic. Fifty-five of these patients were family members of the initial patient found to have the disease/gene mutation. Medical management and surveillance plans were initiated for appropriate patients. These plans were tailored to the individual and family according to the cancer risks associated with their particular gene mutation.

Many patients required ongoing surveillance, including serial imaging studies, laboratory tests, referrals to other specialists and some further genetic testing.

Figure 1. Medical Management for all patients May 2015-May 2017



The clinic is designed specifically to address the needs of patients with rare and complicated cancer risks. Patients with a single gene mutation tend to have multi-organ system risks. Additionally, in the first two years, patients with risks associated with 25 different genes were seen and evaluated.



Although the HCPMC is a relatively new clinic, the medical management plans implemented have already yielded some important outcomes. Four cases are described here.

Age 33 unaffected male reluctantly came to HCPMC after his mother was found to have a CDH1 mutation. He tested positive for the familial mutation. We referred him to GI surgical oncology for prophylactic gastrectomy. He was found to have stage I diffuse gastric cancer, and required no further treatment.

Age 37 unaffected female came to HCPMC after testing positive for a familial SDHB mutation. Screening was initiated including whole body MRI, which revealed a 2.5cm carotid body paraganglioma. Surgery pending.

Age 44 female found to have a PTEN mutation after a breast cancer diagnosis and treatment. She came to the HCPMC after a colonoscopy revealed harmartomatous polyposis and GI recommended colectomy. We found a GI willing to do serial colonoscopy. We initiated high risk breast screening. A second primary breast cancer was found.

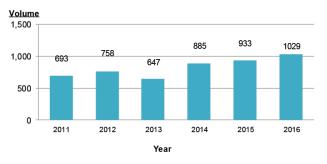
Age 43 female came to the HCPMC after she was identified to have 2 different TP53 mutations, detected at low allele frequencies. She had been given a diagnosis of Li Fraumeni prior to coming to our clinic. We initiated a confirmatory algorithm including cascade testing of children, single site testing in skin fibroblasts, normal breast tissue and cancerous breast tissue. Both mutations were found only in tumor specimen. Thus, the diagnosis of Li Fraumeni was disproven.

Aurora Health Care treats more lung cancer than any other health care system in Wisconsin— Highlights of the Thoracic Cancer Surgery Program

Anne Weers, RN, MS System Program Quality Manager, Aurora Cancer Care

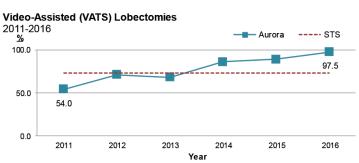
Aurora Health Care (AHC) treats 1 out of every 4 lung cancer patients in Wisconsin. Our multidisciplinary team brings together a group of dedicated lung cancer specialists to provide personalized care, including thoracic surgeons who specialize in lung cancer surgery, pulmonologists, medical oncologists, radiation oncologists, cancer care coordinators, dieticians, cancer rehabilitation specialists and cancer nurse navigators. Our comprehensive program offers cutting-edge techniques and screenings for patients throughout the country. For example, in 2016, Aurora Grafton, Aurora St. Luke's and Aurora Summit medical centers performed 1,029 thoracic surgical procedures.

General Thoracic Surgery Volume 2011-2016



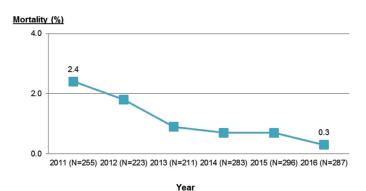
The majority of lung cancer surgery (97.5 percent) performed at Aurora Grafton, Aurora Summit and Aurora St. Luke's in 2016 were Video-Assisted Procedures (VATS). This is a minimally invasive technique used when appropriate to yield the best possible outcome for each patient.

VATS also may be used with a robotic technique. Minimally invasive surgery has been shown to decrease length of stay, as well as postoperative complication rates. Aurora Health Care is able to accommodate the many patients who desire a minimally invasive approach.



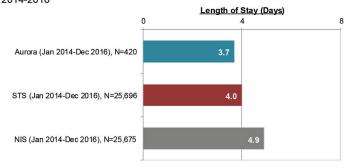
According to U.S. News & World Report, Aurora received the 'best' ranking for survival 30 days after thoracic surgery, as well as the 'best' ranking for preventing prolonged hospitalizations.

Pulmonary Resection Mortality 2011-2016



Source: STS Thoracic Registry (St. Luke's, Grafton, & Summit)

Lobectomy Postoperative Length of Stay 2014-2016



Aurora Health Care is proud to provide a highly qualified and effective treatment team for our lung cancer patients. For example, AHC's William Tisol, MD, leads one of the busiest robotic assisted thoracic surgery practices in the world. Aurora Medical Center in Grafton serves as a case observation center for the state-of-the-art Intuitive Surgical da Vinci XI® surgical system. Surgeons and their teams come from all over the country to observe robotic assisted thoracic surgery. Aurora Medical Center at Grafton is 1 of 10 approved thoracic robotic surgery mentor sites in North America and 1 of 2 in the Midwest hosting over 50 guests per year. Joining our lung cancer treatment team and our nationally recognized robotic assisted thoracic surgery program is David Demos, MD, from Stanford University Hospital.

NCORP update



Neha Glandt Research Program Administrator NCI Community Oncology Research Program (NCORP) Aurora Research Institute

On August 1, Aurora began its fourth year as a National Cancer Institute's (NCI) Community Oncology Research Program, or NCORP.

