



**Altoona Regional  
Health System**

**Center for Cancer Care**

A nonprofit community health care system



**2011  
ANNUAL REPORT  
OF 2010 DATA**

*Exceptional People. Exceptional Cancer Care.*

# A Message from the Cancer Committee Chairman

Dr. Mark Keating



Welcome to the 2011 annual report for Altoona Regional Health System, reporting 2010 oncologic statistics. The years 2010 and 2011 brought encouraging changes, mainly for prostate cancer and melanoma, both of which previously had a paucity of options for metastatic disease.

Castrate-resistant prostate cancer patients with asymptomatic metastatic disease are potential candidates for Provenge, an autologous cellular immunotherapy. This is a first-of-its-kind therapy where antigen-presenting cells are leukopheresed, cultured (with prostatic acid phosphatase-GM-CSF) and infused back into the donor patient to activate T-cells in the body to stimulate an immune response against prostate cancer cells.

After progression on Provenge, an option is Abiraterone

(Zytiga), an androgen biosynthesis inhibitor that blocks androgen biosynthesis in adrenal tissue and in prostatic cancer itself, potentially allowing GnRH agonists or orchiectomy to shrink prostatic cancer.

Abiraterone is effective, therefore, since GnRH agonists/orchiectomy reduces androgen production in the testes but does not affect androgen production by the adrenals in the tumor itself.

When Abiraterone loses effectiveness, Jevtana becomes an option.

Jevtana is a new microtubule inhibitor that has shown effectiveness despite progression with Taxotere. Jevtana, unfortunately, does have typical side effects seen commonly with other types of chemotherapy, unlike Provenge or Zytiga.

Two new unique treatments for metastatic melanoma include Zelboraf (vemurafenib) and Yervoy (ipilimumab).

Zelboraf is a novel oral drug against molecular mutations in the B-RAF enzyme, present in about half of

melanomas. It represents the first truly targeted therapy in the treatment of melanoma and has an impressive response rate of about 50 percent — the highest response rate obtained in this disease.

Ipilimumab is a monoclonal antibody directed against CTLA-4 that blocks interaction between its usual binding ligand and CTLA-4, resulting in augmentation of T-cell activation and proliferation. The mechanism of action of ipilimumab's effect with melanoma is indirect, possibly through T-cell mediated antitumor immune responses.

I know I share everyone's hope for continued advances in cancer treatments as time passes. Included below are the changes in the Altoona Regional cancer program this year.

The Cancer Committee reviewed the following studies in 2010:

- Site specific study — Malignant brain tumors diagnosed and/or treated (analytic patients) at Altoona Regional between 2006 and 2009 for the comparison study and

analytic patients from 1990 to 2005 for the survival study. Comparison numbers were from the National Cancer Data Base (NCDB) 2000 to 2007 for the comparison study and 1998 to 2002 for the survival study. Overall, Altoona Regional compared well with the National Cancer Data Base patients.

- Compliance with National Comprehensive Cancer Network (NCCN) guidelines for 22 analytic cervical cancer patients' post-treatment surveillance for 2006 through 2008. It was noted that compliance with the NCCN guidelines was met with no deficiency.
- Evaluation of the changes in numbers of analytic colorectal cancer patients from 2005 to 2009 by stage. A significant reduction in numbers of colorectal patients was noted, especially in the earlier stages, and it was felt that this may be due to increase in screenings.
- The comprehensive colonoscopy report documentation-clinical performance measure was repeated with 30 patients from December

2010 to determine if there was improvement in documentation. Improvement was noted in the documentation for colonoscopies. The study will not be repeated. Results were forwarded to the CPI Committee and Gastroenterology department.

- Review of patients from top five primary sites by clinical/working stage with the NCCN treatment guidelines to determine compliance with prognostic indicators, staging work-up and recommended treatment for analytic patients in 2009. Results of the evaluation were forwarded to the departments involved.
- Review of NCDB Cancer Program Practice Profile Reports (CP3R) for breast, colon and rectal cancers 2004 to 2007 diagnoses. Altoona Regional compared well with hospitals in Pennsylvania and hospitals in the Community Hospital Comprehensive Cancer Program of the Commission on Cancer.

Goals set by the Cancer Committee in 2010:

- Purchase PET/CT scanner — clinical goal
- Provide stereotactic body radiation therapy — clinical goal
- Provide four “Look Good, Feel Better” programs in 2010 — community outreach
- Establish an affiliation with another institution for clinical research — programmatic endeavors
- Hold formal lecture series about changes in AJCC 7th Edition for top five primary sites — quality improvement
- Final synoptic reporting for pathology reports — quality improvement
- Test for microsatellite instability for patients 50 years old and younger diagnosed with colorectal cancer — quality improvement
- Initiate electronic AJCC 7th Edition staging forms package in Alpha System Image Works — quality improvement

Improvements accomplished by the cancer program in 2010:

- Purchased PET/CT scanner
- Improved documentation on colonoscopy reports after repeating colonoscopy study (quality goal set in 2009)
- Held formal lecture series about changes in AJCC 7th Edition for top five primary sites on March 25, April 22, June 3, Aug. 5 and Sept. 16, 2010

The cancer program will continue to strive to maintain the standards set forth by the Commission on Cancer. The members of the Cancer Committee, as well as hospital staff who care for patients with cancer, will continue to display their dedication in providing high quality, state-of-the-art cancer care in the fields of surgery, medical oncology and radiation oncology.

