

ST ALEXIUS MEDICAL CENTER 2009 CANCER ANNUAL REPORT



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2008 Data

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*The St. Alexius Medical Center
Cancer Program is accredited by
the American College of Surgeons
Commission on Cancer (CoC) .*



Mission

Based on the Gospel values and our own heritage of healing, the mission of St. Alexius Medical Center is to use our presence as a means of touching and caring for people in a Christ-like manner, and to always exhibit the hospitality as reflected in the Rule of St. Benedict: *“Let all be received as Christ”*

Vision

The vision of St. Alexius Medical Center is to use our presence to extend Christ’s healing ministry through excellence of service, collaborative relationships and a commitment to those we serve.

Values

Community

A coming together of people who commit themselves to a mission, caring for and challenging each other to use their personal gifts and skills to serve.

Respect

Giving and showing reverence, esteem and consideration for self and others.

Stewardship

Working together to care for all resources for the good of all people.

Healing Presence

An atmosphere that affirms the whole person: body, mind and spirit.

Personal and Professional Growth

An ongoing commitment to expand knowledge and develop skills in order to enhance service, improve quality and reach one’s fullest potential.

St. Alexius Cancer Program

- The St. Alexius Cancer Program currently holds a **Three Year Accreditation with Commendation** under the category of Community Hospital Cancer Program.
- “Five elements are key to the success of a CoC-accredited cancer program:
 1. The **clinical services** provide state-of-the-art pretreatment evaluation, staging, treatment, and clinical follow-up for cancer patients seen at the facility for primary, secondary, tertiary, or end of life care.
 2. The **cancer committee/leadership body** leads the program through setting goals, monitoring activity, and evaluating patient outcomes and improving care.
 3. The **cancer conferences** provide a forum for patient consultation and contribute to physician education.
 4. The **quality improvement program** is the mechanism for evaluating and improving patient outcomes.
 5. The **cancer registry and database** is the basis for monitoring the quality of care. (Commission on Cancer, 2009, p. 5)”
- The Cancer Committee has the responsibility of the Cancer Program. The committee meets on a quarterly basis. Multidisciplinary membership includes both physicians and non-physicians. Activities of the Cancer Committee reflect the 2009 Revised Cancer Program Standards from the Commission on Cancer.
 - Ferdinand Addo, MD, is currently the Cancer Committee Chair
 - Vijay Rao, MD holds the position of Cancer Liaison Physician
- Coordinators in four areas are designated yearly. The following are for 2009:
 - Tumor Conference: Ward Fredrickson, MD
 - Quality Control of Registry Data: Judy Wittmier / Tracy Wildeman
 - Quality Improvement: Linda Rambough
 - Community Outreach: Nancy Willis
- Cancer Committee meetings include reports from the following:
 - Tumor Conferences
 - The Central North Dakota Cancer Registry
 - Clinical Research Services
 - Programmatic
 - Quality Improvement
 - Community Outreach
- Annual goals in four areas are developed and evaluated by the Cancer Committee.
 - The 2009 Annual Goals are:
 - *Clinical Goal:* Develop chemotherapy dosage rounding protocol resulting in continuity of care by four physicians using the protocol; work on changing protocol from paper to computerization, and decrease the expense of the high cost of chemotherapy agents.

- **Community Outreach Goal: Improve screenings for outpatients (i.e. mammograms, prostate).**
- **Quality Improvement Goal: Evaluate the need for MRI coil for breast imaging to better screen and diagnose patients.**
- **Programmatic Goal: Hire coordinator position.**

Reference: Commission on Cancer. (2009). Cancer Program Standards 2009 (Revised Edition). Chicago, IL: American College of Surgeons.