The NCI has awarded Aurora Research Institute more than \$200,000 beyond its projected \$755,000 annual grant. This is the fourth year in a row that NCI has increased the grant award to Aurora NCORP. Aurora is projected to receive more than \$4 million by the time its five-year NCORP grant cycle ends in 2019. Thomas Saphner, MD, and Michael

Thompson, MD, PhD, serve as principal investigators for Aurora NCORP.



A program of the National Cancer Institute of the National Institutes of Health

Aurora is one of 34 sites nationwide participating in NCORP, which brings clinical cancer trials to

people in their own communities. Doing so means that a more diverse patient population can participate in studies in "real world" health care settings close to home. This expanded access to clinical trials, in turn, generates more broadly applicable evidence that can improve patient outcomes and reduce cancer disparities.

Aurora caregivers recognized

Thirteen Aurora Health Care physicians were recognized by the NCI for being high oncology clinical trial enrollers at the NCORP Principal Investigators and Administrators Annual Meeting. They each received a certificate from the NCI recognizing their achievement at Aurora Cancer Care's Annual All-Oncology Meeting in September.

Shamsuddin Virani, MD, received a Platinum Award for accruing 54 patients to NCI clinical trials since Aurora Research Institute received its initial NCORP grant in August 2014. In addition to a certificate, principal investigator Dr. Tom Saphner presented Dr. Virani with a personalized jersey for his role as the highest accruing investigator.

Michael Mullane, MD, received a Gold Award for his 40 accruals.

The following received Appreciation Awards for accruing between 11 and 19 patients over the past three years: George Bobustuc, MD, Osama Halaweh, MD, John Maul, MD, Ubaid Nawaz, MD, Dhimant Patel, MD, Rubina Qamar, MD, Gilberto Rodrigues, MD, Cheruppolil Santhosh-Kumar, MD, Tom Saphner, MD, Corey Shamah, MD, Judy Tjoe, MD



Dr. Virani receiving his jersey.



Investigators, who enrolled at least one patient to a NCORP trial, present at the All Oncology Meeting.

Changing the face of cancer survivorship



Dawn Groshek
Foundation
Development
Officer
Aurora Health Care
Foundation



Judy Tjoe, MD, Medical Director, Aurora Health Care

hrough her research program, medical director Judy Tjoe, MD, is dedicated to changing the face of breast cancer care and survivorship through Translational Oncology Research: Quest for Understanding & Exploration, or TORQUE. "Aurora Research Institute's breast cancer research program, TORQUE, employs a 'bedside-to-bench' approach," said Dr. Tjoe, a fellowshiptrained breast surgical oncologist.

TORQUE researchers aim to predict which patients are susceptible to the progression from noninvasive to invasive disease. "TORQUE scientists leverage patient data in the electronic health record against a biorepository of tissue and blood samples to find hidden clues, or genetic biomarkers, that may increase treatment effectiveness and improve individual survivorship," said Dr. Tjoe.

This collaborative atmosphere includes researchers in the institute's Biorepository and Specimen Resource Center and industry partners, using residual tissue donated by patients. They are studying the molecular makeup

of tumor cells, which improves understanding about how cancer develops, allows discovery of those hidden genetic biomarkers and spurs development of new targeted drug therapies.

Care doesn't stop after treatment

Under the TORQUE umbrella, the Team Phoenix cancer survivorship program helps motivate women cancer survivors to improve their quality of life. Under medical guidance, they train for a triathlon, learning best practices for removing physical and psychological barriers for initiating and maintaining a regular exercise routine after cancer treatment.

As part of the research component for Team Phoenix, exercise physiologists and cardiologists would like to work collaboratively to study how exercise affects heart function after cardiotoxic breast cancer treatments. Researchers also plan to investigate ways to reduce cancer-related fatigue in patients who have undergone treatment.

Studies conducted by TORQUE researchers are supported by generous donors. If you would like to help advance cancer research, please contact Dawn Groshek at dawn. groshek@aurora.org.



Lymphedema precautions outdated

Desiree Nelson, RN, BSN, OCN, Aurora Cancer Care

Traditionally, patients have received information on precautions after breast surgery that was thought to reduce their risk for developing lymphedema. These precautions were based on expert opinion, but were not supported by evidence. This information caused undue anxiety for the patients and the clinicians caring for them.

New research suggests that these precautions be abandoned unless the patient has received a diagnosis of lymphedema from their doctor- The evidence-based research determined that safe practices/procedures can include:



- Blood pressure measurements on affected limb
- Injections on affected limb
- Venipunctures on affected limb
- Flying without a compression sleeve

The Limb Alert section of Aurora's Patient Identification policy will need to be revised to reflect this system wide change.

True risk factors for developing lymphedema do exist. These risk factors include:



- Weight gain
- Infections
- Body Mass Index (BMI) ≥ 25
- Axillary lymph node dissection
- Radiation to the axilla
- Older age at diagnosis

Patients can reduce their risk of lymphedema development by:



- Maintaining a normal body weight
- Minimizing the risk of infection in the involved area
- Having physical therapy
- Avoiding weight gain
- Participating in regular exercise

Patients need this information to ensure proper care can be received. Stay tuned for this important policy change.

Aurora Cancer Care receives 2017 ACCC **Innovator Award**

Aurora Cancer was recently recognized by the Association of Community Cancer Centers (ACCC) with the 2017 Innovator Award for the creation of Now Playing! drugspecific videos created to improve chemotherapy patient education.



Dr. Jim Weese receiving the Innovator Award from Mark Soberman, ACCC President (left) and Christian Downs, ACCC Executive Director (right).

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