

*The Georgia Cancer Center of Excellence  
at Grady Hospital*

*2011 Annual Report*

## Contents

<b><u>OVERVIEW .....</u></b>	<b><u>3</u></b>
<b><u>CANCER CENTER LEADERSHIP .....</u></b>	<b><u>4</u></b>
<b><u>2011 CANCER COMMITTEE MEMBERS .....</u></b>	<b><u>4</u></b>
<b><u>2011 COMMUNITY OUTREACH AND GRANT FUNDING HIGHLIGHTS.....</u></b>	<b><u>5</u></b>
<b><u>GEORGIA CANCER CENTER OF EXCELLENCE CANCER REGISTRY .....</u></b>	<b><u>8</u></b>
<b><u>2010 ANALYTIC CASES TUMOR REGISTRY STATISTICS.....</u></b>	<b><u>9</u></b>
<b><u>CERVICAL OUTCOMES ANALYSIS.....</u></b>	<b><u>11</u></b>
<b><u>COLON OUTCOMES ANALYSIS.....</u></b>	<b><u>16</u></b>
<b><u>2011 CANCER COMMITTEE MEMBERS .....</u></b>	<b><u>ERROR! BOOKMARK NOT DEFINED.</u></b>

## Overview

The mission of The Georgia Cancer Center for Excellence (GCCE) at Grady Memorial Hospital is to reduce the number of lives lost to cancer in the metropolitan Atlanta area and Georgia through prevention and screening, treatment, research and education. The center provides services in a patient-focused manner that emphasizes access, customer service, cultural competence and the highest level of ethics and fiscal responsibility. An established multi-disciplinary team of physicians and staff from Emory, Grady and Morehouse was created to provide individual treatment options and care plans by cancer site for each patient.

Our \$28 million dollar state-of-the art facility provides highly attentive care to cancer patients and their families. The facility also houses the \$3.3 million Avon Foundation Comprehensive Breast Center. Our patients have on-site access to advanced technology in diagnostic imaging, surgical and radiation therapy. Patients have access to clinical trials, and the Basic scientists from Morehouse continue to discover mechanisms for potential treatment and cure in the research wing of our center.

The Georgia Cancer Center for Excellence (GCCE) at Grady is accredited by The American College of Surgeons Commission on Cancer. As such, the Cancer Center has a comprehensive Quality Program. The following quality initiatives were spearheaded, monitored, and accomplished during 2011.

- Purchasing a High Dose Radiotherapy unit that delivers targeted radiation for cervical and breast cancer patients.
- Decreasing hospital admissions for chemotherapy by 50% and treating patients in the outpatient infusion center instead as a result of adoption of patient focused scheduling and coordination with physician ordering
- Implementing comprehensive multi-disciplinary patient specific notes for the six dedicated cancer conferences: Breast, Gynecology, ENT, Aero-digestive, GI and GU
- Providing an opportunity for all appropriate patients undergoing total mastectomy to consult with the plastic surgery service prior to definitive surgery
- Educating 467 participants in the community of the importance of colo-rectal screening and collecting data regarding their follow-up care
- Developing a Collaborative Action Plan with the American Cancer Society for the ACS Patient and Family Resource Library

Through the support of the Grady Hospital System leadership and the work of all of the individuals in the GCCE at Grady, we continue to provide extraordinary treatment to our clients in a patient-centered environment. Input from the staff and patient advocates will guide our 2012 quality improvement goals.

## **Cancer Center Leadership**

### **Roland Matthews, MD**

Professor and Chairman, Obstetrics and Gynecology, Morehouse School of Medicine  
Medical Director, Georgia Cancer Center for Excellence at Grady  
Georgia Cancer Coalition Distinguished Cancer Scholar

### **Sheryl Gabram-Mendola, MD MBA**

Professor of Surgery  
Emory University School of Medicine  
Deputy Director, Georgia Cancer Center for Excellence at Grady  
Director, AVON Comprehensive Breast Center at Grady  
Georgia Cancer Coalition Distinguished Cancer Scholar

### **Adriene Kinnaird, B.S. RT(T), MBA**

Executive Director  
Oncology and Cardiac Services  
Georgia Cancer Center for Excellence at Grady

### **Joel Okoli, MD MPH**

Associate Professor of Surgery, Section of Surgical Oncology, Morehouse School of Medicine  
Chair, Cancer Committee, Georgia Cancer Center for Excellence at Grady

## **2011 Cancer Committee Members**

**Joel Okoli, MD – *Chair, Surgical Oncology***

**Sheryl Gabram-Mendola, MD – *Cancer Liaison Physician***

**Adriene Kinnaird, MBA – *Director, Oncology Services***

**Arthur Fountain, MD- *Diagnostic Radiology***

**Eric Flenaugh, MD- *Pulmonary Medicine***

**George Birdsong, MD- *Pathology***

**Joseph Shelton, MD- *Radiation Oncology***

**Judy Shepard, RN- *Quality Management***

**Kathleen Gundry, MD- *Breast Imaging***

**Kevin A Osgood, MD- *Palliative Care***

**Kia Stokes, RN- *Oncology Nursing***

**Lorraine Trim, MPA- *Clinical Research***

**Lusi Martin – *ACS Representative***

**Makeeta Rayton, MSW- *Social Worker***

**Mary Jo Lund, PhD- *Epidemiology***

**Rahwa Ghermay, MD- *Palliative Care***

**Roland Matthews, MD- *Gynecology Oncology***

**Ruth O'Regan, MD- *Medical Oncology***

**Sherita Hearn, CTR- *Cancer Registry***

**Terri Medina, MPA- *Public Education and Outreach***

**Viraj Master, MD- *Urology***

# 2011 Community Outreach and Grant Funding Highlights

## Community Outreach

The Georgia Cancer Center for Excellence provides community outreach in Fulton and DeKalb counties in Georgia. In 2011, GCCE provided the following:

- Cancer Education:
  - Six (6) presentations at Houses of Worship and Senior Residences, topics included:
    - i. Interventional Pain Management
    - ii. Treatment of cervical and ovarian cancer
    - iii. Colorectal cancer overview – from screening to treatment
    - iv. Healthy Eating for cancer prevention and cancer survival
    - v. Interventional Pain Management
    - vi. Prostate Health
- Colorectal Cancer Screening Intervention Program (CCSIP):
  - CCSIP was initiated through Morehouse School of Medicine to provide colorectal education and screening information throughout the community in Fulton and DeKalb counties. In 2011, there were 15 presentations conducted, 45 educational sessions with 467 persons educated and 63 out of the 100 required completers to complete all three sessions.
- Breast Health / Breast Cancer Screening:
  - GCCE began a community outreach initiative in Fulton and DeKalb counties providing important breast health and breast cancer screening including mammography information. The objective of this program is to not only provide breast health information to underserved women in the community but to refer them to Grady Health System to receive a mammogram.

## Community Service

- The Georgia Cancer Center of Excellence partners throughout the community to participate with community services. Physicians, staff, and volunteers of the Cancer Center participated and/or raised funds to assist with the following event:
  - American Cancer Society, Relay for Life
  - WNBA Dream Pink Basketball Game and Spa Day for Breast Cancer patients
  - Emory Winship Cancer Institute, Win the Fight Run/Walk Event
  - American Cancer Society, Making Strides Against Breast Cancer

## Grants and Funds

- Caring Hearts Fund
  - The Caring Hearts Fund was created to assist oncology patients with transportation and/or pharmacy co-payments when the need arise.
- Georgia Cancer Center Nurse Lock-up Fundraiser
  - In August 2011, the Cancer Center created its first in-house fundraiser, “Nurse Lock-up” to raise funds for the Caring Hearts Fund. Our clinical charge nurses, in-patient unit director, and sickle cell charge nurse were “locked-up” and were also encouraged to raise funds to help the Cancer Center’s patients. The nurses contacted their family, friends, co-workers, and others and raised more than \$4,000.
- Beverly Family Foundation Fund
  - A generous donation was received from the Eric R. Beverly Family Foundation in the amount of \$5,000 to assist the Cancer Center its Self-Image Center, providing wigs, mastectomy bras, and camisoles for women who have had a mastectomy or lumpectomy and/or currently in treatment for breast cancer.
- It’s the Journey Genetics Screening Grant
  - Bridging the Grady GAP – Genetic Access Program provides genetic counseling and funds for genetic testing to Grady patients determined to be at high risk for hereditary breast cancer. The program is funded

through a grant from It's the Journey, Inc. For the March 2011 to February 2012 grant cycle the amount of the grant award was \$15,000. Since March 1, 2011, a total of thirty (30) patients have been seen for genetic counseling through this program. Of those thirty, nineteen went on to have genetic testing and thus far three patients have been found to have a BRCA gene mutation linked to a significantly increase risk of breast and ovarian cancers.

- American Cancer Society Disparities Grant
  - The Cancer Center received funding from the American Cancer Society to assist women with breast cancer and disparities issues in our community. The grant allowed us to survey breast cancer patients and collect data that is vital to what their needs are and the types of services that the Cancer Center can improve.
- American Cancer Society Priority Population Grant
  - The American Cancer Society awarded GCCE a grant award to help educate underserved women in Fulton and DeKalb counties with the importance of breast health and breast cancer screening information.
- Mary Allen Lindsey Branan Foundation Grant
  - Funding was received from the Mary Allen Lindsey Branan Foundation to assist the Cancer Center with the purchase of materials and supplies for the High-Dose Radiation Afterloader machine that is used for radiation therapy treatment to cancer patients diagnosed with breast, cervical, and endometrial cancers.
- Georgia Cancer Coalition, Georgia ACTS Grant for the Indigent
  - The Cancer Center received funding through the Breast Cancer Tag to purchase MRI biopsy equipment that helped the Cancer Center view higher quality breast images from women who may be diagnosed with breast cancer. This equipment benefitted Cancer Center patients because it allowed patients to continue treatment at the Cancer Center instead of being transferred to another local facility for their biopsies.