Cancer Committee Members

Physicians

Ferdinand Addo, MD, FACP
William Altringer, MD
Tarek Dufan, MD, Ms, FRCPC
Ward D. Fredrickson, MD
Shiraz Hyder, MD, MMM, CPE, FAHA, FAAN
Joann Leahy, MD
Kathleen Nordstrom, MD
Doug Peterson, MD
Vijay Rao, MD

Medical Oncologist
General & Vascular Surgeon
Radiation Oncologist
SAMC Chief of Pathology Services
Vice President Medical Affairs
Radiation Oncologist
Radiation Oncologist
Radiologist
Medical Oncologist

Non-Physicians

Sarah Brown, LSW
Ken Dykes, BS, MPA
Janel Eckroth, RN, BSN, CCRN
Donna Gage, RN, MSN, CNA-BC
Joan Johnson, RPh
Linda Knodel, RN, MSN, MHA
Shrikant S. Kubsad, PhD

Elaine Kucera, MM, MT(ASCP)SBB
Linda Rambough, RN BC
Tara Schilke, RN, BSN

Marlys Verwey, BS

BevAnn Walth, LSW

Tracy Wildeman

Nancy R. Willis
Judy Wittmier, BS, CTR

Oncology Social Worker
Executive Director, Bismarck Cancer Center
Coordinator, Cancer Program
Director, Med/Onc/Surg/ETC
Clinical Pharmacist
Sr. VP/Chief Nursing Officer
Director, Medical Physics,
Bismarck Cancer Center
Director, Clinical Research Services
Assistant Director, Oncology Unit
Oncology Program Coordinator,
Bismarck Cancer Center
Coordinator, Special Programs,
Education Department
Director, Quality/ Care
Coordination/Social Work
Director, Central North Dakota
Cancer Registry
VP, Government Relations & Marketing
Consultant, Central North Dakota
Cancer Registry

Kidney Cancer Research

Mindy Sturn, BDRS and Elaine Kucera, Director
St. Alexius Medical Center Clinical Research Services

Kidney cancer is among the 10 most common types of cancer in both men and women. Overall, the lifetime risk for developing kidney cancer is about 1 in 75 (1.34%). This risk is higher in men than in women. According to the American Cancer Society, more than 50,000 new cases of kidney cancer (renal cell carcinoma) are diagnosed each year and that number is increasing.

As the number of kidney cancer cases is increasing so is the amount of money put forth towards kidney cancer research. The National Cancer Institute estimates their current investment in kidney cancer research is up from \$30.0 million to now \$31.4 million within the past four years alone. There are many areas of kidney cancer research that are currently being explored. Listed below are some of the current forms of research underway:

Biological Therapy/Genetics: Researchers are looking into ways to try and predict who carries genes that may increase kidney cancer risk such as the von Hippel Lindau Gene (vHL). Scientists are currently trying to find faults with the vHL gene so they could work towards finding treatments that will block kidney cancer growth. There is currently a trial under way testing an investigational drug to determine if it can slow down the growth, or reduce the size, of kidney cysts or kidney cancer in patients who have von Hippel Lindau syndrome. A very new approach to cancer treatment is in the very early stages of clinical trials. A gene called the p53 gene, which is abnormal in several different types of cancer. A normal p53 gene tells a cell to self destruct if it is old or damaged, cancer cells do not do this because they are abnormal. This new research takes a look at replacing the abnormal p53 with a normal p53 to help stop the growth of the cancer.

Partial Nephrectomy (removing part of the kidney): There is currently a trial underway that is looking into removing a portion of the kidney instead of the whole kidney. The advantage is that a patient would still have part of their kidney to fall back on should anything happen to a patient's other kidney. This option is only available to patient's who would have a small enough tumor and it is in the right place.

Freezing Tumors (cryotherapy or cryosurgery): Cryotherapy is a way of killing cancer cells by freezing them. This option may offer a chance of a cure without the risk of removing the kidney. There is longer follow-up with cryotherapy to determine if the cancer will come back. This method is also most effective in patients who have early stage kidney cancer and their tumors are smaller. The treatment works by having the physician place a metal probe into the kidney where the tumor is located. The probe contains liquid nitrogen, which can freeze and destroy the cancer.

