THE CANCER PROGRAM *Annual Report*

CHILDREN'S HOSPITAL

THE CANCER PROGRAM AND LANASA GRECO CENTER
FOR CANCER AND BLOOD DISORDERS

About Children's Hospital

CHILDREN'S HOSPITAL began as a dream in the minds of a group of very special community leaders about a decade before the hospital became a reality. In the years following World War II, a poliomyelitis epidemic attacked thousands of children, leaving many handicapped. Concerns about these children led the late Elizabeth Miller Robin, a polio victim herself, to establish a rehabilitation hospital for children. The facility opened in 1955.

What makes the hospital unique is the combination of the latest developments in medical treatment and an atmosphere of love and concern for the whole child. Throughout its history, Children's Hospital has served as a teaching facility where faculty from the Louisiana State University Health Sciences Center forms a strong pediatric teaching program. In 1976, Children's Hospital was expanded to become a full-service general pediatric hospital. It has since expanded continually to meet the growing health care needs of our community.

Children's Hospital is a 218-bed, not-for-profit regional medical center offering the most advanced pediatric care. It cares for children from birth to 21 years in more than 40 specialties, including life-threatening illnesses, routine childhood sicknesses and preventive care.

For more information about Children's Hospital, call (504) 899-9511 or visit our Web site at www.chnola.org.

AFFILIATIONS AND ACCREDITATIONS

Children's Hospital, New Orleans is affiliated, accredited or supported by the following local and national organizations:

ACCREDITATION

American Academy of Pediatrics
American College of Surgeons (ACoS) Commission on Cancer
Joint Commission on Accreditation of Healthcare Organizations (JCAHO)
National Marrow Donor Program

MEMBERSHIPS

Child Health Corporation of America
Children's Oncology Group (COG)
Louisiana Hospital Association
National Association of Children's Hospitals & Related Institutions, Inc. (NACHRI)
Metropolitan Hospital Council of New Orleans

ACKNOWLEDGEMENTS

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CHILDREN'S HOSPITAL

Cancer Program

2010 ANNUAL REPORT

(2009 Statistics)

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FOR CANCER AND BLOOD DISORDERS

From the Chairperson

THE PEDIATRIC HEMATOLOGY-ONCOLOGY AND HSCT PROGRAM AT CHILDREN'S HOSPITAL/LSUHSC, New Orleans continues to be the only institution member in good standing with the Children's Oncology Group (COG) in the state of Louisiana. As a COG member, we are able to provide our pediatric oncology patients access to the most current and innovative treatments for all types of childhood cancers and transplants. The availability of these services allow the patients to stay close to their families and homes without the need to go far and lose family support which is extremely critical for their well-being as they go through intensive treatments.


Commission on Cancer

THE COMMISSION ON CANCER AWARDS THIS

Certificate of Accreditation

WITH COMMENDATION

to the Pediatric Cancer Program of

Children's Hospital

New Orleans, LA

Program approved through 2013

Similarly, our Hematopoietic stem cell transplantation (HSCT) program is the only COG approved and FACT accredited pediatric transplant center in the state of Louisiana, which is evidence of the high quality of patient care and Hematopoietic Progenitor Cells (HPC) laboratory performance being done here. Through the HSCT program, we are able to offer all types of transplant to the patient who may need it. These transplants include related and unrelated, allogeneic and autologous, use of all types of stem cell sources: bone marrow, mobilized Peripheral blood stem cell, and cord blood stem cells. More recently, in collaboration with Celgene, we performed the first Human Placenta-derived stem cells (HPDSC) transplant in the world. As more data becomes available, the HPDSC may be established as another source of stem cells that may be used for transplantation.

It is also with pride that we obtained Accreditation with Commendation from the American College of Surgeon's (ACoS) Commission on Cancer from 2006 to the present. It must be noted that we are one of only 11 Pediatric cancer programs in the country with ACoS accreditation.