#### **AVON Foundation, Summary of Activities**

- The Avon Foundation Community Education and Outreach Initiative (CEOI) is a community based patient navigation program with the primary goals of: 1) increasing awareness about breast cancer; 2) increasing mammography screening among age eligible women residing in medically underserved communities; and 3) enhancing the process of receiving prevention and treatment services at Grady Health System in Atlanta, GA. The CEOI receives funding from the Avon Foundation and is the community education arm of the Avon Foundation Comprehensive Breast Center of Grady Health System. The CEOI focuses on educating and serving underserved, underinsured, and uninsured minority communities about breast cancer.
- The CEOI is able to achieve its goals through the use of volunteers called Patient Navigators. Specifically, there are over 15 trained volunteers, called Community Patient Navigators (PNs) that educate the community about breast health, breast cancer, and the benefits of early detection. In 2011, 15 Community PNs hosted a total of 112 events that included breast health exhibits and presentations at various venues. Approximately, 7,654 people attended the events and received breast health information and literature. At the breast health events, 184 women completed forms that indicated they were interested in undergoing mammography screening at Grady Health System; and 71 of those women actually received mammography screening at Grady Health System due to the health education and information received at the CEOI breast health events.
- The CEOI also utilizes two other types of volunteers called Clinic and Individual Patient Navigators (PNs) to achieve its goals. The Clinic and Individual PNs, commonly called the "Ladies in Pink" throughout Grady Health System due to the pink smocks they wear, are all breast cancer survivors that deliver patient navigation services to newly diagnosed breast cancer patients within Grady's Avon Foundation Comprehensive Breast Center. The Clinic and Individual PNs offer peer-to-peer support to the patients, encourage appointment adherence, compliance to treatment regimens, as well as help locate resources that new patients may need. In 2011, 63 newly diagnosed breast cancer patients received the navigation services described above. The Avon Foundation CEOI is an integral patient care component of the Avon Foundation Comprehensive Breast Center and Grady Health System.

### **Generous Donations from Community**

- GCCE has received gracious donations throughout the year from these organizations:
  - Atlanta Lawyer Association, Women Lawyer Section, gift cards.
  - Wheelchair donated by the family of Luis Fernando Sanchez-Legrand, M.D., Ph.D., a patient in the Cancer Center.
  - Emory University's Women's Club provided hats, scarves, gloves, socks, books and magazines, blankets, pillows, toiletries, and gift cards.

## **Georgia Cancer Center of Excellence Cancer Registry**

The Cancer Registry is responsible for identifying, abstracting, and maintaining treatment and current follow-up information for over 23,000 patients diagnosed at the Georgia Cancer Center of Excellence. Registry data has been used in numerous studies by both Emory University and Morehouse School of Medicine physicians to identify trends in oncology care and monitor compliance with national quality measures. The registry is staffed by 3 Certified Tumor Registrars who coordinate and attend 6 site-specific multi-disciplinary tumor conferences. The CTR's attend and participate in various educational conferences throughout the year to maintain the CTR credential and to remain educated on the newest developments in the field.

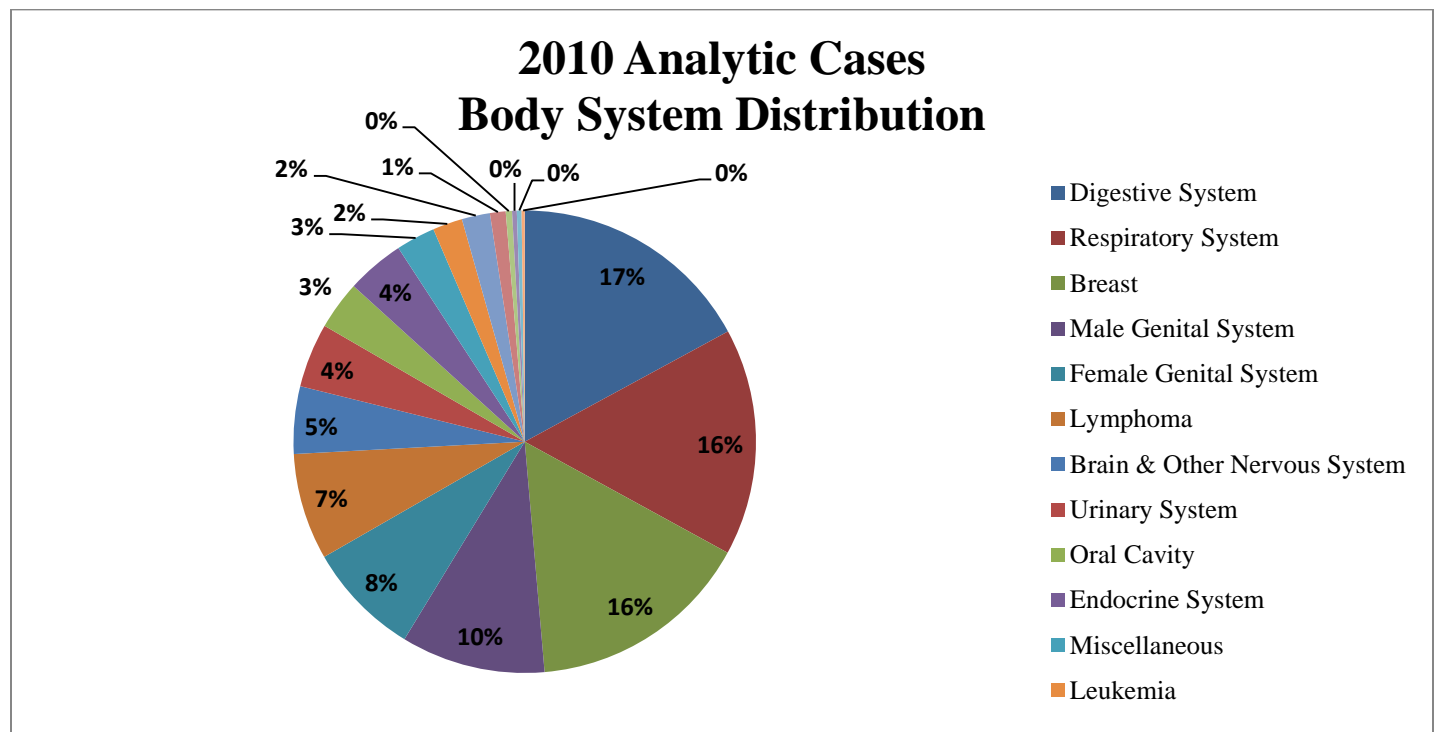
### 2011 Accomplishments

- Abstracted 1045 total cases and maintained greater than 90% abstracting timeliness as required by the CoC.
- Attended and Coordinated 115 multi-disciplinary cancer conferences.
- Contributed to the development and implementation of the breast multi-disciplinary note
- Participated in SEER Collaborative Staging Reliability Study
- Submitted error free data to the National Cancer Data Base earning the center a Commendation Rating for Standard 3.7
- Contributed to the
- Achieved 92% Collaborative Staging Accuracy Rate during the 10% Physician Reviews



## 2010 Analytic Cases Tumor Registry Statistics

2010 Analytic Cases	Body System Distribution
Digestive System	156
Respiratory System	145
Breast	143
Male Genital System	92
Female Genital System	73
Lymphoma	68
Brain & Other Nervous System	43
Urinary System	41
Oral Cavity	31
Endocrine System	37
Miscellaneous	25
Leukemia	19
Kaposi Sarcoma	18
Myeloma	10
Soft Tissue	4
Bones & Joints	3
Skin	3
Eye & Orbit	2
Total	913



Top 10 Analytic Cases by Sex

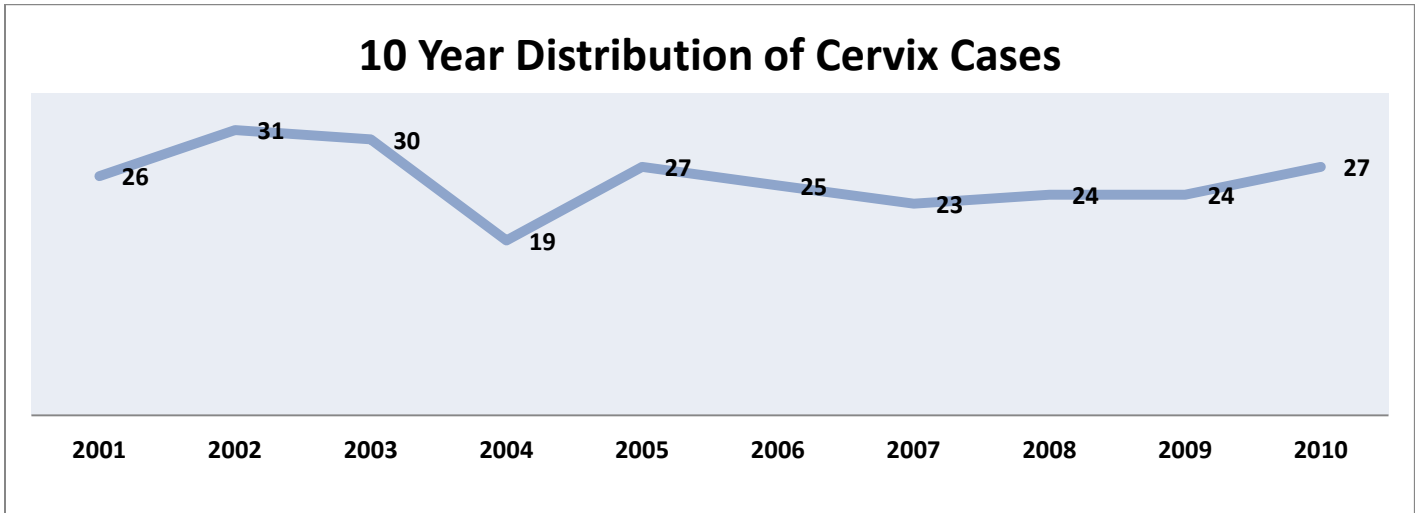
Primary Site	Nbr Cases	Male	Female
Breast	143	1	142
Bronchus & Lung	127	69	58
Prostate	88	88	0
Colon	47	29	18
Lymph Nodes	42	27	15
Hematopoietic & Reticuloendothelial	34	24	10
Kidney	28	15	13
Skin	26	22	4
Cervix Uteri	25		25
Corpus Uteri	25		25