Heat Treatment (Microwave thermotherapy): This treatment involves heating the kidney using microwave energy to kill the cancer. This is in the very early stages of research.

Radiowave Treatment (radio frequency ablation-RFA): This treatment is another form of local heat treatment. It can destroy tumor in the exact area it is aimed at but will not treat cancer outside of that area. This treatment uses radiowaves to heat up and destroy the cancer tissue. Right now physicians primarily use it for cancer that comes back or has spread.

High Intensity Ultrasound Treatment: Strong beams of sounds are directed at the cancer and are capable of killing cancer cells. Physicians choose this therapy as an alternative to surgery. There are currently two trials underway looking at this treatment for kidney cancer that cannot be removed by surgery and another looking at the treatment being used before surgery.

The treatment options mentioned above are still being researched and are in the early stages of clinical trials. Continued research efforts will improve our understanding of the disease even more and increase the options available to fight kidney cancer.

Researchers across the globe are constantly looking for more options for preventing and treating kidney cancer. St. Alexius Medical Center Clinical Research Services conducts a wide variety of trials through St. Alexius Medical Center, Mid Dakota Clinic, PC, Bismarek Cancer Center, and FEK Addo PC Clinic. St. Alexius Medical Center Clinical Research Services is not currently conducting any clinical trials involving kidney cancer; however are always looking for clinical trials that will benefit our community and the surrounding areas.

Outreach Activities

- April 16th, 2008 minutes state:
 - “There is a calendar set up with dates of programs. There are screenings set up for PSA screenings for males over 40, Employee Wellness, Smoking Cessation, Mammograms.”
- September 17th, 2008 minutes:
 - Applefest – fundraiser for Bismarck Cancer Center
 - Geriatric/Hospice Conference in October
- December 17th, 2008 minutes:
 - BCC received a grant for public education in cancer
 - Geriatric Conference was held in October

Bismarck Cancer Center

Breast Cancer Support Group – 2nd Thursday of each month at 5:30 p.m.

Lebed Method Class – 2nd Monday of each month at 1:30 p.m.
2nd Thursday of each month at 5:00 p.m.

Look Good, Beel Better – 2nd Monday of each month 2:00 - 4:00 p.m.

Look Out for Lymphedema – 1st Thursday of each month at 3 p.m.

Navigating the Cancer Experience: A Passport to Wellness – a series of five lectures held at the Bismarck Public Library to discuss Cancer Survivorship issues. Forty to 75 guests attended per lecture.

Monthly referral development trips to outlying rural communities.

Featured Cancer Site

Kidney Cancer

Kidney Cancer is cancer that forms in the tissues of the kidneys. According to Leslie Rainwater, MD, urologist, St. Alexius Medical Center, 85% of kidney cancer is renal cell carcinoma (cancer that forms in the lining of very small tubes in the kidney that filter the blood and remove waste products) and 15% renal pelvis carcinoma (cancer that forms in the center of the kidney where urine collects).

Kidney cancer comprises 4 % of all cancers, is the ninth most common cancer in the U.S. and the third most common urinary cancer after prostate and bladder.

In North Dakota in 2008, the American Cancer Society estimated that 3,090 new cases of cancer were diagnosed. According to Dr. Rainwater, more men than women are diagnosed with kidney cancer by a ratio of 6:4 and the mean age for developing kidney cancer is 65 years old. Ninety percent of those diagnosed with kidney cancer are 45 years or older.

Risk factors for kidney cancer include:

- Obesity
- Smoking or environmental tobacco smoke
- Genetics
 - von Hippel Landau disease
 - vHL gene dysfunction
- Family history of renal cell cancer

Of interest is that there is an inverse association between alcohol consumption and renal cell cancer.

Kidney cancer often is asymptomatic. Most findings are incidental and the cancer is discovered as a result of an abdominal lump or mass; blood present in the urine (hematuria); pain in the side or lower back that does not go away; unexplained weight loss; anemia or fatigue.

