Cancer Leadership Builds Evidence-based Service System

Stephan R. Covey describes that “Management works in the system; Leadership works on the system.” Thanks to the dedicated leadership among the IU Health cancer programs, we are realizing the creation of a solid system of cancer services based on best practice in clinical care, education and research.

The IU Health statewide system, anchored by the IU Simon Cancer Center, includes several strong regional cancer programs that act as hubs to guarantee high-quality cancer care and access to cutting edge research. With continued commitment from facilities and their physician groups, the IU Health system is well-poised as a unified program benefiting the residents of Indiana.

Participation and standardization are key to an effective cancer network, based on the premise that cancer care should remain as local as possible to support patient convenience and compliance.

Leaders within the IU Health system are collaborating to strengthen and streamline processes in such areas as quality measures, system access, which positions the cancer system as a premier Indiana entity. Not only will clinical service attain consistency and effectiveness, but also outcomes from across the state.

The Indiana University Melvin and Bren Simon Cancer Center continues to distinguish itself by excellence in research that seeks to eradicate cancer as a healthcare burden. Our scientific focus on laboratory, clinical and population-based research is bridged by substantial transdisciplinary research. Our teams initiate and conduct investigator-initiated, early phase, innovative clinical trials within National Cancer Institute (NCI) cooperative groups and community-based organizations, such as Hoosier Oncology Group (HOG).

The IU Simon Cancer Center is honored to work with its affiliated programs to increase collaborations and efficiencies of the IU Health system, to decrease morbidity and mortality from cancer among patients in Indiana.
Cancer Network Expands Best-practice Care to Patients Near and Far

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IU Health Regional Facility Distribution

This pie chart illustrates the percentage of cancer patients seen at each of the participating regional facilities. Some of the 11,062 patients may have received care in more than one facility.

IU Health Regional Facilities 2009 Caseload in United States by State

State: 92.5 %
Out of State: 7.3 %
Foreign Country: 0.2 %

*Shared patient cases among the IU Health facilities are counted only once
Program Offers Back to Normal Exercise

“Pain. Back pain brought Cathy Shawkitt, then 66, to IU Health Ball Memorial Hospital’s Emergency Room. The newly retired school secretary of more than 37 years had no inkling of what was lying ahead of her. Bouts of horrific back pain impaired Cathy’s ability to walk and she decided a trip to the emergency room was in order. Shortly after arriving, she underwent a seven-hour back operation in which one of her vertebrae was replaced.

“I thought I had just pulled a muscle from water aerobics or walking, but the doctor informed me I had multiple myeloma, which is a blood cancer,” says Cathy, now 72.

She remained at IU Health Ball Memorial Hospital for four weeks after her surgery and became quite accustomed to what she describes as “getting spoiled rotten” by the nurses.

“Everyone was so good to me in the hospital. I had such a good time. The cancer center staff is a kind group of people. There are a lot of smiles floating around.”

In and out of chemotherapy after three treatments, Cathy inquired about a therapy program from her doctor. He informed her about the Cancer Exercise Program conducted by Matthew Douglass, exercise physiologist, offered at The Cancer Center at IU Health Ball Memorial Hospital and handed her literature on the program.

The program is intended for people who have been diagnosed with cancer, as well as survivors experiencing fatigue-related issues years past diagnosis. The program empowers cancer patients to improve their quality of life at any given stage of treatment through the use of exercise, education and peer support.

Cathy, then wheelchair-bound, attended the program with her husband. They both quickly started to look forward to attending.

“We got to know so many people and now, it is fun to come because we know everybody,” expresses Cathy. “I would absolutely recommend the Cancer Exercise Program to anyone affected by cancer because everyone in the therapy program has cancer—not everyone has the same kind, but regardless everyone has cancer. We are there to talk and support one another. The program and the therapist have benefited me immensely.”

“I would absolutely recommend the Cancer Exercise Program to anyone affected by cancer because everyone in the therapy program has cancer—not everyone has the same kind, but regardless everyone has cancer. We are there to talk and support one another. The program and the therapist have benefited me immensely.”