**Mark M. Keating, M.D.**  
*Chairman  
 Cancer Committee*



*A multidisciplinary program of the  
 American College of Surgeons*



## Cancer Program Contacts

These telephone numbers may be of use to patients, physicians and office personnel:

<b>Main system number</b>	<b>889.2011</b>
<b>Administrative director</b>	<b>889.2252</b>
<b>Cancer Registry</b>	<b>889.2771</b>
<b>Glover Memorial Library</b>	<b>889.2318</b>
<b>Nutrition Services (Oncology)</b>	<b>889.6632</b>
<b>Pastoral Care</b>	<b>889.2132</b>
<b>Physical Medicine/Rehabilitation</b>	<b>889.2100</b>
<b>Radiation Oncology</b>	<b>889.2400</b>
<b>Social Services (Oncology)</b>	<b>889.2175</b>
<b>Wound Care/Ostomy Program</b>	<b>889.6995</b>
<b>American Cancer Society</b>	<b>888.227.5445 Option 1</b>
<b>Blair Medical Oncology</b>	<b>889.2708</b>
<b>Medical Outpatient Services</b>	<b>889.2709</b>

*Area code is 814 unless otherwise noted.*

*On the cover:  
 The teal ribbon represents ovarian cancer,  
 which can strike women at any age, although  
 it is more prevalent in women over 40. Our  
 ovarian cancer study begins on Page 11.*

# Cancer

# Committee

## CHAIR

Mark M. Keating, M.D.  
Medical Oncology (12)

## VICE CHAIR

Charles M. Haas, M.D.  
Pathology (21)

## LIAISON, AMERICAN COLLEGE OF SURGEONS

Ralph McKibbin, M.D.  
Gastroenterology (11)

## MEMBERS

Shabbir Ahmad, M.D.  
Medical Oncology (absent)

Wen-Men Chuu, M.D.  
Medical Oncology (absent)

Michael J. Drass, M.D.  
Pain Management (absent)

Jonathan F. Grier, M.D.  
Gastroenterology (18)

Marsha Haley, M.D.  
Radiation Oncology (absent)

Craig W. Hartman, M.D.  
Pulmonary Medicine (absent)

Salee L. Hoffman, M.D.  
Medical Oncology (4)

R. Charles Howells, M.D.  
ENT (absent)

Luis M. Jourdain, M.D.  
Pathology (9)

Raj G. Kansal, M.D.  
Urology (absent)

James V. Lieb, D.O.  
Medical Oncology (19)

R. Samuel Magee, M.D.  
Surgical Services (absent)

Carroll Osgood, M.D.  
Neurosurgery (absent)

Christine V. Pascual, D.O.  
Family Medicine (absent)

Robin Prasad, M.D.  
Radiology (absent)

Jack D. Schocker, M.D.  
Radiation Oncology (20)

Ryan Zlupko, M.D.  
OB/GYN (10)

Kim Corle, R.N.  
Quality Management (absent)

Deborah Ebersole, CTR  
Tumor Registrar I (1)

Nick Genovese, RPh  
Pharmacy (absent)

Danette George, PAC  
Home Nursing Hospice (absent)

Diane Harris, RHIT  
Director, HIM (3)

Mary Ann Klisiewicz  
Tumor Registry (absent)

Sandra Koziolec, R.N.  
Director, Quality Management (13)

Theresa Ledney  
American Cancer Society (absent)

Bonnie Mazzei, BSN, R.N.  
Blair Gastroenterology (15)

Maggie M. McCloskey  
Speech Pathology (17)

Cathy Miller, CRNP  
Blair Medical Oncology (absent)

Tempie Musselman, RHIT, CTR  
HIM (absent)

Eileen Rabish, R.N., OCN  
Nurse Manager, Radiation Oncology (absent)

Cindy Rematt, S.W.  
Case Management (6)

Joanne Romine, R.N.  
Ostomy Team (14)

Rev. Barbara Rossi  
Pastoral Care (absent)

Helen Seidel, R.N.  
Education (7)

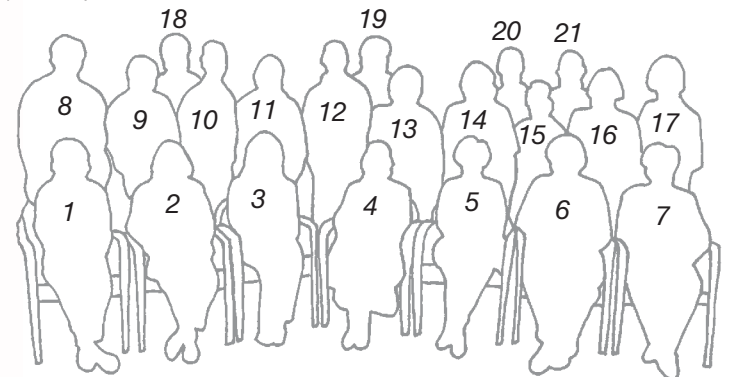
Deborah Semanchik, RTT  
Radiation Oncology (absent)

Lori Shelow, R.N., OCN  
Director, MOPS (2)

Bonnie Sultage, LPN  
Coordinator, CPI QA (16)

Judy Walter, R.D.  
Nutrition Services (5)

Thomas Zeek, R.N.  
Administrator, Cancer Program (8)



# Community Outreach 2010

## Programs/ Education

### JANUARY

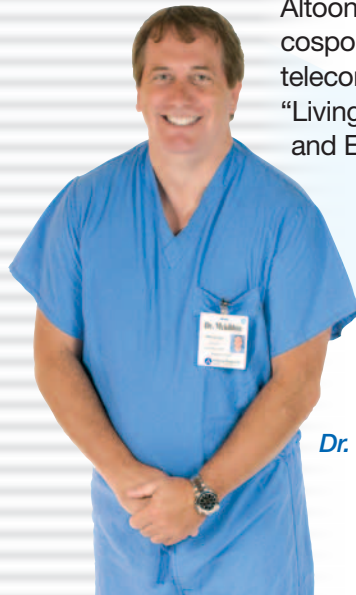
At Health-O-Rama, the area's largest health and wellness fair, Blair Gastroenterology Associates presented "Vitamin D and Colorectal Cancer Risk."

The seven-week smoking cessation class "Freedom From Tobacco: Paths to a Tobacco-Free Future" was held for the public in January and February by Machal Drahnak, certified tobacco specialist.

### MARCH

Dr. Ralph McKibbin of Blair Gastroenterology Associates presented a Healthy Living Club program on colon care.