DISTRIBUTION OF COUNTY AT DIAGNOSIS

Name Of County	# of Cases	% of Cases	Name Of County	# of Cases	% of Cases
Fulton	633	58.39%	Banks	1	0.09%
DeKalb	306	28.23%	Barrow	1	0.09%
Clayton	28	2.58%	Bibb	1	0.09%
Cobb	25	2.31%	Decatur	1	0.09%
Gwinnett	16	1.48%	Gilmer	1	0.09%
Douglas	9	0.83%	Houston	1	0.09%
Out of State	9	0.83%	Jasper	1	0.09%
Henry	7	0.65%	Laurens	1	0.09%
Rockdale	6	0.55%	Morgan	1	0.09%
Cherokee	5	0.46%	Paulding	1	0.09%
Coweta	4	0.37%	Polk	1	0.09%
Newton	4	0.37%	Stephens	1	0.09%
Butts	3	0.28%	Talbot	1	0.09%
Carroll	3	0.28%	Troop	1	0.09%
Muscogee	3	0.28%	Unknown	1	0.09%
Burke	2	0.18%	Upson	1	0.09%
Fayette	2	0.18%	Warren	1	0.09%
Forsyth	2	0.18%			

# Cervical Outcomes Analysis

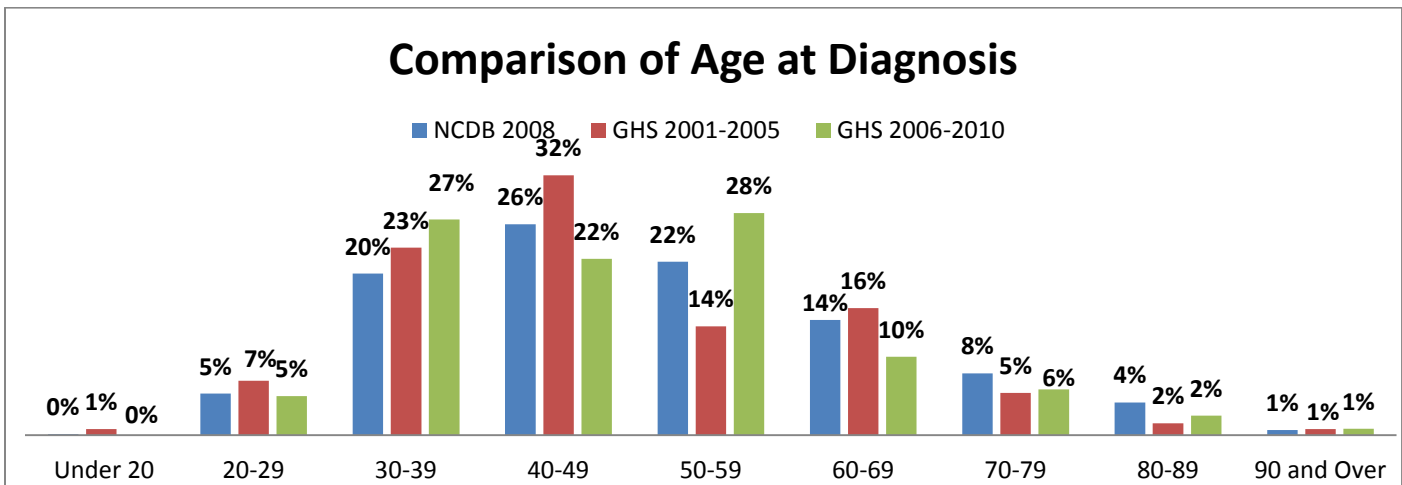
While cervical cancer is infrequently diagnosed in the U.S. and in Georgia, cervical cancer continues to be one of the top 5 cancer sites diagnosed and/or treated at the Grady Health System Georgia Cancer Center of Excellence. According to the American Cancer Society, cervical cancer will account for an estimated 12,710 new U.S. cancer cases in 2011 and 4290 deaths. In the state of Georgia, 410 cases will be diagnosed. In 2010, the GHS Georgia Cancer Center of Excellence accessioned 27 cases of invasive cervical cancer and 30 CIN3s. Five-year annual average numbers of cases were 27 and 25 for diagnosis periods 2001-2005 and 2006-2010 respectively. Thus, GHS accounts for about 6% of all cervical cancers in the state of Georgia.



## Age at Diagnosis

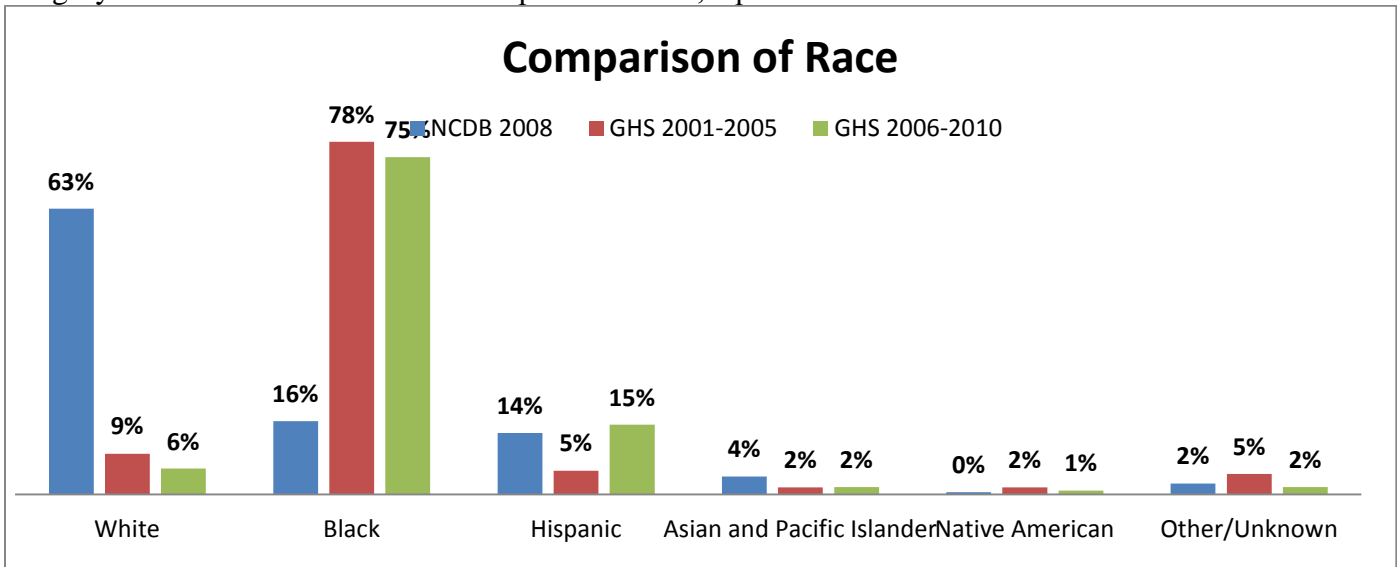
The majority of cervical cancer cases diagnosed at GHS continue to be among those ages 30-59. However differences in age distributions were noted for the two time periods. In 2001-2005, ages 40-49 accounted for the majority of all cases (32%) and 50-59 with 14%. By 2006-2010, ages 40-49 accounted for only 22%, while ages 50-59 accounted for the majority (28%).

Our age distributions (combing the two GHS time periods) and trends do not substantially differ from the NCDB age distributions. For example, similar to GHS the majority of cervical cancers diagnosed in the NCDB are also among those ages 30-59. However, more GHS women are diagnosed prior to age 60 (82% of all cases in 2006-2010) vs. 68% for NCDB women under age 60.



## Race Distribution

The vast majority of patients diagnosed/treated with cervical cancer at GHS are Black; 78% and 75% for diagnosis years 2001-2005 and 2006-2010 respectively. This is in marked contrast to the NCDB data where Blacks comprise only 16% of the cervical cases, while Whites account for the majority, 63%. In 2006-2010, the third most diagnosed group at GHS was Hispanics (15%), similar to NCDB 2008 cases (14%). Our unknown category was reduced over the two time periods to 2%, equal to NCDB's 2%.