Our Pediatric Hematology-Oncology & HSCT program is affiliated with LSU MB-CCOP program. And in 2009, the LSU MB-CCOP received the Harry Hines Award from the National Cancer Institute. This award is given as a recognition of the success of the LSU MB-CCOP in helping establish community oncology partnerships and providing services to cancer patients in south Louisiana in the post-Katrina era.

As we end in 2010, we reflect on a number of new endeavors we have accomplished and will continue to do in the coming years.

For the first time in April 2010, we had a memorial for all the children who, sadly, passed on to a better place from 2006 to 2009. The event was a celebration and remembrance of all these wonderful children who in their short lives touched so many of us with their courage, determination and fighting spirit. Amazingly, the event was very well attended and it was good to make our connections with their families and loved ones again.

Then in May 2010, we had our first Curesearch Walk in collaboration with COG. It was organized and led by Drs. Morrison, Velez and Yu but it was through the remarkable efforts of patients and families that this event was a total success. We were fortunate to have for our honorary guests, Mayor Mitch Landrieu and his beautiful wife,

Cheryl. Close to a thousand walkers participated and most importantly, we were able to raise $75,000, all of which will be used for research in childhood cancers.

In July 2010, we had our yearly summer camp , Camp Challenge led by our own Dr. Jaime Morales, who has taken the role of medical director. Like other years, it was very well attended and this year, all campers were able to stay for the whole week without the emergence of H1N1 or other outbreak.

At the same month, Dr. Kishor Bhende with his mentors, Drs. Cui and Yu received the Hyundai Wheels of Hope grant for his research project on dendritic cells and immune recovery post HSCT.

In August 2010, Dr. Lolie Yu was given the Spirit Award by the American Cancer Society. The Spirit Award recognizes the talents and achievements of healthcare professionals in the community who has made significant contributions to the fight against cancer. Past recipients included Dr. Velez in 2008 and Dr. Gardner in 2009.

In November 2010, we passed our COG audit with flying colors . We were reviewed on all three components of IRB/ICC, pharmacy compliance and patient case review. We obtained approval from COG without any major deficiencies. This accomplishment far exceeded our expectations and to that end , we will continue to perform good clinical research for the benefit of our patients.

Finally, we welcome Dr. Cori Morrison to our group. Dr. Morrison completed her pediatric hematology oncology fellowship with us. Not only is she clinically skillful but she's compassionate and well-loved by her patients. We feel that she is a very good fit with our group.

We will continue to strive to provide the best care for our patients and to participate in clinical research in order to improve the outcome for all our pediatric oncology patients with the single goal of curing every single child with cancer.

Lolie C. Yu, MD, *Professor of Pediatrics, Cancer Committee Chairman, Pediatric Hematology/Oncology*

About the Cancer Committee

The mission of the Cancer Committee is to monitor the care given to children with cancer and implement those ideas that will lead to improvement in that care. Since 1989, the Cancer Committee has acted under the aegis of the American College of Surgeons, Commission on Cancer (ACoS, CoC), using guidelines established by them for pediatric cancer centers in the United States. We remain an approved pediatric cancer referral center. We formally became the Center for Cancer and Blood Disorders in 2002 and have offered, in that capacity, up-to-date treatment protocols and clinical trials which provide patients with the opportunity to take advantage of the most advanced and current therapies. It also affords them the opportunity to learn of new advances as soon as they emerge.

The Cancer Committee is comprised of professionals who render care to children with cancer. Together, they embody the multidisciplinary concept of cancer treatment, i.e., taking a unified but comprehensive approach to care or "treating mind, body and soul." As pediatric hematologists/oncologists, pediatric neurosurgeons, urologic and orthopedic surgeons, radiation oncologists, pediatric radiologists and pathologists, these professionals combine their specific outlooks to view the patient as a whole and offer suggestions and plans to improve care. Child psychiatrists, psychologists, social workers, play therapists, non-denominational pastoral workers and rehabilitation specialists also bring to the table their unique outlooks on the support of these children.