Altoona Regional cosponsored a hospice teleconference entitled "Living with Grief: Cancer and End-of-Life Care."



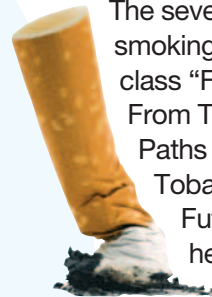
*Dr. Ralph McKibbin*

### MAY

Dr. Donald Beckstead of Altoona Family Physicians presented "Skin Cancer Prevention and Early Detection" to about 75 Healthy Living Club members.

### JULY

The seven-week smoking cessation class "Freedom From Tobacco: Paths to a Tobacco-Free Future" was held for the public in July and August by Machal Drahnak, certified tobacco specialist.



### AUGUST

Dr. Marsha Haley, radiation oncologist in Altoona Regional's Center for Cancer Care, spoke at the Making Strides Against Breast Cancer kickoff breakfast.

### OCTOBER

The seven-week smoking cessation class "Freedom From Tobacco: Paths to a Tobacco-Free Future" was held for the public in October and November by Machal Drahnak, certified tobacco specialist.

Altoona Family Physicians provided skin cancer prevention information at a health fair held by Smith Transport, a large local employer.

Respiratory therapist Greg Madison provided lung function and anti-smoking information at Phoenix Health Fair.

### NOVEMBER

Respiratory Care encouraged employees to participate in the Great American Smokeout, with pledge cards and prizes.

Also during November, Lung Cancer Awareness Month, employees were encouraged to find out their risk of developing lung cancer or other respiratory diseases by taking LungAware, a free online risk assessment sponsored by Altoona Regional.

Altoona Regional's Healthy Living Club sent letters to its more than 15,000 members to announce the opening of the new Imaging Center at Station Medical Center, where digital mammography would be available.



*One of three digital mammography exam rooms at Station Medical Center.*

## Community Service

Respiratory Care targeted students several times during the year with an anti-tobacco message. Respiratory therapist Greg Madison visited classrooms to educate students about prevalent and serious issues surrounding smoking and tobacco use. His message includes a hands-on display and real pig lungs to show the difference between a healthy lung and a smoker's lung. As part of the presentation, Altoona Regional's Drug and Alcohol Prevention Services provides Respiratory

Care with anti-smoking and other educational brochures to distribute to the students.

The BREATHE Coalition (Blair County Reacts With Efforts Against Tobacco Hype and its Effects) partnered with the Altoona Curve to campaign against chewing tobacco. Altoona Regional was a campaign sponsor.

*Greg Madison, RT*



## Support Groups/ Programs

Our breast cancer support group met monthly during the year.

“I Can Cope” also met regularly.

Altoona Regional participated in the Healthy Woman Program, a breast and cervical cancer early detection program funded by the Centers for Disease Control and Prevention. Services provided to Healthy Woman clients are mammograms, clinical breast examinations and education on breast self-examinations. Services are available year-round to adult women who are traditionally hard to reach — women age 50-64 who have low to moderate incomes, and those who have limited or no insurance. Women's Health and Wellness sees about 130 women a year through this program.



## American Cancer Society Daffodil Days

### American Cancer Society (ACS)

Altoona Regional once again sponsored the annual ACS Daffodil Days campaign.

Altoona Regional performed 93 mammograms using vouchers from an Adagio Health – Susan G. Komen for the Cure grant.

Four Look Good Feel Better programs were held.

The Man-to-Man series met monthly.

Altoona Regional respiratory therapist Greg Madison won an award from the American Cancer Society for his work.

## Our Services

### Radiation Oncology

The Radiation Oncology department is part of the hospital's cancer treatment center. Since its opening in 1995, it has cared for more patients than any other facility in the region.

A private parking lot with street-level entrance is available for patients. A courtesy van is available for patients in some surrounding areas.

The department's goal is to provide competent and sophisticated radiation oncology services in a manner that respects the dignity and personal needs of our patients.

The department is staffed with two board certified radiation oncologists, a board certified medical physicist and a second in the certification

process, a certified medical dosimetrist and a second in the certification process, eight certified radiation therapists, four oncology certified nurses, a licensed practical nurse and other support personnel, including secretarial staff. All hospital services remain available when needed, including those from social services, pharmacy, dietary, laboratory and pastoral care.

The department is equipped with the most modern technology available for treatment of cancer patients. Our linear accelerators both have multileaf collimation and are used for various types of therapy. Photon energies of 6 million and 18 million volts are used, as well as a number of electron energies up to 20 million electron volts.

We have an Elekta Synergy S accelerator with on-board CT imaging and capability for stereotactic radiosurgery and a Varian Clinac 2100C. A dedicated CT simulator is routinely used and interfaced with the three-dimensional

treatment planning computer system. The department also houses a device for remote, high dose rate brachytherapy. We use intensity modulated radiation therapy (IMRT) and image guided radiation therapy (IGRT) regularly. The staff has expertise with these modalities, which have shown broad applications in cancer treatment. Prostate brachytherapy ("seed implantation") is also offered.

Altoona Regional's Radiation Oncology department is the only facility in the region with this extraordinary level of equipment and staff. We keep a regular schedule Monday through Friday, with emergency coverage at all times. Our contact telephone numbers are 889.2400 and toll-free 800.870.4660.

**Jack D. Schocker, M.D.**  
*Chair*

### Medical Oncology

Blair Medical Oncology is just one of the divisions comprising Blair Medical Associates. It consists of five hematology/oncology physicians, one nurse practitioner, six registered nurses, six medical assistants, one lab technician, three receptionists and an office manager.