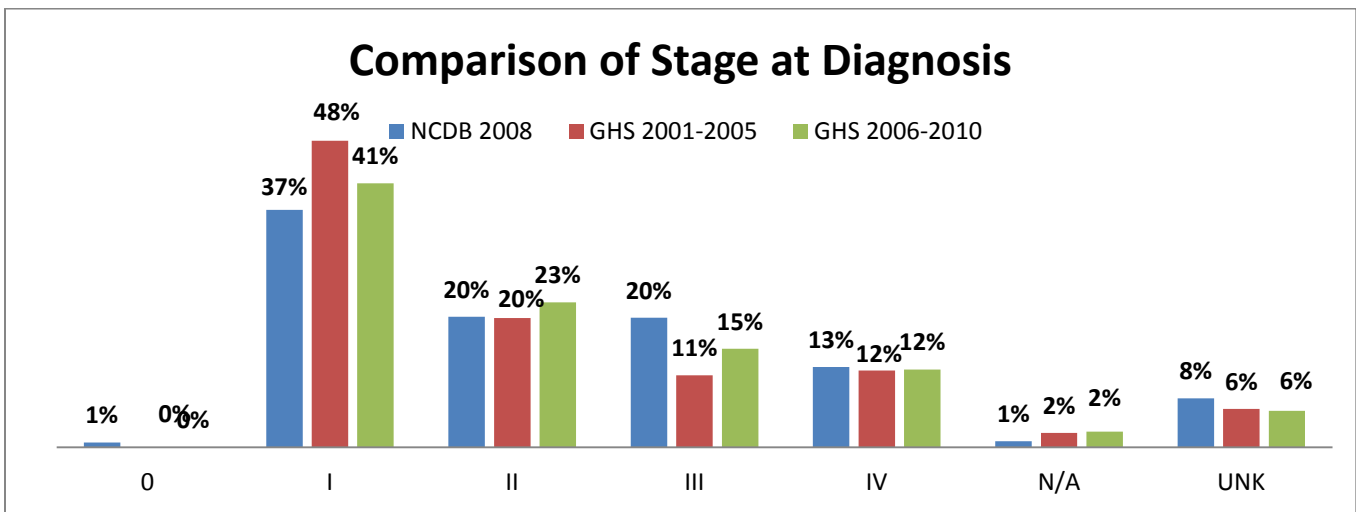


## Stage at Diagnosis

Stage I disease remains the most prevalent stage at diagnosis for cervical cancer cases at GHS, representing over 40% of all diagnosed cases; although stage I diagnosis decreased from 48% to 41% for time periods 2001-2005 and 2006-2010 respectively. This decrease was at the expense of increases in stage II and III disease.

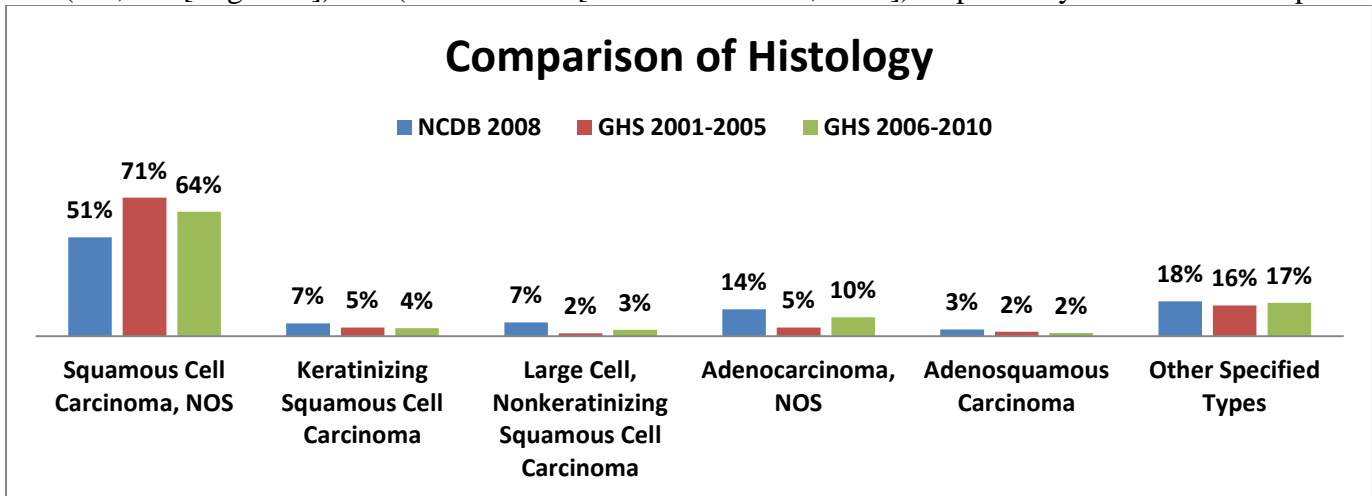
Differences in the GHS data vs. NCDB are not remarkable, with the exception of Stages I and III disease. The prevalence of stage I disease diagnosed at GHS is higher than the Stage I distribution in the NCDB data (48% and 41% for the two time periods (2001-2005 and 2006-2010) vs. 37% in the NCDB data). In comparison, stage III disease is lower, 11% and 15% for the two time periods respectively vs. 20% in the NCDB data.

The percentages of UNSTAGED cases are 25% lower among GHS patients (6% and 6% vs. 8% in the NCDB data).



## Histology Comparison

Squamous cell cancers (NOS) continue to be the majority of histologic types diagnosed at GHS (71% and 64%) for time periods 2001-2005 and 2006-2010 respectively. Squamous cell cancers (NOS) are also most likely to be diagnosed in the NCDB (51%), although these percentages are lower than GHS. Large cell and adenocarcinomas, NOS are more often diagnosed in the NCDB data (7% and 14% respectively) than in GHS data (2%, 3% [large cell]) and (5% and 10% [adenocarcinomas, NOS]) respectively for the two time periods.

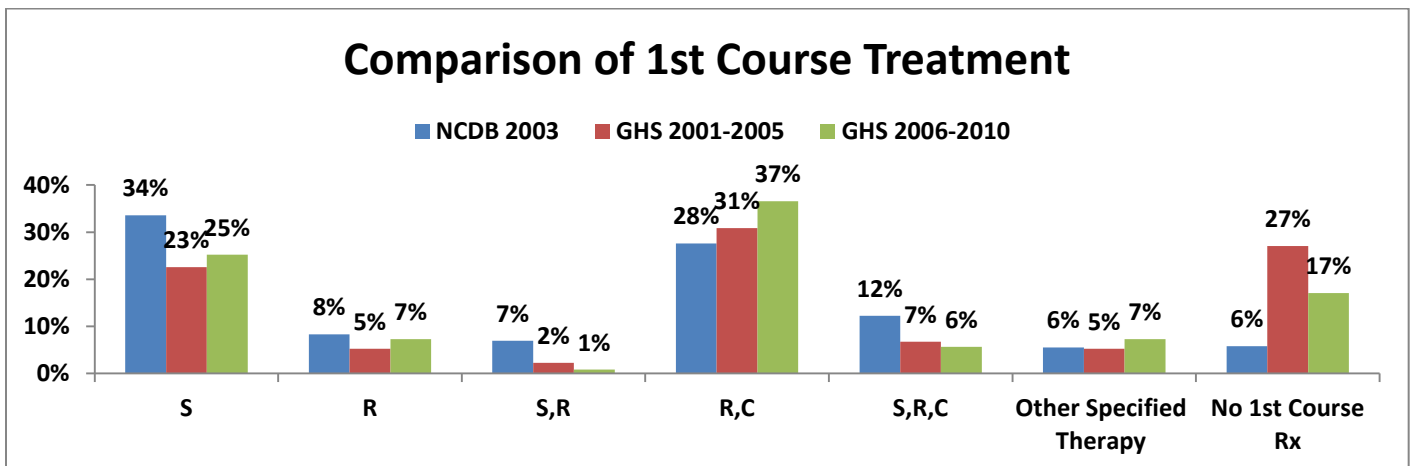


## 1<sup>st</sup> Course Treatment

Although first course treatment types have remained relatively similar at GHS for time periods 2001-2005 and 2006-2010, lack of first course treatment declined from 27% to 17%.

Compared to NCDB data, S and S-combined treatments are lower among GHS patients (34% vs. 23% and 25% respectively and 19% vs. 9% and 7% respectively), while R,C treatments are higher among GHS (28% vs. 31% and 37% respectively). Finally, compared to NCDB data, NON-treatment continues to remain about three-fold higher among GHS patients (6% vs. 27% and 17% respectively for time periods 2001-2005 and 2006-2010).

S=Surgery; R=Radiation; C=Chemotherapy



## Five- Year Survival

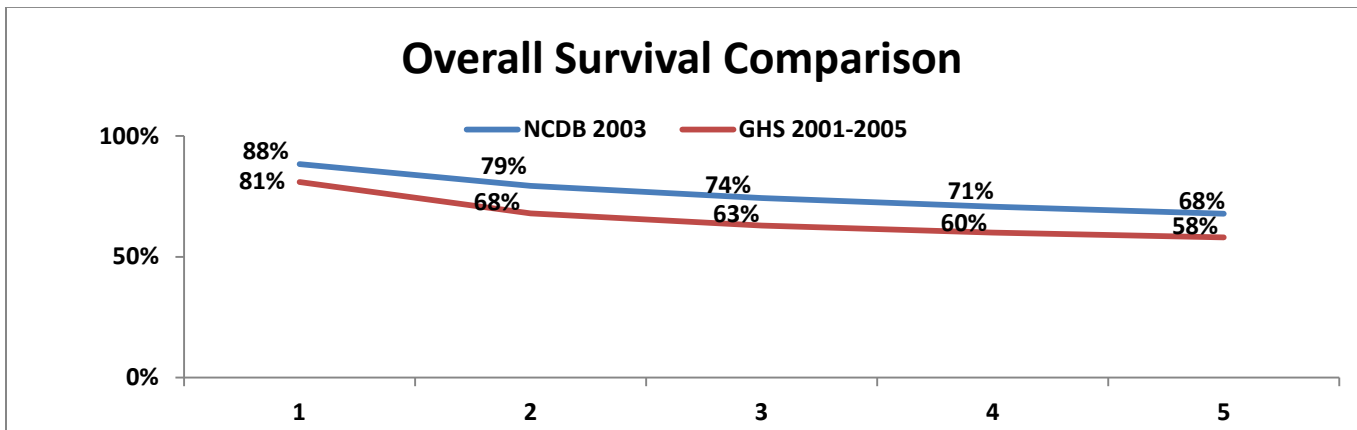
The graphs below represent observed 5-year survival among cervical cancer patients who were definitively staged. NCDB cervical cancer patients were diagnosed in 2003 (N=7979). GHS cervical cancer patients were diagnosed from 2001-2005 inclusive (N=133).