Because most kidney cancer is discovered using diagnostic tools in search of an answer to symptoms that may be due to other causes, Dr. Rainwater is concerned about the current healthcare reform discussions that seek to limit the use of certain imaging tools such as Ultrasound, CAT scan or MRI.

When kidney cancer is suspected, the physician checks general health signs and tests for fever and high blood pressure, as well as feeling the abdomen and side for lumps or tumors. Urine tests are performed to detect blood or other signs of disease in the urine.

Lab tests may be performed to determine how well the kidneys are functioning. The lab may check the level of certain substances such as creatinine. An elevated level of creatinine may signal a problem with the kidneys.

Another diagnostic tool is an intravenous pyelogram or IVP. Dye is injected into a vein in the arm. The dye travels through the body and collects in the kidneys. The dye makes them show up during imaging. A series of x-rays can track the dye as it moves through the kidneys to the ureters and bladder and can show a kidney tumor or other kidney problems.

In some cases, the physician may do a biopsy and remove tissue to look for cancer cells. If surgery is warranted, a surgeon will remove all or part of the kidney.

In order for the physician to determine the best course of treatment, the physician needs to know the state (extent) of the disease. The stage is based on the size of the tumor, whether the cancer has spread and if so, to what parts of the body.

Stages are defined as follows:

- **Stage I** is an early stage of kidney cancer. The tumor measures up to 2 3/4 inches (7 centimeters). It is no bigger than a tennis ball. The cancer cells are found only in the kidney.
- **Stage II** is also an early stage of kidney cancer, but the tumor measures more than 2 3/4 inches. The cancer cells are found only in the kidney.
- **Stage III** is one of the following:
 - The tumor does not extend beyond the kidney, but cancer cells have spread through the lymphatic system to one nearby lymph node; or
 - The tumor has invaded the adrenal gland or the layers of fat and fibrous tissue that surround the kidney, but cancer cells have not spread beyond the fibrous tissue. Cancer cells may be found in one nearby lymph node; or
 - The cancer cells have spread from the kidney to a nearby large blood vessel. Cancer cells may be found in one nearby lymph node.
- **Stage IV** is one of the following:
 - The tumor extends beyond the fibrous tissue that surrounds the kidney; or
 - Cancer cells are found in more than one nearby lymph node; or
 - The cancer has spread to other places in the body such as the lungs.
- **Recurrent Cancer** is cancer that has come back (recurred) after treatment. It may come back in the kidney or in another part of the body.

Dr. Rainwater estimates that the most common tumor stages at diagnosis are:

- Organ confined (58%)
- Regional spread (18%)
- Distant spread (19%)
- Unknown (4%)

According to Dr. Rainwater advances in localized treatment include partial nephrectomy for tumors 4cm or less in size; laparoscopic nephrectomy or partial nephrectomy and percutaneous cryoablation and radiofrequency.

The use of percutaneous cryoablation and radiofrequency is limited by tumor size and location. This treatment also may have shorter term effectiveness as compared to surgery (87% percutaneous vs 94% surgical). The long term effectiveness of these relatively new procedures is still unknown and patients who have undergone these treatments remain under observation by their physician.

Oncological treatments include the use of medications such as sorafenib; sunitinib; bevacizumab; temsirolimus and everolimus (FDA priority review).

Five-year survival rates for kidney cancer are 89.5% if organ confined and 9.5% if distant. Dr. Rainwater says that although increased incidence has been seen in North Dakota, death rates are down.

Statistical Analysis

Kidney Cancer Diagnosis And Treatment

St. Alexius Medical Center

(Based On 2008 Cancer Registry Data)

It is estimated that there will be nearly 50,000 new cases of kidney cancer diagnosed in the United States in 2009, and over 11,000 deaths that will be attributed to kidney or renal pelvis cancer this year:¹

Kidney Cancer is one of the ten most frequently treated tumors St. Alexius in 2008.