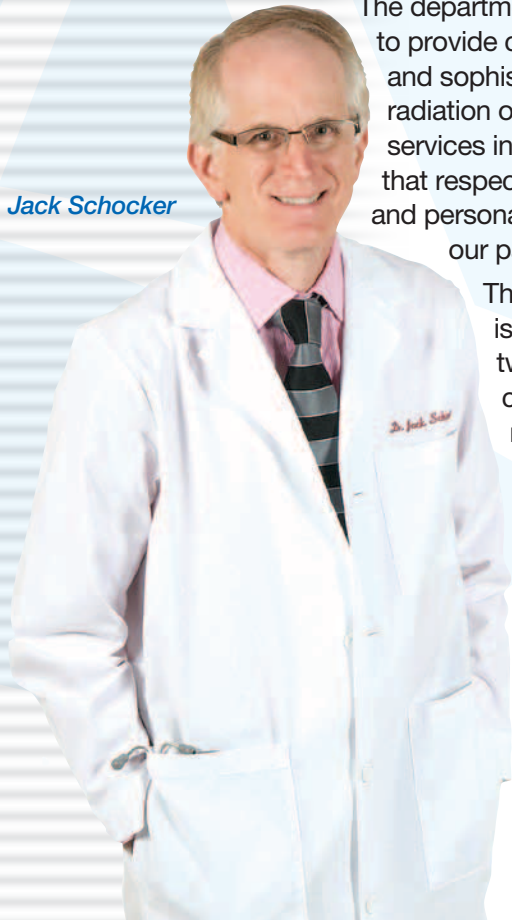
Services provided through our oncology office are numerous and include chemotherapy treatments, bone marrow procedures, phlebotomies, paracentesis, lab draws and injections. All treatments are done on an outpatient basis. Approximately 31,500 patients received various forms of treatment in 2010.

Our goal for 2011 is to continue to provide quality health care to our patients.

### Inpatient Oncology Unit

Tower 14 Medical/Oncology is a 15-bed unit. The criteria for admission or transfer include:

*Dr. Jack Schocker*



- Patients with an oncology diagnosis at any stage, from newly diagnosed to advanced.
- Medical-surgical patients who have a history of cancer.
- Patients requiring inpatient chemotherapy, radioactive iodine therapy or admission during outpatient radiation therapy.
- Patients being treated for the effects of chemotherapy and/or radiation therapy.
- When hospital census is high, medical-surgical patients who would not

compromise immunosuppressed patients.

- Patients needing outpatient services when the Medical Outpatient Services department is closed.

Symptom management is one of our main focuses for the oncology patient related to the disease process and/or adverse effects of treatment, such as pain management, nutritional issues (nausea, vomiting, anorexia, diarrhea, constipation, mucositis and dehydration), myelosuppression, fatigue and other toxicities.

Oncology nursing practices are in accordance with

guidelines and recommendations for practice by the Oncology Nursing Society and Altoona Regional's vision, values and mission.

Twenty-three nurses work on the unit. All have completed an oncology chemotherapy course and are competent to administer chemotherapy agents. Six RNs are certified in oncology. Two LPNs, two nurse's aides and three unit secretaries also staff the unit. Management on the unit consists of an administrative director, nurse manager and clinical manager on each of the three shifts.

Cathy Dillen, a registered nurse who works on the unit, is a chemotherapy/biotherapy and ELNEC (end-of-life education) trainer.

She taught one course in 2010.

The nurses on the unit complete the following indicators for CPI:

- Restraints
- Plan of care
- Falls
- Bedside invasive procedures
- Pain documentation
- Patient identifiers
- Chemotherapy monitors
- Hand hygiene
- Infection control

We monitor for patient safety, which is our highest priority. We aggregate data at appropriate intervals and then analyze the data collected. Trends are noted and areas of success and areas needing improvement are identified.

Dr. Rosch died of cancer in June 1983. Mrs. Rosch died Oct. 3, 2008.

Those admitted are patients:

- Whose expected survival prognosis is less than one year.
- Whose plan of care is to be palliative rather than curative.
- With no "CPR" documentation on their chart.
- The unit also accepts overflow patients from the Oncology Unit in high census situations.

Our Tree of Life display is a hand-sculptured, brass wall relief. People who wish to leave a permanent memorial to a loved one may do so by making a donation to the unit. Memorials are engraved on a leaf or a stone.

The goal of palliative care is to improve the quality of life for terminally ill patients and their families. Allowing the patient to die with dignity is the Palliative Care nurse's top priority.

Patients are evaluated and transitioned to hospice if the patient and family so desire.

*The physicians of Blair Medical Oncology (from left):  
Mark M. Keating, M.D.  
Wen-Min Chuu, M.D.  
James V. Lieb, D.O.  
Salee L. Hoffman, M.D.  
Shabbir Ahmad, M.D.*



## **Bernard A. Rosch Palliative Care Suite**

The Bernard A. Rosch Palliative Care Suite is a five-bed unit established in 1986 through the generosity of Helen Rosch in memory of her husband, Bernard, who was a dentist in the Altoona area for many years.

## Multidisciplinary Tumor Board

Tumor Board is a patient-oriented conference geared to improve the care of the patient with cancer. Representatives of all disciplines attend and are encouraged to express their opinions. The ultimate decision for treatment rests with the responsible physician, who can synthesize the various opinions most appropriate to his or her individual patient. Conferences are multidisciplinary and, over the course of a year, cover all major cancer sites.

Tumor Board meets weekly. Category I Continuing Medical Education Credit is awarded for attendance.

Forty-eight Tumor Board meetings were held in 2010. Surgery, medical oncology, radiation oncology, diagnostic radiology and pathology were represented. One hundred and eighteen patients were presented, which was 13 percent of the total malignant analytic cases abstracted in 2010.

**Charles M. Haas Jr., M.D.**  
*Cancer Conference Coordinator*

## Ostomy Team

The Ostomy Team saw 43 new patients with ostomies: 26 new colostomies (eight with cancer), 15 new ileostomies (five with cancer) and two new urostomies (both with cancer).

Some objectives of the Ostomy Team are to:

- Reassure pre-op patients that we will care for them after surgery.
- Establish and maintain properly fitting appliances in accordance with each patient's individual needs and lifestyles.
- Teach self-care to patients and ostomy care to family members.
- Teach hospital personnel ostomy and wound care.
- Advise patients and families of available services.
- Provide assessment of patients at risk for skin breakdown, identified through the use of the Braden Scale. Collected information is then used to formulate an individualized plan of care with emphasis on prevention.