Among GHS patients, 5-year survival was 58% (**Figure A**). Overall survival at 1 through 5 years was consistently about 5-10% lower among GHS patients than NCDB; at 5 years survival was 58% vs. 68% respectively (**Figure A**).

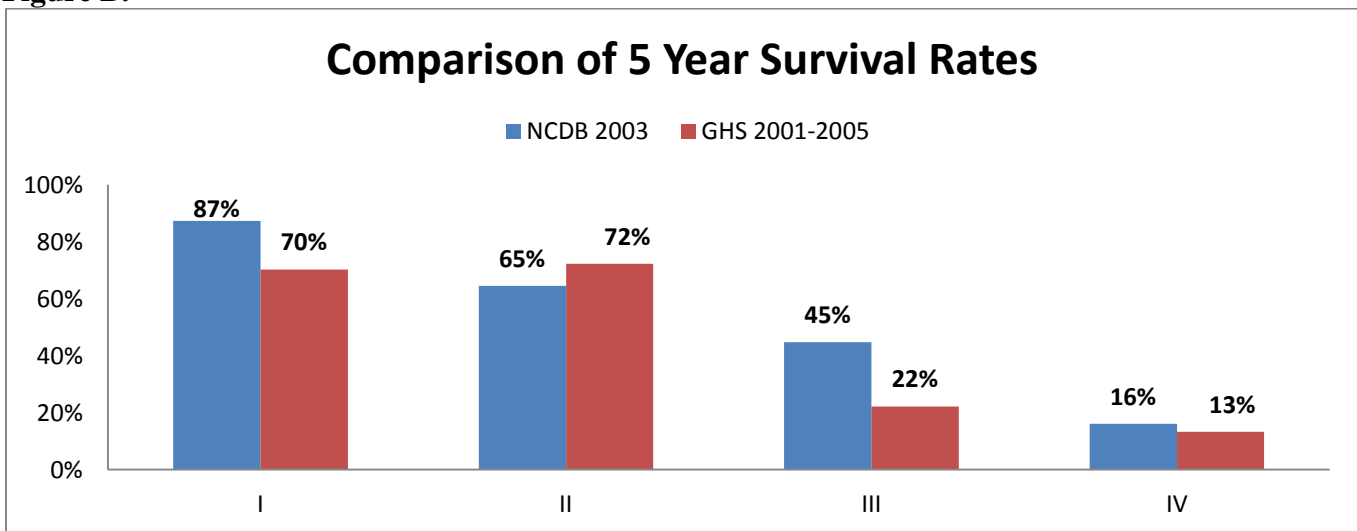
Lower survival was also observed within each stage at diagnosis, with the exception of Stage II, where GHS survival was 72% vs. 65% for NCDB patients, about 12% higher (**Figure B**). The largest difference in survival was among those with stage III disease, where survival was about 50% lower among GHS patients (22% vs. 45%).

As expected, 5 year survival decreased with increasing stage (from I to IV) among the NCDB patients (87%, 65%, 45%, and 16% respectively (**Figures B, C**). In contrast, among GHS patients survival by stage was almost dichotomized (70%, 72%, 22% 13%), (**Figures B, D**).

**Figure A.**



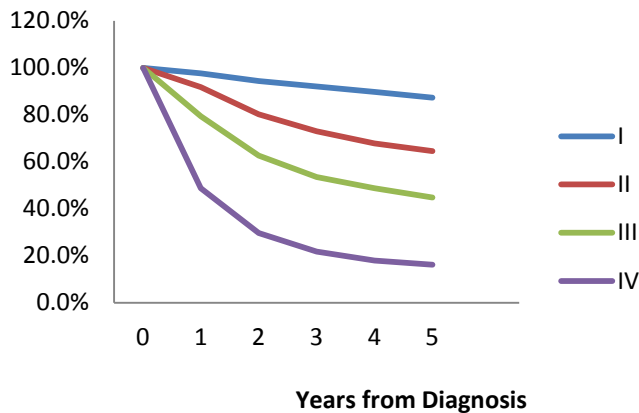
**Figure B.**



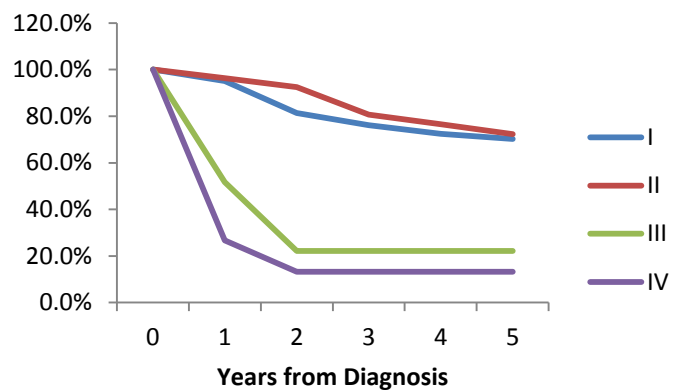
**Figure C.**

**Figure D.**

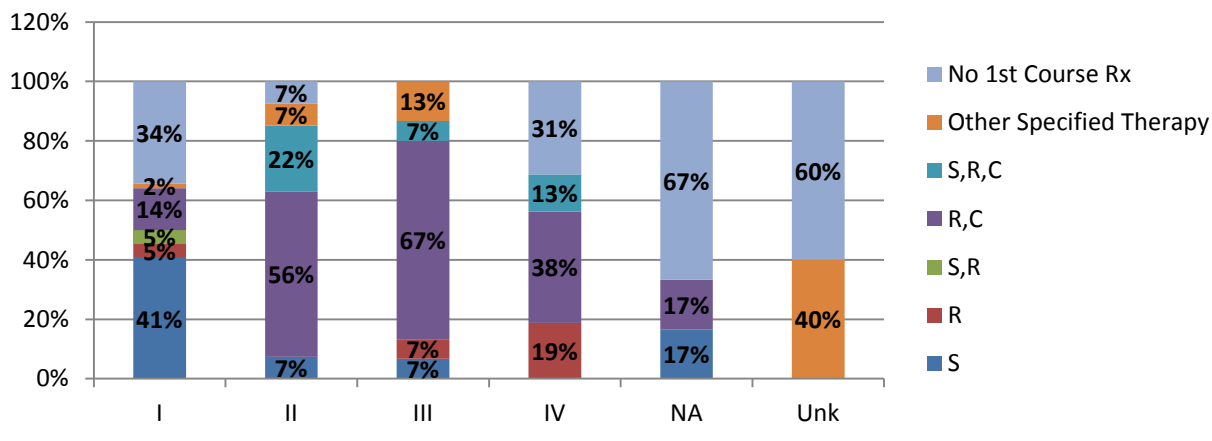
**NCDB 2003 Observed 5 Year Survival**



**GHS 2001-2005 Observed 5 Year Survival**



**GHS 2001-2005 Cases 1st Course TX by Stage**



S=Surgery; R=Radiation; C=Chemotherapy

**DISCUSSION POINTS**

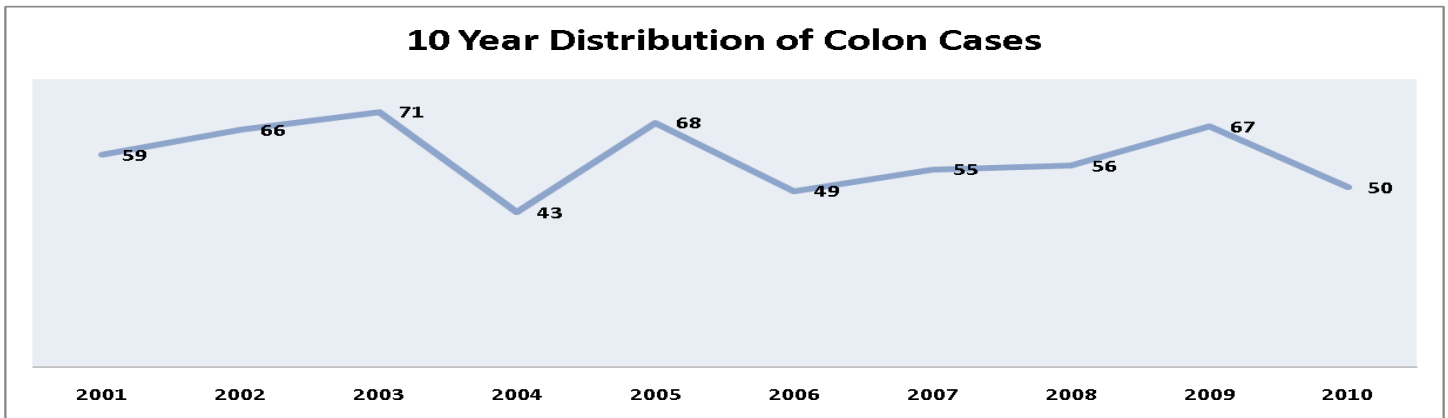
- Continued prevalence, despite screening efforts. Discordant with national trends.
- Despite similar age, stage, and histology distributions overall survival remains lower than national average; particularly for advanced stage patients