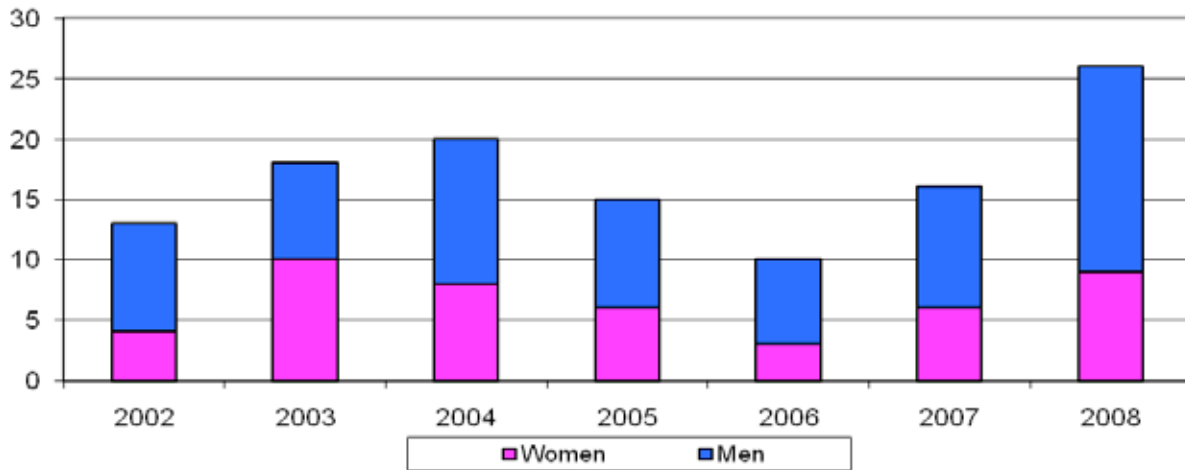
Ten Most Treated Cancers at St. Alexius Medical Center in 2008

Site	# of Cases	% of Cancer
Prostate	136	27.98%
Breast	72	14.81%
Lung/Bronchus	94	19.34%
Colon	39	8.02%
Hematopoietic	36	7.41%
Thyroid Gland	28	5.76%
Kidney	26	5.35%
Bladder	21	4.32%
Corpus Uteri	19	3.91%
Lymph Nodes	15	3.09%

According to the American Cancer Society (ACS), well over one million new cases of cancer are diagnosed each year in the United States. In recent years, the percentage of cases involving kidney cancer have made up only about 3% of the total.² As illustrated in the table above, Kidney Cancer represents over 5% of the St. Alexius cancer patient demographic. The data in this report is related only to Kidney Cancer cases that were either diagnosed or treated at St. Alexius Medical Center in 2008, or both. Those cases that were diagnosed or treated at Mid Dakota Clinic or other private non-hospital clinics (but not St. Alexius) are not measured in preparation of this report.