Our patients are encouraged to attend the Ostomy Support Group. We advise them to contact our department if they have problems with appliances or skin irritation. If necessary, we may then see them in the ostomy center. We are available as a resource and to provide in-services for staff and students and consultations to other institutions.

**Joanne Romine, R.N.**

## Medical Outpatient Services

Medical Outpatient Services (MOPS) moved to the third floor of the Outpatient Center in late November 2009. Most infusions are done on MOPS East, which has eight chairs, two workstations and three exam rooms for privacy and overflow. MOPS West has eight cubicles with litters and accommodates invasive procedures, patients unable to sit in the chairs and patients who require contact isolation.

MOPS had 422 chemotherapy visits in the past

year and 1,290 blood product transfusions (approximately 70 percent are to support patients with a cancer or hematology diagnosis). This represents a 20 percent increase in blood product transfusion from 2009. We also provide care to patients with possible cancer diagnoses admitted for invasive imaging procedures such as lung, liver and bone biopsies.

MOPS' Continuous Process Improvement monitors have minimal deficiencies. All safety monitors — both double-checks and using two unique identifiers — have been at 97 percent for the past year. Assessment and continuing care monitors have both been above 95 percent. We began calling patients the day after their first chemotherapy treatment to reinforce education provided for symptom management of the treatment. This has been well-received, and no deficiencies with initial teaching have been noted.

The eight staff RNs are certified in chemotherapy administration and four are oncology-certified.

Certification is maintained by continuing education over four years. Each RN is required to have at least 65 points from oncology activities. Support for the education is provided by the local Oncology Nursing Society Chapter.

Over the last six months, we have been moving our medical records into the Alpha System to meet the national goal of electronic medical records.

We would like to spend the next year looking at our patient processes to improve the flow of patients. By monitoring processes, we hope to reduce waiting time and improve satisfaction.

**Lorene Shelow, R.N., BSN, OCN**  
*Administrative Director*

## 2010 Primary Site Table

Primary site	Total	Analytic	Nonanalytic
Lip	1	1	0
Tongue	8	6	2
Salivary glands	4	4	0
Floor of mouth	3	2	1
Gum/other mouth	3	1	2
Tonsil	6	5	1
Oropharynx	1	1	0
Hypopharynx	1	1	0
Esophagus	13	10	3
Stomach	15	11	4
Small intestine	3	2	1
Colon/excluding rectum	75	62	13
Rectum/rectosigmoid	37	27	10
Anus/anal canal/anorectum	3	3	0
Liver/intrahepatic bile duct	18	9	9
Gallbladder	4	2	2
Other biliary	8	7	1
Pancreas	29	23	6
Other digestive organs	2	2	0
Nasal cavity/middle ear/ accessory sinuses	1	0	1
Larynx	12	10	2
Lung/bronchus	166	151	15
Soft tissue	8	8	0
Malignant melanoma-skin	55	18	37
Other nonepithelial-skin	4	2	2
Breast	178	153	25
Cervix uteri	7	6	1
Corpus/uterus	40	36	4
Ovary	16	15	1
Vulva	9	8	1
Prostate	129	94	35
Testis	7	7	0
Penis	1	1	0
Urinary bladder	50	46	4
Kidney & renal pelvis	24	17	7
Ureter	2	1	1
Brain	17	15	2
Other nervous system	25	23	2
Thyroid	33	31	2
Other endocrine	5	3	2
Hodgkin lymphoma	4	3	1
Non-Hodgkin lymphoma	51	39	12
Multiple myeloma	24	14	10
Leukemias	34	11	23
Mesothelioma	2	2	0
Kaposi's sarcoma	1	0	1
Miscellaneous	58	28	30
<b>TOTALS</b>	<b>1,197</b>	<b>921</b>	<b>276</b>

Analytic cases dx/tx at Altoona Regional Health System.  
Class of case 00 (dx here, tx elsewhere) are included.  
Nonanalytic cases dx/tx elsewhere.

## Cancer Registry Activity

The Cancer Registry is a unique system designed to coordinate the collection, research, management, analysis and dissemination of cancer information. The registry plays an active role in a Commission on Cancer-approved cancer program by providing a multitude of services and support.

During 2010, the Cancer Registry became fully staffed with two full-time, certified tumor registrars and a full-time tumor registry assistant.

All cancer patients diagnosed and/or treated at Altoona Regional are abstracted into the registry database. The data abstracted includes patient demographics, medical history, occupation, diagnostic findings, diagnosis, cancer treatment, disease staging and lifetime follow-up.

Data is submitted to the National Cancer Data Base (NCDB) annually, allowing comparative analysis with other hospitals for studies and educational purposes.

Selective data is sent from the NCDB to the American Cancer Society Web site for public viewing. Data is also submitted monthly to the Pennsylvania Cancer Registry.

We use Impac Metriq registry software. All cases diagnosed and/or treated at Altoona Regional are abstracted into the database. There were 921 analytic cases added in 2010. The registry reference date is Jan. 1, 1990.

Annual follow-up of analytic patients is one of the functions of the cancer registrar. The Altoona Regional follow-up rate was 93 percent for patients since Jan. 1, 1990.

Altoona Regional follow-up exceeds the Commission on Cancer requirement for analytic cases of 80 percent. The follow-up rate for analytic cases diagnosed within the last five years was 94 percent, which exceeds the required follow-up rate of 90 percent.