This past year, we also worked closely with organizations such as the American Cancer Society and Leukemia/Lymphoma Society. Such connections have helped us to better reach out to the community at large and initiate programs for cancer prevention and education. They have also helped us better assist families in resettling into the post-Katrina environment with its attendant stresses and exigencies. Examples of joint efforts by the Hematology/Oncology Division and these organizations have included lodging of our patients at the American Cancer Society's Hope Lodge, the provision of a grant that provides transportation vouchers for needy parents and the Smile Program. The Smile Program is an endeavor which remains dear to our hearts; it was developed by the American Cancer Society, and is designed to enable the establishment of Big Brother/Sister-like relationships between our patients, especially those with cancer, and medical students at the Louisiana State University Health Sciences Center (LSUHSC). Such relationships have lasted, at times, beyond the tenure of the students at the medical schools; life-long bonds have been forged which sustain our children for years afterwards.

We also have been able to variably call upon the services of anesthesiology, pharmacy, cardiology, ophthalmology, nursing and laboratory services to ensure greater quality control. Nursing staff has provided special insight into the problems that sometimes develop on the unit. They have been instrumental in carrying out some key projects on patient satisfaction, infection control and analgesic administration that have allowed

us to come up with creative solutions to problems seen in patient care.

The Cancer Committee also oversees clinical research activities, both those associated with our hospital and those carried out through our affiliation with the Children's Oncology Group (COG), of which we have been a member institution since 1987. COG is a national, collaborative pediatric cancer research organization, sponsored by the National Cancer Institute at the National Institutes of Health (NCI, NIH). Over 90 percent of children who are diagnosed with cancer in the United States, Canada and other countries throughout the world are enrolled in protocols for therapeutic, cancer control, epidemiology or biology trials through COG. It is our stance that a high percentage of our patients should participate in such trials in order to advance our knowledge of childhood cancer and to provide the patients with the latest advances in treatment and knowledge about the process of their diseases. It is acknowledged that clinical trial participation has been associated with improved survival overall after diagnosis of cancer.

We regularly have residents, fellows and other allied health specialists in attendance at our meetings. This provides an opportunity to educate them regarding the interactions and intricacies involved in the care of children with cancer and other blood disorders. Children's Hospital is closely affiliated with LSUHSC and is one of its major teaching hospitals, providing high-quality education to all these individuals. The environment provided by Children's Hospital has likely influenced the career choices of the LSUHSC medical students who, in high proportion, elect to pursue a pediatric or med/peds residency. Education, in general, remains an essential goal at Children's Hospital, with the Cancer Committee recently incorporating programs on cancer prevention trials such as the FreshStart program, a comprehensive approach to the cessation of smoking during pregnancy and after delivery. We are involved in providing information to the families of children in Louisiana through our Web site, addressing their concerns about long term environmental and toxic hazards that might be encountered upon their return to New Orleans and its environs.

We hope that this annual report of the Children's Hospital Cancer Committee will provide you with information about the oncology and hematology services available at Children's Hospital. Further information can be obtained by calling the Division of Hematology/Oncology at (504) 896-9740.

CANCER COMMITTEE MEMBERS

Lolie C. Yu, MD, Professor of Pediatrics, Cancer Committee Chairman, Pediatric Hematology/Oncology
Evans Valerie, MD, Physician Liason, Pediatric Surgery
Kishor Bhende, MD, Pediatric Hematology/Oncology Fellow
Simone Bienvenu, RN, Quality Assessment & Improvement
Rachel Bufkin, CTR, Cancer Registrar
Kay Casey, MSW, Social Services Department
Randall D. Craver, MD, Pathology/Laboratory Department
Ofelia Crumbet, MD, Pediatric Hematology/Oncology Fellow
Cheryl Fourcade, American Cancer Society
Renee V. Gardner, MD, Professor of Pediatrics, Hematology/Oncology
Cherie Hadley, RN, Pediatric Nurse Coordinator
Marie-Louise Haymon, MD, Radiology
Wendy Huval, RHIA, Director of Medical Records
Amy Lee, Child Life Specialists
Jamie Morales, MD, Assistant Professor, Hematology/ Oncology
Cori A. Morrison, MD, Assistant Professor, Hematology/Oncology
Jennifer Mullinax, MD, Hematology/Oncology Fellow
Lisa Patterson, RN, Bone Marrow Transplant Coordinator
Mary Perrin, Vice-President, Hospital Operations
Murial Roberts, Clinical Trials
Jay Schwab, Pharmacy
Stephanie Sonnier, Clinical Trials
Matthew Starks, MD, Pathology/Laboratory Fellow
Maria C. Velez, MD, Associate Professor of Pediatrics, Hematology/Oncology
Claudette Vicks, RN, Pediatric Nurse Coordinator
Jennifer Walgamotte, Medical Records Coordinator
Peggy Williams, LSCW, Social Services
Lynn Winfield, RN, Nurse Manager