IU Health Ball Memorial Hospital/IU Health Blackford Hospital

Primary Site Frequency: IU Health Ball Memorial Hospital*
2009 Analytic Caseload

Primary Site

Breast
Bronchus/Lung
Prostate
Colon/Rectum
Blood/Bone Marrow
Urinary Bladder
Lymph Nodes
Uterus/Endometrium
Ovary/Cervix/Pharynx
Skin/Cutaneous Melanoma
All Other Sites

PERCENT OF CASELOAD

PERCENT OF CASELOAD

0 5 10 15 20 25

PERCENT OF CASELOAD

PERCENT OF CASELOAD

Number of Patient Cases

Male 46%
Female 54%
Total

Age at Diagnosis: IU Health Ball Memorial Hospital*
2009 Analytic Cancer Registry Caseload

AGE AT DIAGNOSIS

NUMBER OF PATIENT CASES

0 50 100 150 200

AGE AT DIAGNOSIS

NUMBER OF PATIENT CASES


*IU Health Ball Memorial Hospital with IU Health Blackford Hospital
**Research Guides Patient through Treatment Decisions**

Bruce LeMar is a model healthcare consumer. He’s well informed about his condition, curious, and takes ownership in the treatment of his condition. Diagnosed with early stage prostate cancer during a routine screening, he was ready to tackle the situation head on.

“I’ve had annual exams since my early 50’s, which I recommend to everybody. I had a false alarm one and a half years ago...in my mind, the red flag was raised at that point;“ he says. Bruce was looking for the best long-term solution available for his diagnosis—“I wanted some confidence that I wasn’t going to be doing this again.”

After consulting with several urologists, Bruce set off to research his treatment options, where he learned of the next generation of radiation therapy called RapidArc™. RapidArc™, available in his Bloomington community, had fewer side effects than traditional radiation therapy, faster treatment times, better protection of healthy tissue and increased treatment accuracy. “It’s all about the targeting,” says Bruce.

After deciding on RapidArc™ as his best option, he set about bonding with his healthcare team. “Dr. [David] Lee offered exceptional consultation. He was easily the best prepared about my condition. His level of preparation and the [IU Health Bloomington Hospital Radiation Oncology Center]’s upfront education was a real plus,” says Bruce. [IU Health Bloomington Hospital] was the first in the state to offer RapidArc™ treatment, is accredited by the American College of Radiology, and was recently recognized as one of the nation’s “Five IGRT/IMRT (image-guided & intensity modulated radiation therapy) Centers to Watch.”

Bruce underwent 43 separate treatments in eight and a half weeks.

“I really embraced this treatment, and the RapidArc™ treatments were only two minutes each. You can’t beat that.” The healthcare team built around Bruce and his condition was monumental to his success. Everybody was important, he notes, including the radiation oncologist, the urologist, nurses, and even the dietitian, whose role in helping alleviate potential side effects was invaluable.

Bruce is now an active advocate for cancer treatment education. “Take ownership of your condition. Know and understand exactly what you have. Too many people are reluctant to become involved in their treatment and health, which is unfortunate.”

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**Primary Site Frequency: IU Health Bloomington Hospital**

2009 Analytic Caseload

**Age at Diagnosis: IU Health Bloomington Hospital**

2009 Analytic Cancer Registry Caseload
IU Health Arnett Hospital Doctors Ensure Baby’s Health

Jennifer Colby-Howard’s life changed forever the day she awoke with severe back pain. It was the beginning of a series of health problems that would challenge physicians and keep Jennifer fighting for her life.

“One morning, I woke up with horrible back pain and decided to visit my local urgent care facility for a muscle relaxer,” explains Jennifer. “Unexpectedly, I was told to go straight to a local hospital, where I was diagnosed with stage IV Hodgkin’s lymphoma. By that same afternoon, I was prepped for emergency surgery.”

Over several months, Jennifer received chemotherapy, radiation and two stem cell transplants from IU Health facilities. Her battle with cancer did not end there. Four years ago, Jennifer’s doctor discovered an abscess on her lung during a routine appointment. Due to Jennifer’s intricate medical history, she was transferred to the IU Simon Cancer Center to receive treatment from Dr. Kenneth Kesler, thoracic oncology surgeon. As a lifesaving measure, Jennifer and her doctors decided to remove the affected lung, two-thirds of her left ribcage and a portion of her scapula. Unfortunately, this defensive operation left Jennifer with scoliosis and limited movement of her left arm.

“I live with pain everyday. But it is something I just don’t let myself fixate upon because, ultimately, I know I’m blessed to be alive,” exclaims Jennifer.

Blessed indeed. After recovering from her multiple procedures, Jennifer received more unexpected news. This time, it was positive. She discovered that she was five months pregnant with a “miracle baby.”