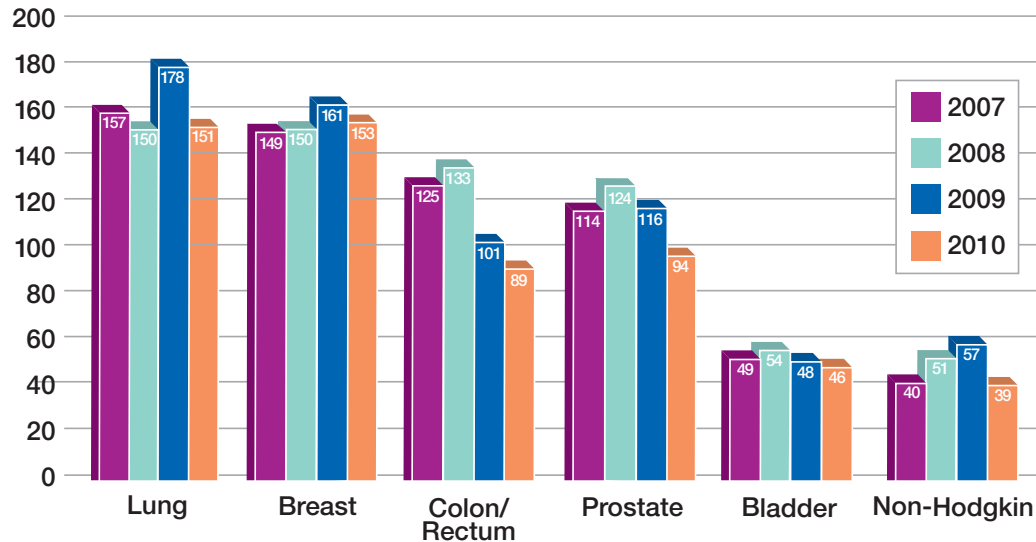
In addition to statistical collection, registry personnel coordinate the weekly Tumor Board meetings and quarterly meetings of the Cancer Committee. The registry staff is always available to assist physicians with information and studies.

*Karen Day, CTR,  
Deborah Ebersole, CTR  
and Mary Ann Klisiewicz.*

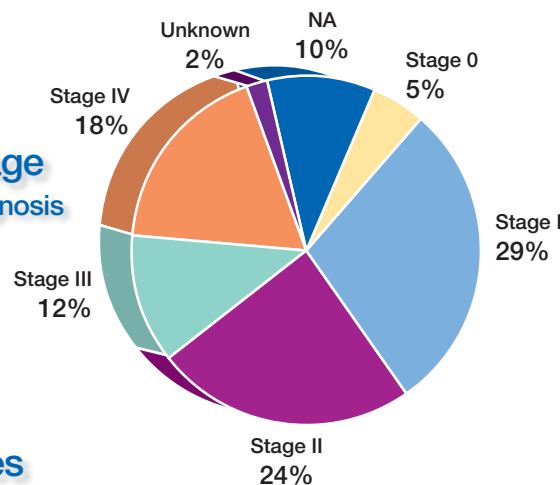


## Comparison of Major Sites

2007-2010



## Best CS/AJCC Stage All Analytic Cases at Diagnosis



## Comparison of Six Major Sites

2010

Site	ARHS	U.S.	PA
Lung	15%	15%	14%
Breast	15%	14%	13%
Colon/rectum	10%	9%	10%
Prostate	11%	14%	13%
Bladder	5%	5%	5%
Non-Hodgkin	4%	4%	5%

Analytic cases only Altoona Regional  
Carcinoma in situ (except bladder) not included

U.S. and Pennsylvania figures from American Cancer Society Cancer Facts and Figures 2010

## Primary Site Table

Comparisons 2009-2010

Total cases for 2009: 1,259

Total analytic cases for 2009: 1,032

Total cases for 2010: 1,197

Total analytic cases for 2010: 921

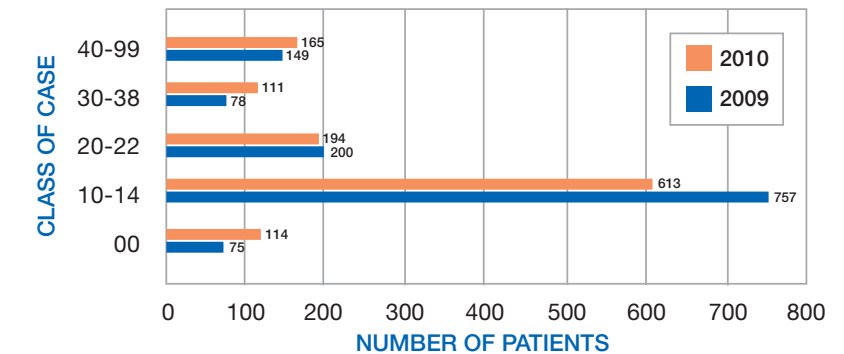
Difference total cases: 62 less in 2010

Difference analytic cases: 111 less in 2010

Site	2009	2010	Differences
Colon	73	62	11 less in 2010
Rectum	28	27	1 less in 2010
Lung/bronchus	179	151	28 less in 2010
Breast	161	153	8 less in 2010
Prostate	114	94	20 less in 2010
Urinary bladder	52	46	6 less in 2010
Non-Hodgkin lymphoma	58	39	19 less in 2010
<b>TOTAL CASES</b>	<b>665</b>	<b>572</b>	<b>93 less in 2010</b>

## Class of Case

Comparisons 2009-2010



00 = Analytic

Initial diagnosis at reporting facility and all treatment done elsewhere. In 2010 this includes all treatment in a staff physician office (Blair Medical Oncology)

10-14 = Analytic

Initial diagnosis at reporting facility or in a staff physician office and part or all of first course of treatment or a decision not to treat was at the reporting facility, NOS

20-22 = Analytic

Initial diagnosis elsewhere and all or part of first course of treatment was done at the reporting facility

30-38 = Nonanalytic

Initial diagnosis and/or treatment done elsewhere

40-99 = Nonanalytic

Diagnosis and all first treatment done in a staff physician office, or diagnosis elsewhere and all/part of first course of treatment done in staff physician office

# Ovarian Cancer Study

## Definition

Ovarian cancer is a type of cancer that begins in the ovaries. Ovarian cancer often goes undetected until it has spread within the pelvis and abdomen. At this late stage, ovarian cancer is difficult to treat and is often fatal.