Nosocomial Infection rates among Pediatric Oncology patients: A retrospective study examining the efficacy of Chlorhexidine in reducing infection occurrence

Kristin Clay, MS[1], Cruz Velasco, PhD[2], Lolie Yu, MD[1]
[1]Pediatric Hematology/Oncology, Louisiana State University Health Sciences Center/ Children's Hospital, New Orleans, LA; [2]Louisiana State University Health Sciences Center, Public Health, New Orleans, LA

BACKGROUND

Oncology patients have an increased risk to susceptibility to nosocomial infections (NI), due to both their primary diagnosis as well as their aggressive antineoplastic treatments. Due to the prolonged immunosuppressive nature of many of these life-saving treatments, severe neutropenia is a common side effect. It is generally accepted that the degree and duration of neutropenia is one of the most prominent risk factors of infectious complications among pediatric oncology patients.

Among this immunocompromised group, hematopoietic stem cell transplant (HSCT) patients have been shown to be at an even higher risk, due to the nature of their treatments. Therefore, additional preventative measures are employed to reduce these risks as much as possible. Of particular interest is the daily bathing of these HSCT patients with Hibiclens®, an antimicrobial antiseptic topical wash. The active ingredient of Hibiclens®, Chlorhexidine, has been shown to reduce total microbial flora skin contamination(1). Furthermore, it has been demonstrated to be a significant factor in reducing NIs when used in central venous catheter dressing, as well as when used in a total body wash in intensive care unit patients(2, 3).

OBJECTIVE:

The overall goal of this study is to compare the rates of nosocomial infections among HSCT oncology patients and all other pediatric oncology patients in order to examine the efficacy of Hibiclens® as a prophylactic antimicrobial antiseptic.

DESIGN/METHODS:

This retrospective study examined all pediatric oncology inpatient admissions over an 18 month span from January 2007 – July 2008 at Children's Hospital in New Orleans, Louisiana. Patients were considered into one of two groups: the non-transplant oncology group (functioning as the control group) and the HSCT group. Infections were recorded based on the following criteria: presence of fever (temperature >38°C) >24 hours after admission, and/or presence of positive cultures obtained from bodily fluids (including blood, urine, and stool). Presence of cultures and fever, or just cultures alone, were termed hospital-acquired infections (HAIs). Presence of fever with no culture confirmation was termed nosocomial fever of unknown origin (nFUO). The rate of infections was quantified as the incidence density (ID) for each respective group (# occurrences/100 days).