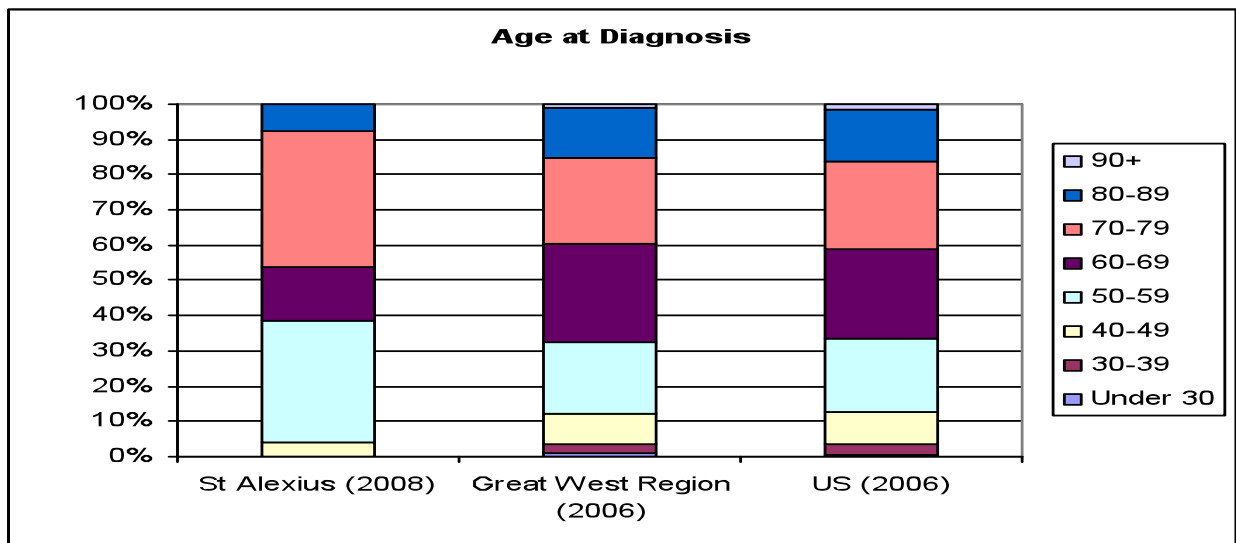
As mentioned by Dr. Rainwater earlier in this report, in the United States, kidney cancer occurs roughly twice as often in males as in females.² The rate at St. Alexius is consistent with that data over the past seven (7) years, with 2003 being the only year where females undergoing treatment outnumbered males.

Newly Diagnosed Cases at St. Alexius by Gender



Over 85% of Kidney Cancer diagnoses are in patients over the age of 50 according to 2006 data (the most recent year data is available for the country and the region from the National Cancer Database).³ Over 95% of the Kidney Cancer treatments at St. Alexius' in 2008 were to patients over the age of 50.

Age at Diagnosis



Renal Cell Carcinoma, NOS and Clear Cell Adenocarcinoma, NOS are the most common diagnoses of kidney cancer, totaling over 70% of diagnoses in St. Alexius, the Great West Region and the US.

Histology	St. Alexius (2008)	Region3 (2006)	US3 (2006)
Clear Cell Adenocarcinoma, NOS	46.15%	33.98%	24.87%
Renal Cell carcinoma, NOS	38.46%	41.44%	47.83%
Papillary transitional cell carcinoma	7.69%	3.04%	4.68%
Papillary Adenocarcinoma, NOS	0.00%	6.08%	6.19%

Thirty percent of kidney cancer patients show signs of advanced Renal Cell Carcinoma when diagnosed. Fifteen to 25 percent of patients have metastatic disease at the time of their diagnosis.²

Staging

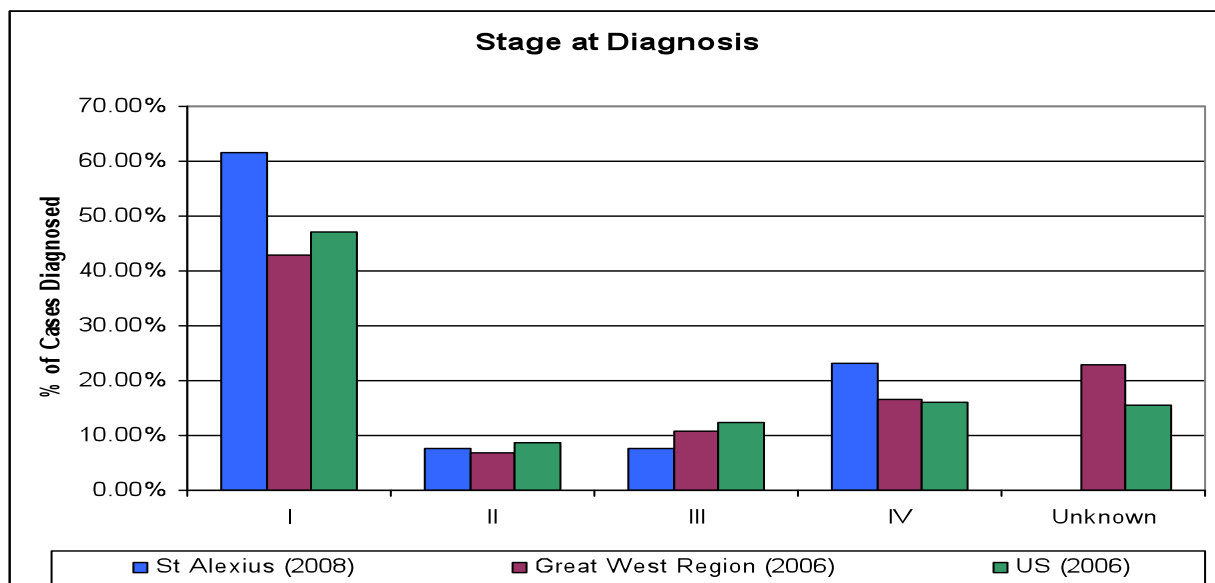
Earlier in this report we talked about stages. Treatment of cancer is based upon these stages. Again, these stages are defined as follows:

Stage I is an early stage of kidney cancer. The tumor measures up to 7 centimeters. The cancer cells are found only in the kidney.

Stage II is also an early stage of kidney cancer, but the tumor measures more than 7 centimeters. The cancer cells are found only in the kidney.

Stage III is when the cancer cells have spread through the lymphatic system to one nearby lymph node or has invaded the adrenal gland or the layers of fat and fibrous tissue that surround the kidney (but not beyond the fibrous tissue) or to a nearby large blood vessel and can be found in one nearby lymph node.

Stage IV is when the tumor extends beyond the fibrous tissue, in more than one nearby lymph node or other places in the body such as the lungs.¹



If caught in early stages, the chance that kidney cancer will return is low. St. Alexius Stage at Diagnosis is very favorable when compared to both the national and regional benchmarks. While less than 50% of Kidney Cancer is diagnosed in Stage I across the country³, over 60% of newly diagnosed cases at St. Alexius were caught in Stage I in 2008. Conversely, over 23% of Kidney Cancer in the St. Alexius system is not diagnosed until Stage IV, a rate that is 7% higher than the regional and national averages.

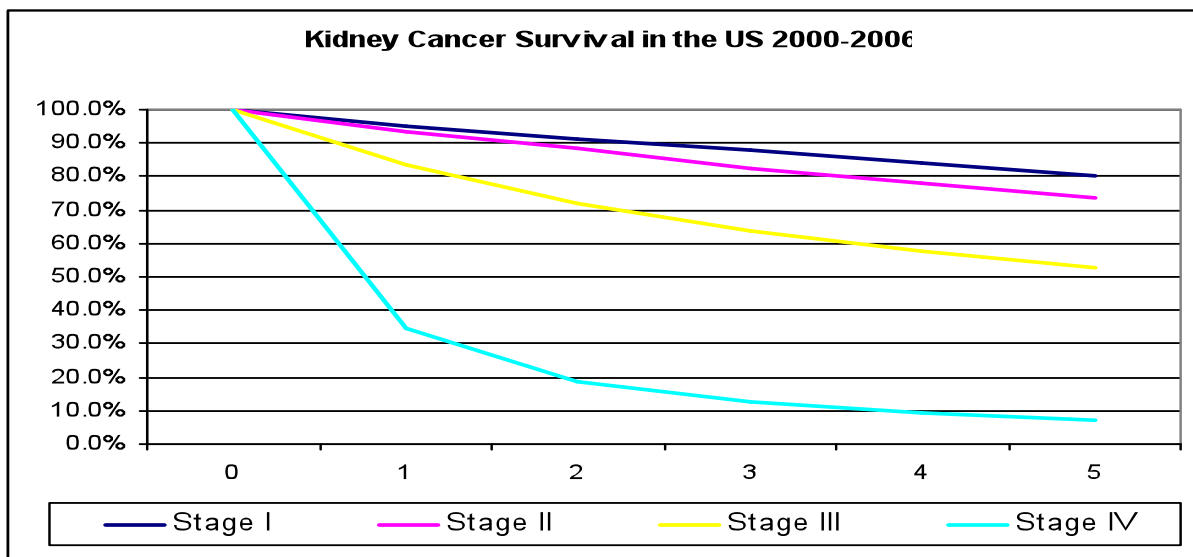
Treatment

Over half the time, surgery is the only course of treatment the patient undergoes. 61.5% of St. Alexius patients and their managing physicians chose this course. This is consistent with national and regional treatment methods, with both statistical measurements weighing with 73% of patients choosing surgery only, while approximately 10% - 15% of patients forego any further treatment following diagnosis.³