## Symptoms

Symptoms of ovarian cancer are not specific to the disease and they often mimic those of many other more common conditions, including digestive and bladder problems. When ovarian cancer symptoms are present, they tend to be persistent and worsen with time. Signs and symptoms of ovarian cancer may include:

- Abdominal pressure, fullness, swelling or bloating
- Pelvic discomfort or pain
- Persistent indigestion, gas or nausea

- Changes in bowel habits, such as constipation
- Changes in bladder habits, including a frequent need to urinate
- Loss of appetite or quickly feeling full
- Increased abdominal girth or clothes fitting tighter around your waist
- A persistent lack of energy
- Low back pain

## Types

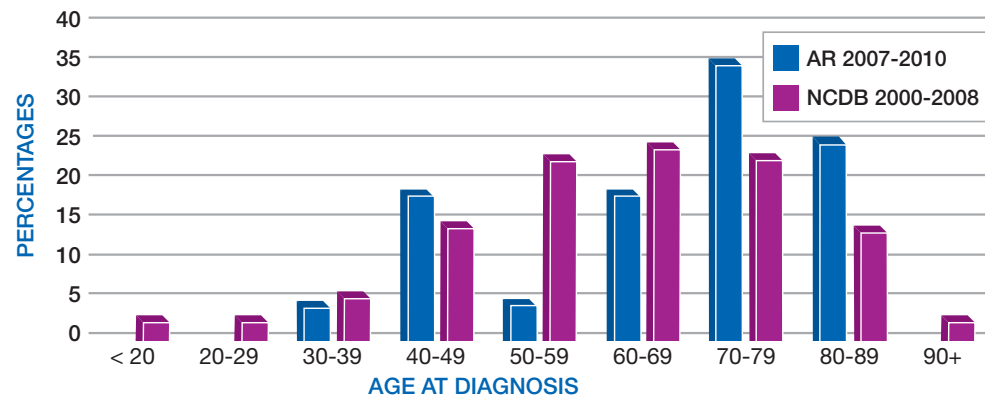
The type of cell where the cancer begins determines the type of ovarian cancer. Types include:

- Cancer that begins in the cells in the thin layer of tissue that covers the outside of the ovaries is called “epithelial.” Most ovarian cancers are epithelial tumors.
- Cancer that begins in the egg-producing cells is called “germ cell tumor.” These tumors tend to occur in younger women.
- Cancer that begins in the ovarian tissue that produces the hormones estrogen, progesterone and testosterone is called “stromal tumor.”

**TABLE 1**

### Ovarian Cancer Age at Diagnosis

Altoona Regional vs. NCDB



## Risk Factors

Certain factors may increase the risk of ovarian cancer. These include:

- Inherited gene mutations — breast cancer gene 1 (BRCA1), breast cancer gene 2 (BRCA2) and hereditary nonpolyposis colorectal cancer (HNPCC)
- Family history of ovarian cancer
- A previous cancer diagnosis
- Increasing age
- Never having been pregnant
- Hormone replacement therapy for menopause

## Tests and Diagnosis

Tests and procedures used to diagnose ovarian cancer include:

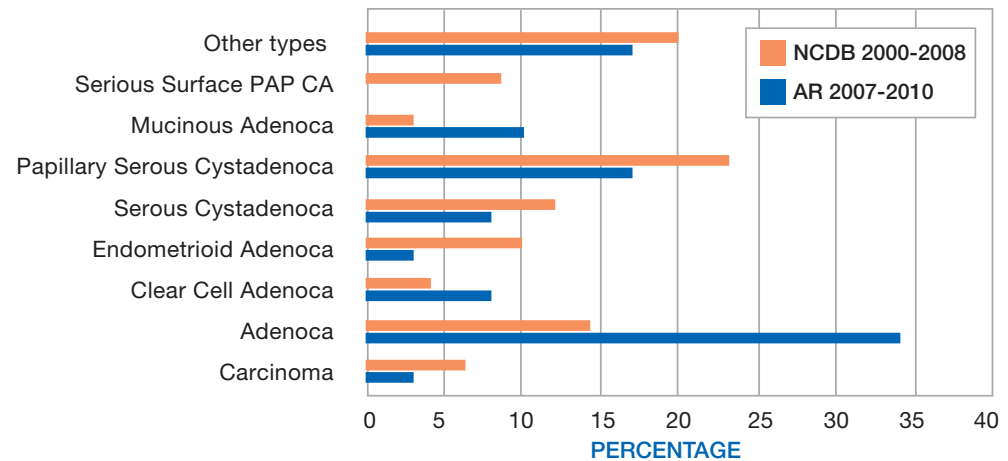
- Pelvic examination
- Ultrasound
- Surgery to remove samples of tissue for testing
- CA-125 blood test

**TABLE 2**

## Ovarian Cancer Histology

Altoona Regional vs. NCDB

HISTOLOGY TYPES



## Staging

Stage I — ovarian cancer confined to one or both ovaries

Stage II — ovarian cancer has spread to other locations in the pelvis, such as the uterus or fallopian tubes

Stage III — ovarian cancer has spread beyond the pelvis or to the lymph nodes within the abdomen

Stage IV — ovarian cancer has spread to organs beyond the abdomen, such as the liver and lungs

## Treatment and Drugs

Treatment of ovarian cancer usually involves a combination of surgery and chemotherapy.

### Surgery

Treatment for ovarian cancer usually involves an extensive operation that includes removing ovaries, fallopian tubes and the uterus, as well as nearby lymph nodes and omentum, where the ovarian cancer often spreads. Surgical debulking removes as much of the cancer as possible. Less extensive surgery may be possible for Stage I ovarian cancer, removing one ovary and its fallopian tube to preserve the ability to have children in the future

## Chemotherapy

After surgery, most likely chemotherapy will be given to kill any remaining cancer cells. Chemotherapy may also be used as the initial treatment for advanced ovarian cancer. Chemotherapy drugs can be administered intravenously or injected directly into the abdominal cavity.