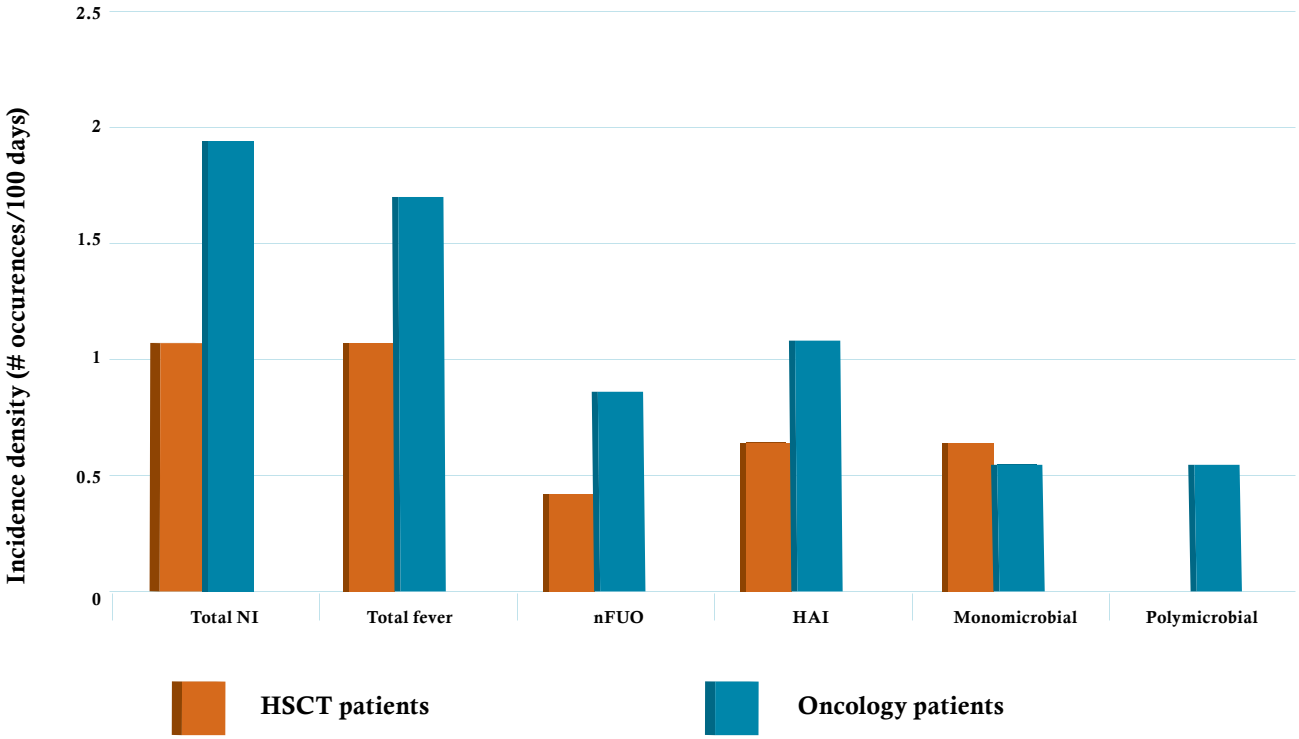
All patients admitted with fever were categorized as community-acquired infections, and excluded from the study.

RESULTS:

Compared to the Oncology group, the HSCT group was found to have lower rates of infection in all categories except monomicrobial infections, though these differences were not statistically significant (Fig 1).

The overall infection incidence density in the control group was 1.98, and 1.10 in the study group (P=0.20). Within the examined infection categories, the nFUO ID was 0.89 in the non-transplant group and 0.44 in the HSCT group (P= 0.63). HAI ID was 1.10 in the control group, and 0.66 in the HSCT group (P=0.21).

Figure 1. Comparison of Rates of Infection by Patient Classification and Infection Category



Further data analysis was calculated utilizing the Kaplan-Meier survival curve (P=0.09, Fig 2).

Within the infection categories, the ID of nFUO and HAI was 0.89 and 1.10 in the control group, and 0.44 and 0.66 in the study group, respectively (P=0.63, 0.21)

Kaplan-Meier survival curve for occurrence of NI by patient category demonstrates a suggested difference between the two groups.