“Immediately, all seven of my [IU Health] doctors came together as a team to ensure both my and the baby’s health,” says Jennifer. “Their communication has been wonderful throughout my many visits.”

Today, Jennifer has been in remission for more than seven years and enjoys watching her two daughters grow up. Thinking back to her time at IU Health, Jennifer states, “I love this healthcare system. The doctors and nurses are like my second family and they will always be a part of my life. I just love them!”
**Having “three heartbeats” doesn’t make Angela Dearman a cardiovascular patient.**

It makes her a cancer patient with three inspirational children, six years of age and under.

In January 2009, Angela was 37 years old and pregnant with her third child when she discovered a lump in her breast. Her OB/GYN referred her to IU Health North Hospital where, after an ultrasound and biopsy, she was diagnosed with invasive ductal cancer. Because of the cancer’s aggressive nature, she agreed to begin chemotherapy with Dr. Anna Maria Storniolo at the IU Simon Cancer Center. She underwent three pre-delivery treatments before giving birth to her son Noah on March 24, 2009.

“It’s funny. As we approached the elevator in the cancer center, there was a woman playing a harp. The music sounded so beautiful, I told my husband, John, that I wanted to stand and listen,” she recalled.

“Then I realized she was playing ‘Yes, Jesus Loves Me.’ I got a little tearful but felt that was His reassurance that He was right there with me.”

Angela continued her cancer fight during 2009 with more chemotherapy and returned to IU Health North Hospital for surgery with Dr. P.R. Kennedy, followed by radiation therapy. The journey included a bout with a blood clot in her arm and tumors showing up in her brain, lung and pelvic bone. Radiation, surgery and chemotherapy have continued for Angela over 2009 and 2010, as well as follow-up tests, but she reports that she “officially started feeling stronger” with the help of a recent blood transfusion.

Along the way, Angela has reached out to other cancer patients, sharing her encouragement and experiences.

Her “three heartbeats”—Jayla, Nicholas and Noah—continue to motivate and inspire her, from breakfast in bed on Mother’s Day to impromptu songs of faith. “They keep me hopping. Really, they are good medicine,” she exclaims. “Through the storm, it’s been a blessing every time. The Lord has carried me and my family through each leg of this journey. He is still faithful so I will not waver!”
Brother and Sister Feel the Arms of Kindness

“Sixty-five-year-old Dick Ellis is no stranger to health challenges. With his family’s help, he has long managed multiple medications for a variety of issues. In early 2010, Dick was scheduled for an endoscopy to try to diagnose his increasingly serious cough. He shared that he hadn’t had a colonoscopy for several years, and his physician recommended that they go ahead and do both, since he would already be under anesthesia. It was a fortuitous recommendation.

As a result of the colonoscopy, Dick was diagnosed with stage II rectal cancer. He was scheduled for an initial round of chemotherapy, to be followed immediately by radiation therapy at IU Health West Hospital.

“When you enter that cancer center door, it’s overwhelming,” explains Dick’s sister and caregiver, Linda Ingle. “You’re grieving, but it was like they literally took us in their arms with their concern and kindness.”

Linda says faith has helped both of them through the treatment process, and so too has the care team’s commitment to IU Health West Hospital’s philosophy of relationship-centered care.

“Oh my gosh, yes,” Linda says. “I’ve told people they (IU Health West Hospital) must screen people so carefully, because there was not one person—not one—who didn’t feel like family.”

Dick’s radiation treatment was successful, and he was scheduled for surgery to remove what was left of his cancer. Linda says when she went to pick him up to come to the hospital, he confessed he’d eaten a cookie, instead of fasting as instructed. She immediately called cancer center care guide, Mary Pat Sapp, who forwarded her question to Dick’s surgeon, Dr. Bridget Sanders.

To Linda’s surprise, it was Dr. Sanders who called her right back. Linda explained that Dick had eaten a cookie, and she was concerned the surgery would have to be canceled. Dr. Sanders assured her all would be well, on one condition: that they bring her a cookie, too. And so they did.