## Review of Altoona Regional Patients

Twenty-nine patients were included in the comparison study, and 250 in the survival study. Comparisons were made with the National Cancer Data Base (NCDB) Community Comprehensive Cancer Centers' data.

Comparison study: The most prevalent age at Altoona Regional was 70-79 (34 percent) with the NCDB being 60-69 (23 percent). Please see Table 1.

The histology breakdown is listed in Table 2. Altoona Regional had adenocarcinoma as

most prevalent at 34 percent. Papillary serous cystadenocarcinoma was the most prevalent histology for NCDB.

The stage and first course of treatment information are listed in Table 3. The most prevalent stages at Altoona Regional were Stage III, at 31 percent, and Stage IV, at 38 percent. NCBD lists the most prevalent stages as Stage III, at 36 percent, and Stage IV, at 23 percent. Surgery and chemotherapy was the most prevalent treatment given, in 45 percent of Altoona Regional patients and 52 percent of NCDB patients.

Survival study: Observed overall survival is compared in Table 4 on page 14. Altoona Regional and NCDB were comparable, with five-year survival rates being 42 percent and 38 percent, respectively.

## Conclusions

Epithelial ovarian cancer is the second most common gynecologic malignancy in the United States. However, ovarian cancer is the leading gynecologic cause of cancer mortality and the fifth most common cause of all cancer mortality in women.

Higher mortality rates have been attributed to the high rate of late stage disease at the time of diagnosis. Approximately 70 percent of patients will present with late stage disease. Data collected from Altoona Regional and NCDB both reflect this.

Ovarian cancer reflects a wide histopathologic spectrum as noted in the histology breakdown for both Altoona Regional and NCDB data.

Surgery and chemotherapy rates at Altoona Regional were consistent with NCDB rates. Overall survival data at Altoona Regional compares favorably with reported survival rates for NCDB data.

### Ryan Zlupko, M.D.

*OB-GYN representative  
Cancer Committee*

## Sources

National Cancer Data Base  
Ovarian Cancer,  
MayoClinic.com

**TABLE 3**

**Treatment for Ovarian Cancer by AJCC Stage**

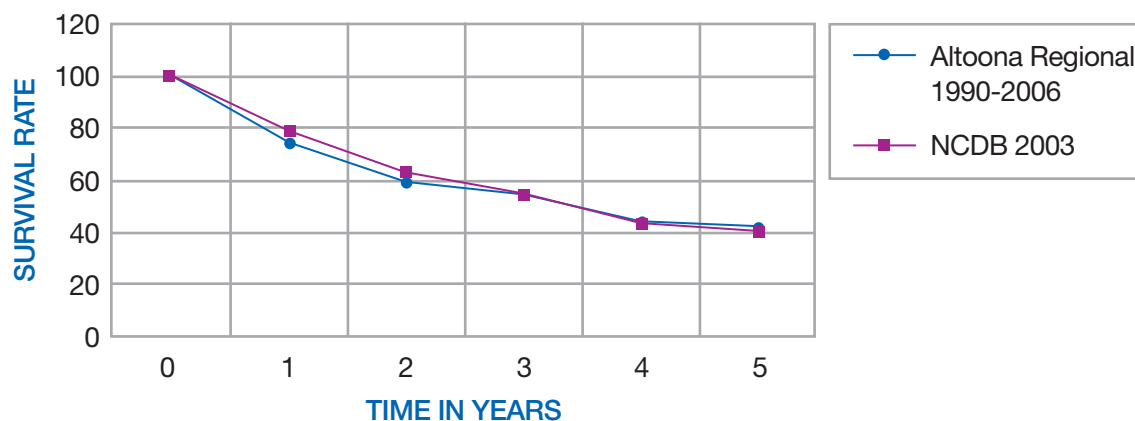
Altoona Regional 2007-2010 vs. NCDB Comprehensive 2008

	ALTOONA REGIONAL							NATIONAL CANCER DATA BASE							
	I	II	III	IV	Unk	N/A	Total	I	II	III	IV	Unk	N/A	Total	
<b>FIRST COURSE OF TREATMENT</b>															
Surgery Only	4	0	1	1	0	0	6	619	168	547	200	482	15	2031	
	13.7%	0%	3.44%	3.44%	0%	0%	20.7%	7.9%	2.14%	6.98%	2.55%	6.15%	0.19%	25.9%	
Surgery & Chemo	2	1	7	3	0	0	13	324	368	1,888	751	705	12	4,048	
	6.89%	3.44%	24.1%	10.3%	0%	0%	44.8%	4.13%	4.7%	24.2%	9.59%	9%	0.15%	51.7%	
Chemotherapy Only	0	1	1	5	0	0	7	3	22	191	424	125	0	765	
	0%	3.44%	3.44%	17.2%	0%	0%	24.1%	0.03%	0.28%	2.43%	5.41%	1.59%	0%	9.77%	
Other Specified	1	0	0	0	0	0	1	32	16	42	54	21	2	167	
	3.44%	0%	0%	0%	0%	0%	3.44%	0.4%	0.20%	0.53%	0.68%	0.26%	0.03%	2.13%	
No Treatment	0	0	0	2	0	0	2	10	20	118	367	300	2	817	
	0%	0%	0%	6.89%	0%	0%	6.9%	0.12%	0.25%	1.5%	4.68%	3.83%	0.02%	10.4%	
<b>Total</b>	<b>7</b>	<b>2</b>	<b>9</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>988</b>	<b>594</b>	<b>2,786</b>	<b>1,796</b>	<b>1,633</b>	<b>31</b>	<b>7,828</b>	

**TABLE 4**

**Observed Overall Survival Ovarian Cancer**

Altoona Regional 1990-2006 vs. NCDB 2003





**Altoona Regional  
Health System**

**Center for Cancer Care**

A nonprofit community health care system

**Altoona Hospital Campus**

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[www.altoonaregional.org](http://www.altoonaregional.org)

**2011  
ANNUAL REPORT  
OF 2010 DATA**



*Exceptional People. Exceptional Cancer Care.*