DISCUSSION:

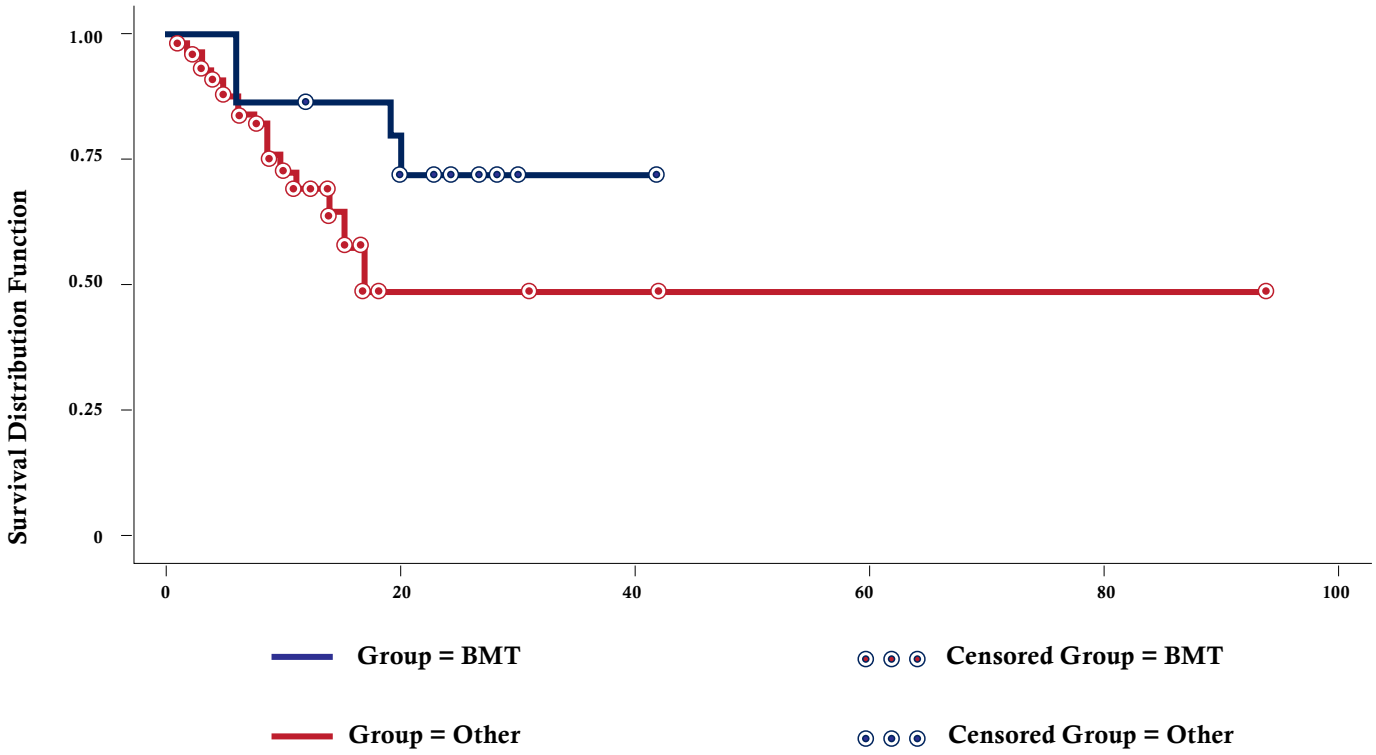
The results from this retrospective study suggest the use of Hibiclens® as a daily prophylactic topical wash leads to a decrease in nosocomial infection density among HSCT oncology patients, although not a statistically significant difference (P> 0.05). However, the Kaplan-Meier survival curve is indicative of a difference between the two groups (P=0.09). It can be reasonably inferred that this difference falls short of statistical relevance due to the discrepancy in size among the groups.

This limitation could only be overcome through further exploration via a prospective, randomized trial. This would potentially clarify the statistical significance of the efficacy of Hibiclens® among two closely sized groups within the pediatric oncology inpatient population.