Dick’s surgery was successful, and he is completing a final round of chemotherapy to ensure he is cancer-free. Linda reports he is tolerating chemo extraordinarily well, and they are both looking forward to his future as a “cancer survivor.”
Physical Training Reveals Symptoms

Fred Coleman first noticed something unusual as he was undergoing a physical training exercise at Camp Atterbury while serving in the National Guard. Fred, then 54 years old, sailed through sit-ups and push-ups, only to feel tingling and heaviness in his legs as he proceeded into a two-mile run. Fred recalls, "I thought it felt like a circulation issue," as the run turned into a laborious walk.

A few months later while in active duty at the camp, he fainted—blood work indicated signs of anemia. "My brother-in-law was showing signs of anemia at the same time, but we hadn’t made any connection," he says.

In January 2004, Fred was being prepared for a routine colonoscopy when blood work indicated something more serious. Fred was diagnosed with multiple myeloma, a blood cancer of the plasma cells. The disease was in remission for five years but recurred in December 2009. Fred soon received a second successful stem cell transplant.

"Multiple myeloma is not widely known to people until they face the diagnosis," Fred’s wife, Nicki, notes. "We now encourage everyone to respond to events and activities that support this cancer. Knowledge is important."

More than six years after the original diagnosis, Fred is doing well. Fred spends much of his time working in his self-described “hobby garden” and traveling with Nicki.

As a reflection of his willingness to own the disease and learn more about it, he advises any cancer patient: “Stick to your regimen, adhere to what the doctor tells you about your medicines and your schedule to take them. Follow their orders.”

We now encourage everyone to respond to events and activities that support this cancer. Knowledge is important.

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**Primary Site Frequency:**

<table>
<thead>
<tr>
<th>PRIMARY SITE</th>
<th>2009 Analytic Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung</td>
<td>1200</td>
</tr>
<tr>
<td>Prostate</td>
<td>1000</td>
</tr>
<tr>
<td>Breast</td>
<td>800</td>
</tr>
<tr>
<td>Pancreas</td>
<td>600</td>
</tr>
<tr>
<td>Brain/CNS</td>
<td>500</td>
</tr>
<tr>
<td>Blood/Bone Marrow</td>
<td>400</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>300</td>
</tr>
<tr>
<td>Kidney</td>
<td>200</td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>200</td>
</tr>
<tr>
<td>Liver/Bile Ducts</td>
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<td>All Other Sites</td>
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**Age at Diagnosis:**

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<td>90-99</td>
<td></td>
</tr>
<tr>
<td>100+</td>
<td></td>
</tr>
</tbody>
</table>

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*Including Malignant, Benign and Uncertain Behavior Neoplasms*
Ohio Girl Comes to Indiana as 1,000th Patient

“Hi hope Natalie can help put a face on proton therapy and help others learn about this treatment option.”

In most ways, 12-year-old Natalie Crum’s summer was like that of her girlfriends: swimming, playing volleyball and visiting friends. But this sixth-grader has a truly unique “how-I-spent-my-summer-vacation” story, since she also underwent treatment for a brain tumor at IU Health Proton Therapy Center and became its 1,000th patient. IU Health Proton Therapy Center, located in Bloomington, is an affiliate program of the IU Simon Cancer Center and IU Health.

An Ohio resident, Natalie’s slow-growing brain tumor was originally diagnosed when she was just two years old. At that time, neurosurgeons were able to remove 70 percent of a tennis ball-sized tumor at the base of her skull. When the remnants of the tumor began growing earlier this year, doctors at Nationwide Children’s Hospital in Columbus, Ohio, referred her to IU Health Proton Therapy Center, which treats patients from around the world.

“Our goal in treating Natalie was to make sure her tumor no longer grows and to minimize the risks of radiation therapy,” says Dr. Andrew Chang, director of pediatric radiation oncology. IU Health Proton Therapy Center is a state-of-the-art center offering proton therapy, which precisely targets tumors to ensure fewer side effects, less damage to healthy tissue and a higher cure rate for localized cancers.

Natalie received five proton therapy treatments weekly over a six-week period. After each session—which lasted less than an hour—she and her family explored the Bloomington area and swam at their rental condo. Natalie even participated in a volleyball camp at Indiana University.

“Sparing healthy tissue such as bone and brain from radiation is critical, especially when treating children,” says Dr. Chang. “With proton therapy, we can reduce the long-term risks of developing a secondary cancer later, as well as the risk of developmental and growth delays that are more likely with conventional X-ray radiation.” By the end of her treatment, Natalie felt great and experienced no side effects other than a slight loss of hair near the treatment site.