Treatment Plans at St. Alexius may also include Radiation Therapy, Chemotherapy or Hormone Therapy at the discretion of the physician and/or request of the patient.

Prognosis

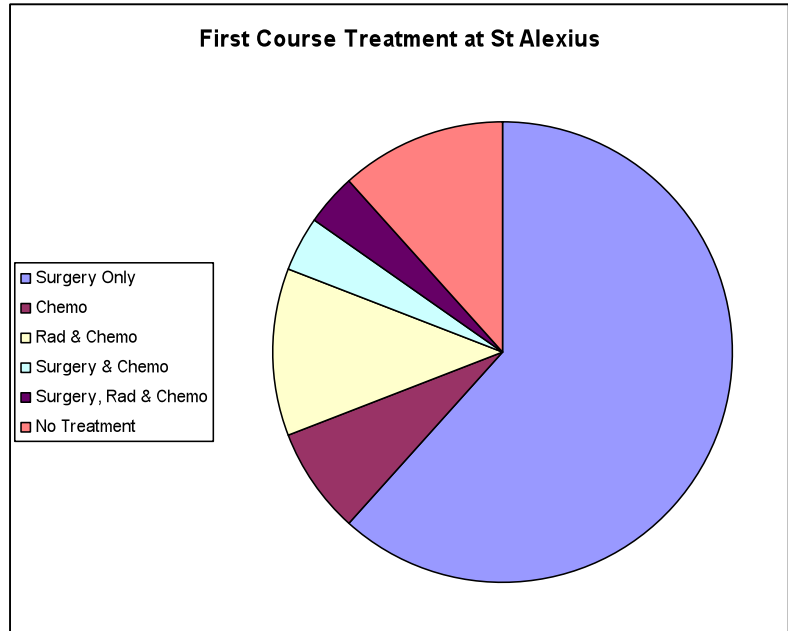
Many factors affect prognosis, but the 5-year survival rate for people with cancer confined to the kidney is very good. If the cancer has spread into the renal vein or the vena cava but has not spread to distant sites, the 5-year survival rate is 35 to 60%. When cancer has spread to distant sites, the 5-year survival rate is no higher than 10%.⁴ The chart below illustrates the value of early diagnosis, with survival rates of 80% in Stage I cases and 73.5% when diagnosis is made in Stage II in the US as a whole.



The sample size for St. Alexius, especially when looking at late stage diagnosis, is too small for meaningful survival statistics to be broken out into stages, since individual cases can cause disproportionate exaggeration in such a small population.

St. Alexius Medical Center has a very favorable track record in diagnosing and treating Kidney Cancer, not only in 2008, but since Registry data has been tracked in 2002. Physicians in the St. Alexius Medical Center system are recognizing and treating Kidney Cancer patients at a younger age and earlier

stage than the national average. While comparative data for survival is limited, prognosis for SAMC's patients appears to be as good, if not better, than the regional and national standards.



¹ National Cancer Institute website. www.cancer.gov

² Kidney Cancer Association website. www.kidneycancer.org

³ American College of Surgeons National Cancer Database. www.facs.org/cancer/databases.html