**FUTURE DIRECTIONS**

- Further examine potential factors related to outcome:
  - Disease factors (size, grade, HPV, HIV, etc)
  - Treatment factors
  - Socioeconomic factors
  - Identify potential clinical trials to help improve outcomes

## Colon Outcomes Analysis

Similar to U.S. distributions, colon cancer continues to be one of the top 5 cancer sites diagnosed and/or treated at the Grady Health System (GHS) Georgia Cancer Center of Excellence. According to the American Cancer Society, colon cancer is the third most commonly diagnosed cancer in the U.S. and will account for an estimated 101,340 new U.S. cancer cases in 2011 and 49,380 deaths. In Georgia, colon cancer is expected to be the fourth most diagnosed cancer in 2011, (behind breast, prostate, and lung/bronchus) and will account for over 2600 new cases. In 2010, the GHS Georgia Cancer Center of Excellence accessioned 50 new colon cancer cases. Five-year annual average numbers of cases were 61 and 55 for diagnosis periods 2001-2005 and 2006-2010 respectively



### Age at Diagnosis

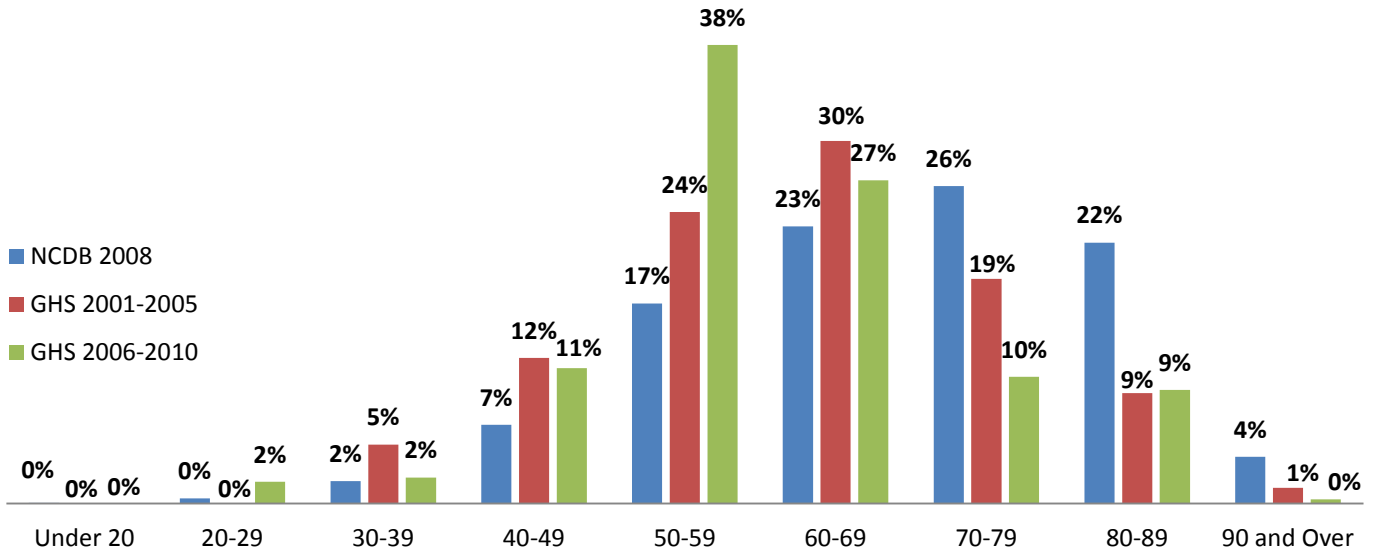
The majority of colon cancer cases diagnosed at GHS continue to be among those ages 50 and over; 83% and 84% for those diagnosed in years 2001-2005 and 2006-2010 respectively. However differences in age distributions were noted for the two time periods. In 2001-2005, ages 50-59 and 60-69 accounted for the majority of all cases (24% and 30% respectively). By 2006-2010, ages 50-59 accounted for the majority of new cases (38%) and ages 60-69 accounted for 27%.

Our age distributions differ from the NCDB, which indicated 91% of 2008 diagnosed cases were among those ages 50 and over. Furthermore, older age groups accounted for the majority of NCDB cases; 23%, 26%, and 22% for ages 60-69, 70-79, and 80-89 respectively. The most remarkable difference is among those ages 50-59, where NCDB patients account for only 17% of all cases, while GHS patients accounted for 24% (2001-2005) and 38% (2006-2010).

For those under age 50, case distributions at GHS were nearly double those for the NCDB; 17% (2001-2005) and 15% (2006-2010) vs. 9% for the NCDB.



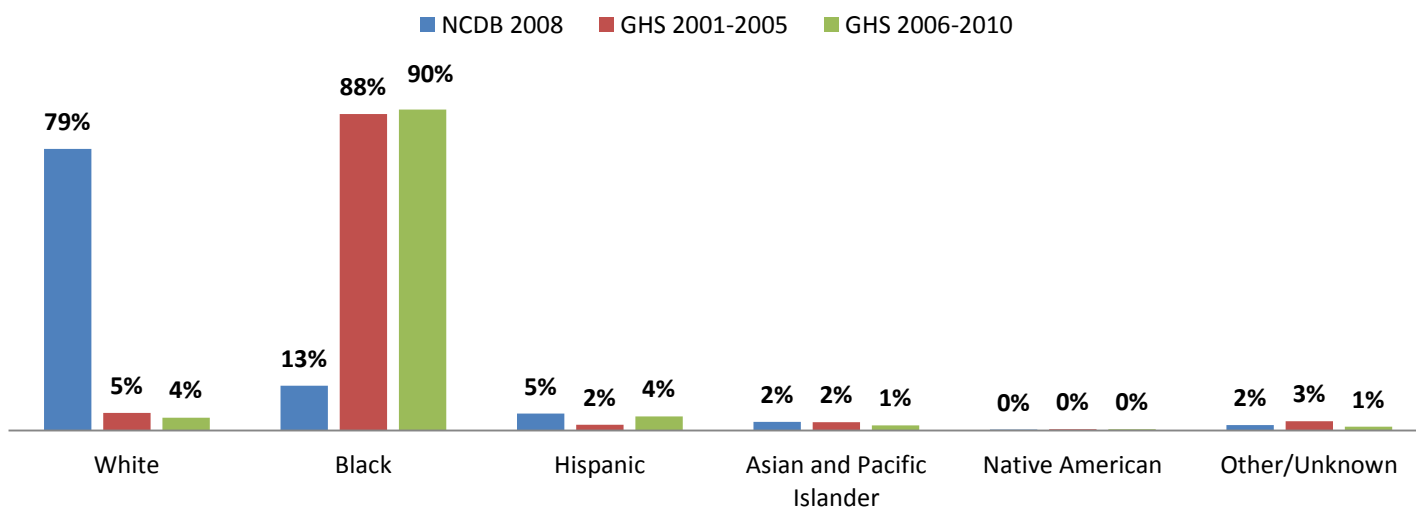
## Age at Dx Comparison



## Race Distribution

The vast majority of patients diagnosed/treated with colon cancer at GHS are Black; 88% and 90% for diagnosis years 2001-2005 and 2006-2010 respectively. This is in marked contrast to the NCDB data where Blacks comprise only 13% of the colon cases, while Whites account for the majority, 79%. The third most diagnosed group are Hispanics, accounting for 5% (NCDB) and at GHS 2% and 4% for diagnosis years 2001-2005 and 2006-2010 respectively.

## Race At Diagnosis Comparison

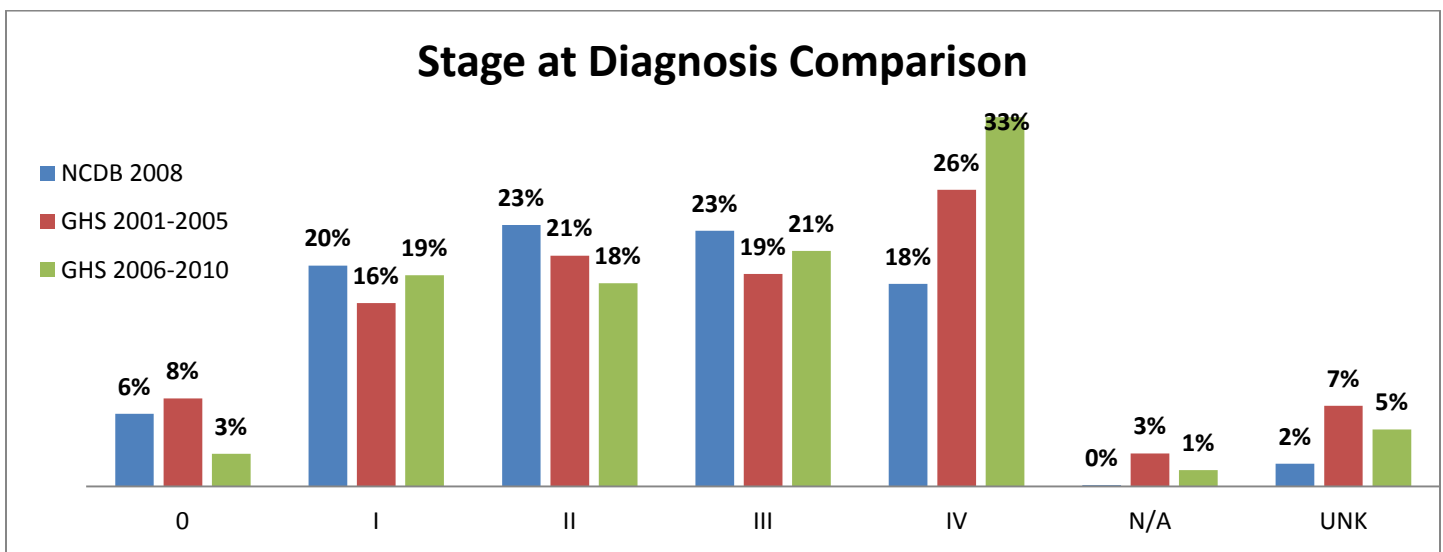


## Stage at Diagnosis

Stage IV disease remains the most prevalent stage at diagnosis for colon cancer cases at GHS, representing over 25% of all diagnosed cases. Furthermore, over the last decade stage IV disease increased by about 25%, from 26% of all cases in 2001-2005 to 33% of all cases in 2006-2010. This increase was primarily at the expense of stage 0 diagnosis, which decreased from 8% to 3% over the same time periods.