The entire experience has made the Crums strong advocates for proton therapy. Natalie’s mother, Regina, says, “Before our doctors told us about proton therapy, we didn’t know it existed. I hope Natalie can help put a face on proton therapy and help others learn about this treatment option.”

Primary Site Frequency: IU Health Proton Therapy Center
2009 Analytic Caseload

Age at Diagnosis: IU Health Proton Therapy Center
2009 Analytic Cancer Registry Caseload
Endurance Leads to Fun Future of Helping Others

“Plan to kick cancer’s butt once again, but this time for good!”

One word repeatedly is used to describe Tatum Parker. The nine-year-old’s doctors, nurses, family, friends and community leaders wholeheartedly agree that Tatum is “inspirational.”

In 2006, Tatum was a month shy of her sixth birthday when she was diagnosed with Ewing’s sarcoma, a rare bone cancer. She endured 13 rounds of chemotherapy at Riley Hospital for Children at IU Health and three major surgeries, including one that replaced four inches of her right femur with a metal rod. Cancer returned in November 2008 in her right lung, and Tatum began 11 more rounds of chemo. “I plan to kick cancer’s butt again, but this time for good!” she said then. On October 5, 2009, Tatum “rang the bell” at Riley Hospital to celebrate excellent test results and the end of her treatment. She will continue to have regular scans.

When Tatum relapsed a few months later, her overwhelmed parents wondered if they could keep the program going. “Tatum said, ‘We have to do it,’” her mom, Kendra, recalls her daughter’s insistence.

Now the Parkers—often with younger brothers, Tynan, 6, and Truitt, 3, in tow—donate their time and energy to buy materials for the bags. They used their own money until local fundraisers as well as corporations and individuals started helping.

The Parker’s receive a list with the age and gender of each patient, and Tatum loves choosing items for the bags. “Because we’re at the hospital so much, she gets to meet these kids and see them with their bags,” Kendra says. In its first year, Tatum’s Bags of Fun provided 250 backpacks to pediatric cancer patients.

*Primary site/histology groups based on International Classification of Childhood Cancer, Third edition (ICCC-3), ICD-O-3; Per NCI SEER Documentation and Recodes Site http://seer.cancer.gov/iccc/iccc3_ext.html

**Primary Site Frequency:**

<table>
<thead>
<tr>
<th>ICCC Site/Histology Group</th>
<th>2009 Analytic Caseload*</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNS and Miscellaneous Intracranial and Intraspinal Neoplasms</td>
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</tr>
<tr>
<td>Leukemias, Myeloproliferative Diseases and Myelo Dysplastic Diseases</td>
<td>13%</td>
</tr>
<tr>
<td>Lymphomas and Reticuloendothelial Neoplasms</td>
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<tr>
<td>Soft Tissue and Other Extraosseous Sarcomas</td>
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</tr>
<tr>
<td>Neuroblastoma and Other Peripher al Nervous Cell Tumors</td>
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</tr>
<tr>
<td>Malignant Bone Tumors</td>
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</tr>
<tr>
<td>Renal Tumors</td>
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</tr>
<tr>
<td>Other Malignant Epithelial Neoplasms and Malignant Melanomas</td>
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<tr>
<td>Germ Cell Tumors, Trophoblastic Tumors and Neoplasms of Ovary</td>
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<tr>
<td>Hepatic Tumors</td>
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<tr>
<td>Fibrosarcomas, Peripheral Nerve Sheath Tumors and other Fibrous Neoplasms</td>
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</tr>
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<td>Other and Unspecified Malignant Neoplasms</td>
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<tr>
<td>Retinoblastoma</td>
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</tr>
<tr>
<td>Other and Unspecified Carcinomas</td>
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</tr>
</tbody>
</table>

**Age at Diagnosis:**

![Age at Diagnosis: Riley Hospital for Children at IU Health 2009 Analytic Cancer Registry Caseload](image)

**Number of Patient Cases**

- Male: 54%
- Female: 46%
- Total: 100%

*Primary site/histology groups based on International Classification of Childhood Cancer, Third edition (ICCC-3), ICD-O-3; Per NCI SEER Documentation and Recodes Site http://seer.cancer.gov/iccc/iccc3_ext.html
Cervical Cancer Spotlight

IU’s Gynecologic Oncology Offers Hope in Cervical Cancer Treatment

This report was submitted by Dr. Guiseppe Del Priore, Director of Oncology Gynecology at IU School of Medicine.

Cervical cancer causes more loss of productive years of life and greater social disruption than any other cancer. This devastation was the driving force behind the creation of the American Cancer Society more than 100 years ago. There has been great progress in the prevention, detection and treatment of cervical cancer. However, for most of the world, cervical cancer continues to target young women who are an essential part of their societies. Cervical cancer is a tragedy for them, their families and their community.

Indiana University Division of Gynecologic Oncology is a major source of hope for women with cervical cancer. The division includes faculty from the IU School of Medicine’s departments of Epidemiology/Public Health, Radiation Oncology, Medical Oncology, Nursing, and Obstetrics and Gynecology. Many IU departments, including the basic sciences, epidemiologic and clinical areas, have contributed to major advances in cervical cancer care that have affected the lives of hundreds of thousands of women throughout the world, the U.S. and the entire state of Indiana. All of these resources can and do come together on a weekly basis to coordinate the best care available anywhere for women with any level of cervical cancer.

Improving the quality of life and health outcomes of women with gynecologic cancer are a key aspect of the work within the Division of Gynecologic Oncology at the IU Simon Cancer Center. Dr. Lisa M. Hess, Assistant Professor in the Departments of Obstetrics and Gynecology and of Public Health, conducts research on both the short- and long-term impact of cancer care on women with gynecologic cancer and their families.

Important to improving patient care is the patient-provider communications and decision-making process. Our research in this area seeks to develop tools and systems to help patients in this process. This work extends not only to those who have been diagnosed with gynecologic cancer, but also among women at high risk of these diseases. In 2010, active research projects in this area included studying the effects of cancer treatment on cognitive function, decision-making support for choices in care, and research to improve the patient’s experience within the healthcare system.

Radiation Therapies Second to None

Radiation oncology at IU has the most experienced clinicians dedicated to women’s cancer in general, and cervical cancer specifically. Dr. Higinia Cardenes is a world-renowned cervical cancer expert, a sought-after speaker throughout the world and an active member of the Division of Gynecologic Oncology. She delivers world-class care right here in Indiana while doing the same for women all over the world as part of her volunteer medical missions. Of course, the therapeutic treatment facilities at IU are second to none with everything from the latest computer innovations to one of the country’s most experienced proton beam treatment centers.

Five-Year Relative Survival Analysis: General Stage (NCI SEER Summary Staging/Extent of Disease) at Diagnosis
IU Health University Hospital/IU Simon Cancer Center/IU Health Methodist Hospital
2009 Analytic Caseload

Five-Year Observed Survival Analysis: General Stage (NCI SEER Summary Staging/Extent of Disease) at Diagnosis
IU Health University Hospital/IU Simon Cancer Center/IU Health Methodist Hospital
2009 Analytic Cancer Registry Caseload
Radiation therapy is an integral component of the multidisciplinary management of cervical cancer. The radiation treatment often requires a combination of external beam, three-dimensional conformal radiation therapy or Intensity Modulated Brachytherapy. The latter requires experience and expertise in order to maximize the probability of tumor control and survival while minimizing long-term toxicity. IU is an important referring center for patients with cervical cancer because of our extensive experience in the management of this disease. Patients are often referred to receive their entire treatment at our facility or exclusively the challenging brachytherapy component.

Medical oncology at IU has renowned clinicians and investigators bringing innovative therapies to Indiana residents often before anywhere else in the world. Breakthroughs from IU have contributed to Human Papillomavirus (HPV) vaccine development and continuing improvements on the existing vaccine. Basic mechanisms of disease and clinical applications give Indiana cervical cancer patients the greatest hope for cure. Research in gynecology oncology takes place in the laboratories of Drs. Yan Xu, Daniela Matei and other world-recognized scientists at IU.

**Targeted Intervention in Indiana**

The research that leads to these breakthroughs is critical and has never been needed more. Unfortunately, where women’s health is concerned, Indiana has not been at the top among the states regarding prevalence of preventable diseases, such as heart disease, preterm birth and cervical cancer. For instance, in some parts of the state, only 57 percent of the county’s estimated women at risk have received a Pap smear within the past three years. This falls far short of the Healthy People 2010 goal of 90 percent Pap smear screening. In close cooperation with IU Gynecologic Oncology, the IU National Center of Excellence in Women’s Health (IU ColE) believes that a targeted intervention to the women of Indiana will increase the number of women utilizing preventive healthcare services such as Pap smears. If successful, the model used for cervical cancer prevention can be replicated elsewhere in the state, either in individual counties or by region, and possibly on a national scale as well.