The prevalence of stage IV disease diagnosed at GHS is markedly higher than the Stage IV distribution in the NCDB data (18%). This represents a 46% and 82% increase for GHS patients compared to NCDB patients for the two time periods (2001-2005 and 2006-2010) respectively. The NCDB patients are most likely to be diagnosed with Stages II (23%) or III (23%) disease. While stage 0 diagnosis was nearly comparable for the NCDB 2008 data (7%) and GHS 2001-2005 (8%), the time period representing 2006-2010 demonstrates a 55% decrease in stage 0 disease compared to NCDB.

The percentages of UNSTAGED cases declined from 7% to 5% for the two GHS time periods, but these remain higher than the NCDB data (2%).

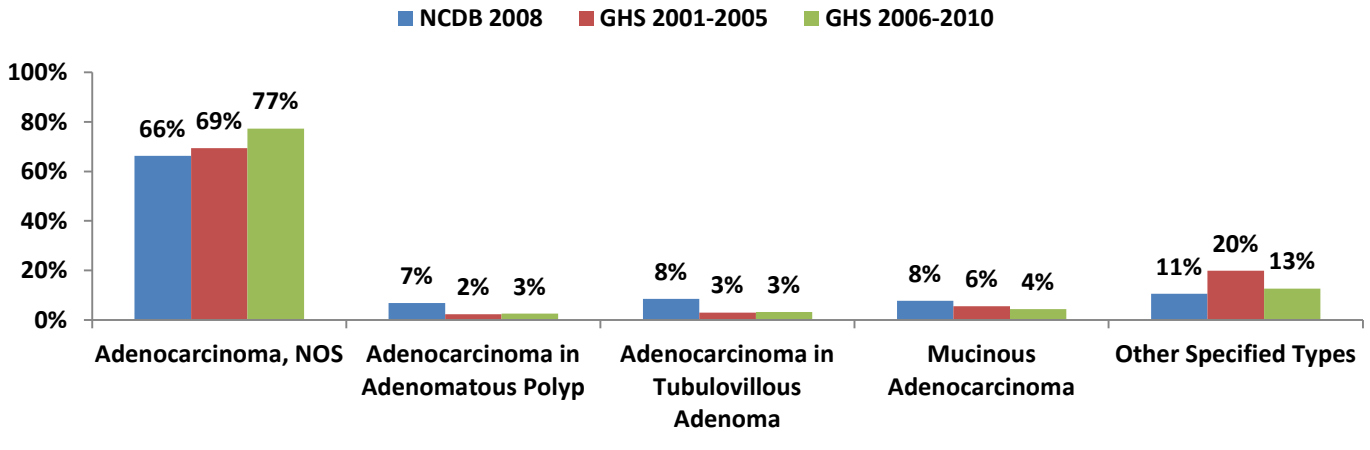


## Histology

Adenocarcinoma, NOS was the most prevalent histologic type of colon cancer diagnosed at GHS during years 2001-2005 and 2006-2010, 69% and 77% respectively. 'Other specified' types decreased from 20% to 13% over the same time period.

Adenocarcinoma, NOS was also the most frequently diagnosed histology in the NCDB, but was not as commonly diagnosed in the NCDB (66%). The GHS 2006-2010 data demonstrates an approximately 16% higher distribution than the NCDB. NCDB patients were approximately two-fold more likely to be diagnosed with more specific types; Adenocarcinoma in Adenomatous Polyp or in Tubulovillous, or as a Mucinous Adenocarcinoma.

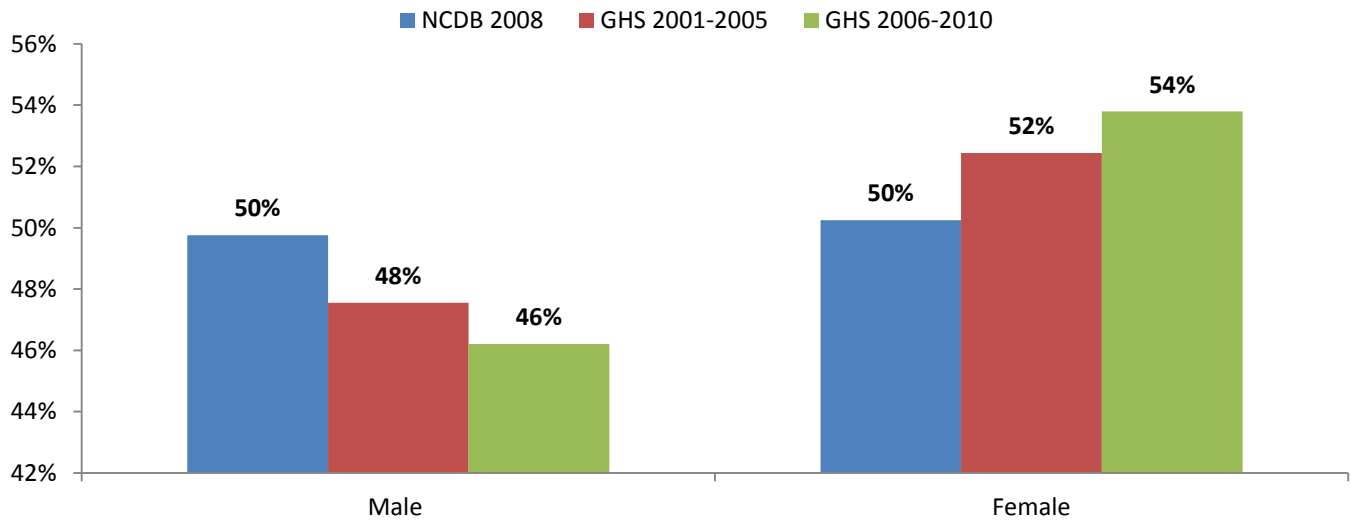
## Histology Comparison



## Gender

Females account for a larger proportion of colon cancer cases diagnosed at GHS, representing 52% and 54% for time periods 2001-2005 and 2006-2010 respectively. Similarly, females represent 50% of all colon cancer cases in the NCDB.

## Gender Comparison



## Five- Year Survival

The graphs below represent observed 5-year survival among colon cancer patients who were definitively staged. NCDB colon cancer patients were diagnosed in 2003 (N=51,952). GHS colon cancer patients were diagnosed from 2000-2005 inclusive (N=276).

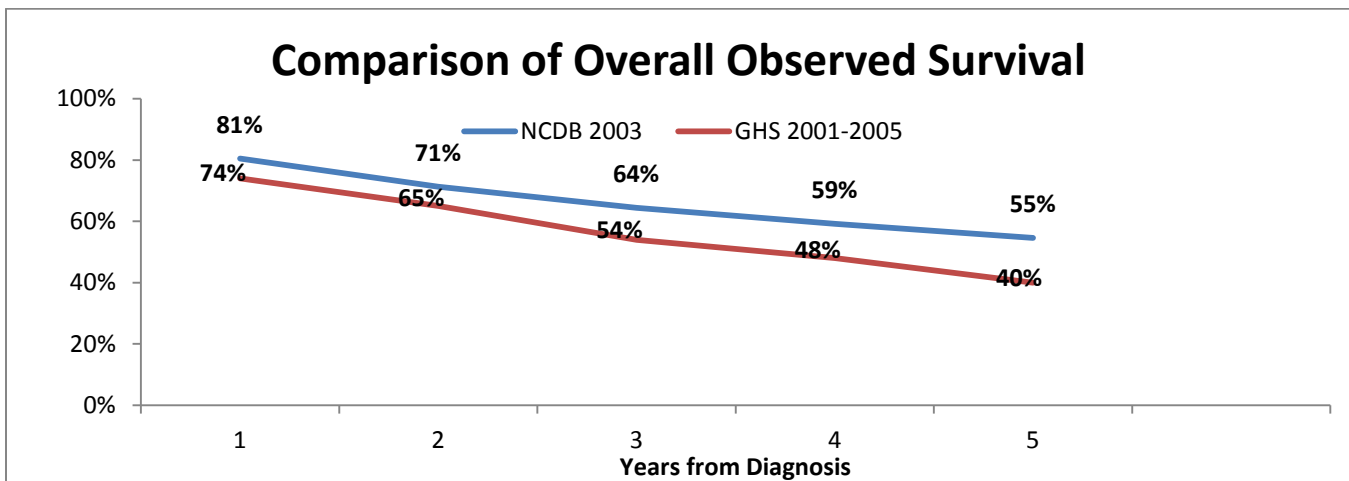
Among GHS patients, 5-year survival was 40% (**Figure A**). Overall survival from 1 through 5 years was consistently lower among GHS patients than NCDB with survival differences widening over the 5-year period. At 5 years GHS survival was approximately 27% lower than NCDB (40% vs. 55%). (**Figure A**)

Within each stage group, survival was also lower among GHS colon cancer patients compared to NCDB patients, ranging from 9% lower among those diagnosed with stage III disease to 37% lower for those diagnosed with stage 0 disease (**Figure B**). Survival for GHS patients was 29%, 21%, and 33% lower for patients diagnosed with Stages I, II, or IV disease respectively.