The Division of Gynecologic Oncology has a long tradition of excellence in delivering the absolute latest available therapies to all stages of cervical cancer. This is due to the unique strength of the entire IU community of clinicians and investigators. Together with outstanding leaders in all related fields, the Division of Gynecologic Oncology can propose, investigate and implement the best available practices in the treatment of cervical cancer. IU sets the standard in cervical cancer care and then goes beyond to advance care even further.

For example, the IU Section of Gynecologic Oncology has long been a member and leader in the Gynecologic Oncology Group (GOG). The GOG is a National Cancer Institute (NCI) - and industry-funded cooperative group which is multimedia and multidisciplinary. It conducts clinical trials in all gynecologic cancers, especially cervical cancer. The GOG is a nonprofit organization with the purpose of promoting excellence in the quality and integrity of clinical and basic scientific research in the field of gynecologic malignancies. It is committed to maintaining the highest standards in clinical trials development, execution, analysis and distribution of results. IU is a recognized historic Gynecological Oncology Group Institution, which enables patients to participate in exclusive and innovative clinical trials.

**Research Reports on Standard of Care**

In addition to a GOG Committee on Cancer of the Cervix, there are committees on cancer of the ovary, cancer of the corpus, and special committees on cancer prevention and control, experimental medicine, developmental therapeutics and quality of life. Members of the IU GYN Oncology Section, under Dr. Jeanne Schilder, principle investigator for the GOG at IU, have all entered patients, authored manuscripts, served on committees and been study chairs of protocols for the GOG. GOG trials help set the standard of care for women of Indiana and the world. The IU Division of Gynecologic Oncology has been productive publishing many original research reports through these GOG committees which have set the standard of care for cervical and other gynecologic cancers, including the groundbreaking trials on concurrent chemo radiation that led to an NCI Clinical Alert in 1999 changing the treatment of cervical cancer forever.

The GOG is a model collaborative group for other National Institutes of Health (NIH) -funded groups to admire and measure success by. IU gynecologic oncologist Dr. Fred Stehman has been the driving force behind the GOG success and is considered an international expert and resource in women’s cancers. He has dedicated his life to advances in women’s cancer care and is undoubtedly responsible for saving thousands of lives directly and indirectly. He and most of the other members of the Division of Gynecologic Oncology have actively participated in international educational programs in the undeveloped world. Indiana is extremely fortunate to have them all located at the IU Simon Cancer Center and call Indianapolis home.

**IU Health University Hospital/IU Simon Cancer Center/IU Health Methodist Hospital 2000-2008 (excludes Class 0 Dx here only and Stage 0/CIS)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>FIGO</th>
<th># Cases</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Localized Only</td>
<td>IA1, IA2, IB, I NOS</td>
<td>191</td>
<td>44.9%</td>
</tr>
<tr>
<td>2</td>
<td>Regional by Direct Extension Only</td>
<td>IA, IB, IIa, IIa, IIb, III NOS</td>
<td>123</td>
<td>28.9%</td>
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<tr>
<td>3</td>
<td>Regional Lymph Node(s) Involved Only</td>
<td>IIIC1</td>
<td>29</td>
<td>6.8%</td>
</tr>
<tr>
<td>4</td>
<td>Regional by Both Direct Extension and Regional Lymph Node(s) Involved</td>
<td>III NOS, IIIC1</td>
<td>31</td>
<td>7.3%</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal Regional</strong></td>
<td><strong>183</strong></td>
<td></td>
<td><strong>43.0%</strong></td>
</tr>
<tr>
<td>7</td>
<td>Distant Sites(s)/Distant Node(s) Involved</td>
<td>IIIC2, IV, IVA, IVB</td>
<td>38</td>
<td>8.9%</td>
</tr>
<tr>
<td>9</td>
<td>Unknown</td>
<td></td>
<td>13</td>
<td>3.1%</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td><strong>425</strong></td>
<td><strong>100.00%</strong></td>
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</table>
Cervical cancer affects a disproportionate number of younger women who desire to retain fertility. This has led to new surgical techniques, new diagnostic methods and less toxic medical therapies to treat cervical cancer. This “kinder and gentler” oncology care includes the abdominal radical trachelectomy surgical procedure. IU gynecologic oncologists have performed this operation for longer than any other physicians in North America. Building on this unparalleled experience, IU gynecologic oncologists recently performed the first known case of robotic minimally invasive radical trachelectomy with simultaneous tubal anastomosis. Every cancer is a potential minimally invasive surgery case but cervical cancer patients may benefit the most from this IU option. IU gynecologic oncology surgeons have performed minimally invasive radical hysterectomies, trachelectomies and ovarian transpositions to preserve fertility among the many other minimally invasive surgeries available through IU Gynecologic Oncology.

Leadership Focus on Preserving Fertility

Dr. Giuseppe Del Priore recently has been named the Mary Hendrich Hulman Professor and Director of Gynecologic Oncology at IU. He is a nationally and internationally recognized expert in all gynecologic cancers with a special interest in cervical cancer and fertility. As previously discussed, cervical cancer has the largest impact of any cancer on a community. This is partly because it is the most commonly diagnosed cancer during pregnancy. In addition, because of changing demographics, more and more women are delaying starting a family. At the same time, as our population ages, more young women will be diagnosed and survive cancer before having a child. Responding to this new phenomenon, Dr. Del Priore has investigated and initiated new treatments for preserving fertility while curing cancer.

Cervical cancer surgery possible using minimally invasive techniques. This includes advanced ovarian cancer debulking and, of course, cervical cancer surgery. However, when the patient requires aggressive traditional surgery, every option is also available at IU, including combined procedures with transplant surgery. Cervical cancer is a devastating problem here and around the world. It affects women at the worst possible time in their own lives and those of their families. Gynecologic Oncology at the IU Simon Cancer Center has improved the lives of thousands of women around the world, none more important than the members of our own community right here in Indiana.

To increase the number of young patients who would be eligible to take advantage of trachelectomy and other fertility preserving treatments, the division has developed a protocol to use neo-adjuvant chemotherapy in a novel way. IU Gynecologic Oncology is the first to report using an in vitro chemotherapeutic strategy to personalize the choice of drugs used to treat young women with cervical cancer. This shrinks the tumor to allow surgery, either vaginally, minimally invasive (i.e., robotic) or abdominally to preserve fertility and minimize complications, all while maximizing cure.

Surgical Advances and Options

Maximum cure does not have to mean debilitating major surgery. IU Gynecologic Oncology has performed every major cancer surgery possible using minimally invasive techniques. This includes advanced ovarian cancer debulking and, of course, cervical cancer surgery. However, when the patient requires aggressive traditional surgery, every option is also available at IU, including combined procedures with transplant surgery. Cervical cancer is a devastating problem here and around the world. It affects women at the worst possible time in their own lives and those of their families. Gynecologic Oncology at the IU Simon Cancer Center has improved the lives of thousands of women around the world, none more important than the members of our own community right here in Indiana.

Glossary

Class of Case: All patient cases accessioned into the cancer registry system are assigned to a specific class of case category based on the nature of involvement of the facility in the care of the patient:

- **Analytic Case:** Patient diagnosed at the accessioning facility (including network clinic or outpatient facility) and/or administered any part of or all of the first course therapy at the facility (inpatient or outpatient). Analytic cases are included in analysis of treatment and survival outcomes. Includes patients diagnosed but not treated. (COC FORDS 2009)
- **Non-Analytic Case:** Patient diagnosed elsewhere and received all first-course therapy elsewhere. Admission (inpatient or outpatient) at the accessioning facility (including network clinic or outpatient facility) is for consult only, or treatment of persistent or recurrent disease at the facility. Includes cases diagnosed at autopsy. (COC FORDS 2009)

First Course Treatment: First course of treatment includes all methods of treatment recorded in the treatment plan and administered to the patient before disease progression or recurrence. This includes “no therapy” as a treatment option if the patient, the family or guardian refuses treatment, or if the patient dies before treatment starts, or if the physician recommends no treatment. (FORDS 2009)

Survival, Observed: An estimate of the probability of surviving all causes of death for a specified time interval calculated from the cohort of cancer cases. Observed survival does not consider cause of death, it simply looks at who is alive and who is not. Sometimes referred to as overall survival.

Survival, Relative: A measure of net survival that is calculated by comparing observed (overall) survival with expected survival from a comparable set of people who do not have cancer to measure the excess mortality that is associated with a cancer diagnosis.
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