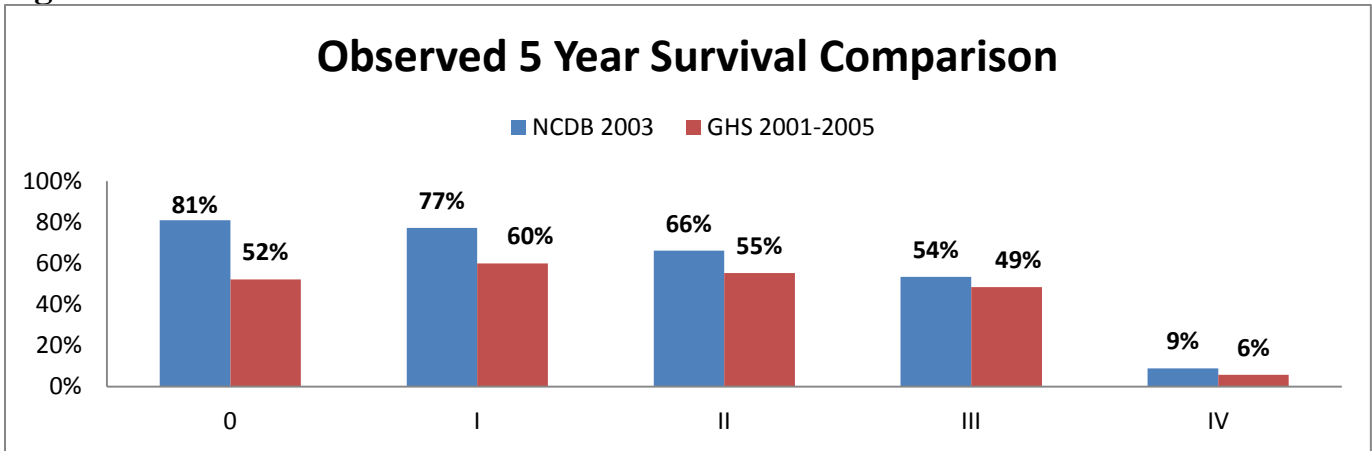
NCDB data demonstrated the expected concurrent decrease in survival with increasing stage at diagnosis; 81.1%, 77.3%, 66.2%, and 53.5% (**Figures B, C**). Stage IV 5-year survival precipitously dropped to 8.9%, as expected. In contrast, 5-year survival among GHS patients for stages 0, I, II, and III was approximately 50% and did not markedly vary; 51.4%, 54.5%, 52.3%, and 48.5% (**Figures B, D**.) Stage IV 5-year survival was strikingly lower 5.9%,

Unknown stage for GHS Colon Cancers diagnosed in 2001-2005 accounted for 22 of 307 cases, 7% of all cases diagnosed (**Figure E**). They are not included in the survival analyses below.

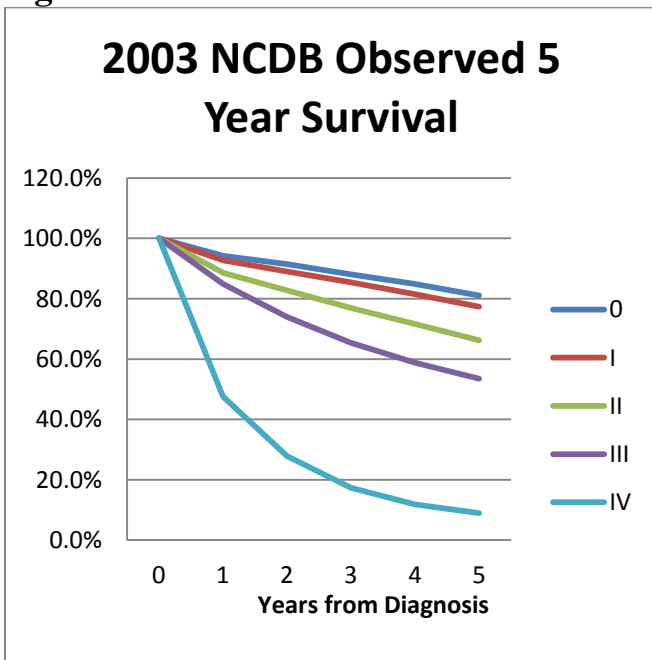
**Figure A.**



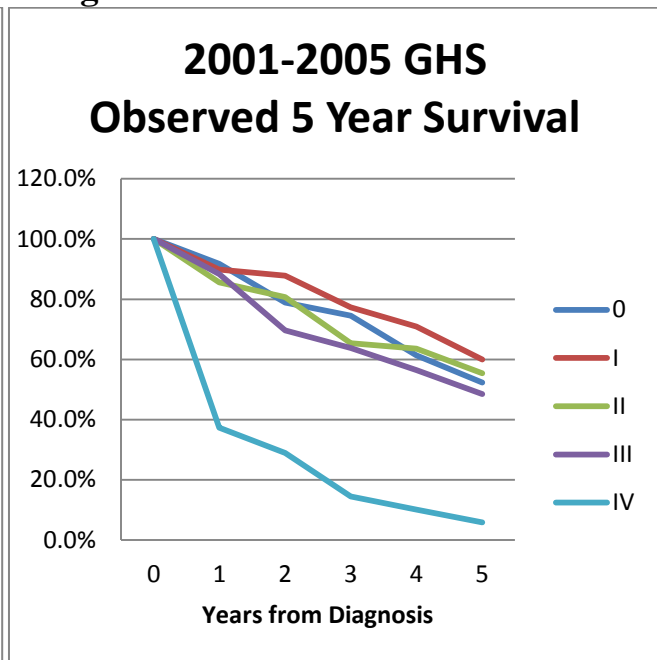
**Figure B.**



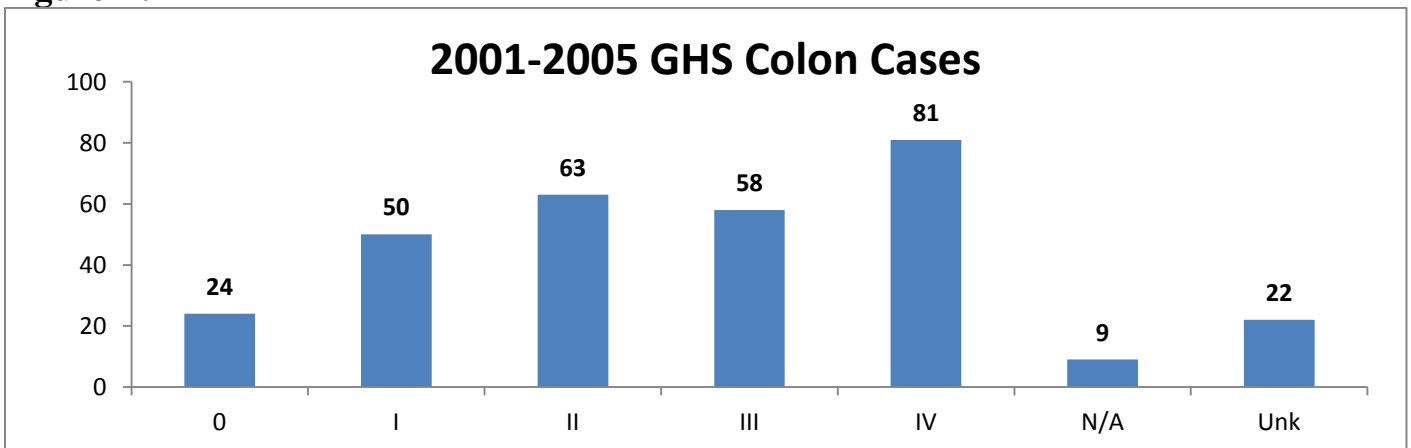
**Figure C.**



**Figure D.**



**Figure E.**



## **DISCUSSION**

- Compared to NCDB data, GHS Colon Ca patients
  - Younger age, later stage
  - Survival lower - overall and within stage
- Underlying population differences (GHS-AA[90%]; NCDB-W[80%])
- Age, stage, survival differences similar to those seen at population-based level for AA vs. W

## **FUTURE DIRECTIONS**

- **Further examine underlying factors related to age, stage, and outcome:**
  - Age – Underlying risk factors and tumor biology
  - Stage – Screening interventions, Tumor conference to decrease UNKNOWN stage
  - Outcome - Socioeconomic factors, Treatment (Navigation interventions, Clinical trials)

- **Identify Potential Interventions:**

We have recruited a GI surgical oncologist to join the GCCE at Grady in August 2012. Her role will be to contribute to the growth of the GI oncology program and in collaboration with medical oncologists Drs. Bassel El-Reyes and Dr. John Kauh, develop strategies to reduce disparities in our patient population.

- **Collaborations with ACS and GCC**
- **Community Outreach and Education**