Table 1. Microorganisms isolated in blood of Hospital Acquired Infections (HAI)

Microorganism	HSCT (n=15)	Oncology (n=443)
Gram-positive bacteria		
Coagulase-negative Staphylococci	1	15
Streptococcus sp.	0	2
Enterococcus sp.	0	2
Gram-negative bacteria		
Escherichia coli	0	4
Acinetobacter sp.	0	1
Citrobacter sp.	0	3
Enterobacter sp.	0	1
Klebsiella sp.	0	2
Stenotropomonas sp.	0	1
Virus		
Adenovirus	1	1
Yeasts		
Candida albicans	0	1
Candida glabrata	0	1
Candida krusei	1	0

Figure 2. Risk of Nosocomial Infections over time



Skin cleansing with chlorhexidine has been demonstrated since the 1970s to reduce skin flora, whether used for hand washing or whole –body bathing (4). Although, there is no conclusive evidence nor statistically significant difference in the two groups of our study, our results are extremely clinically relevant. As previously mentioned, HSCT patients are among the highest risk category for NIs. As such, it can be suggested that any decrease in infection rates in HSCT patients, regardless of statistical relevance, is greatly promising of the potential efficacy of Hibiclens® in reducing infection rates among all pediatric oncology patients. Furthermore, cleansing patients with chlorhexidine is a simple and appears to be an effective strategy to decrease NI in this cohort of patients. Also, its use may have an added benefit to hospitalized patients as a whole, especially in the intensive care unit settings.

CONCLUSIONS:

Our results suggest that the use of daily Hibiclens® bathing is effective in decreasing the rates of NIs in HSCT patients. The incidence of gram-positive bloodstream infections appears lower in Hibiclens®-bathed HSCT patients. The overall bacterial infectious outlook for HSCT patients using daily Hibiclens® bathing appears better compared to general pediatric oncology patients.

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Outcome Improvement in Pediatric Acute Myeloid Leukemia over the past 20 years at Children's Hospital

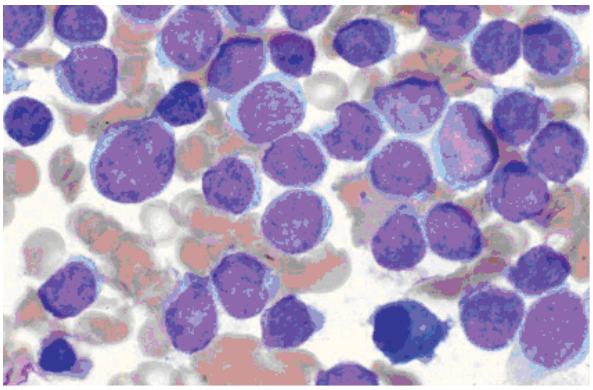
Ofelia Crombet, MD[1]; Ahmad Jabbar[2]; Cruz Velasco[3,4]; Lolie Yu, MD[1]; Maria C. Velez, MD[11] Pediatric Hematology-Oncology, LSUHSC/Children's Hospital; [2] LSUHSC School of Medicine, [3] Tumor Immunology Program, Stanley S. Scott Cancer Center LSUHSC, [4] School of Public Health, LSU

INTRODUCTION

Acute myeloid leukemia (AML) is a group of leukemias that arise in precursors of myeloid, erythroid, megakaryocytic, and monocytic cell lineages. [1]

A diagnosis of AML requires the presence of 20% blasts enumerated from all nucleated cells in the bone marrow (Figure 1). Detection of a t(8;21), inv(16), t(16;16), or t(15;17) is diagnostic of their respective acute leukemias even when blasts are less than 20%. Similarly, the presence of a myeloid sarcoma is diagnostic of AML even if blasts are not significantly elevated in the blood or bone marrow.[2]

Figure 1: Bone Marrow infiltration by AML



The incidence of AML is estimated to be about 5 to 7 cases per million people per year. In the United States, 6,500 children and adolescents younger than age 20 develop acute leukemia per year. [3] AML comprises 15 - 20% of childhood leukemias for a total of approximately 1,000 children per year, and accounts for 30% of deaths from pediatric leukemia.

According to the National Cancer Institute (NCI) Surveillance Epidemiology and End Results (SEER) data, the frequency of AML remains stable throughout childhood but shows a slight increase during adolescence. There is no difference in incidence between male and female or black and white populations. However, there is evidence suggesting that the incidence is highest in Hispanic children, intermediate in black children (5.8 cases per million), and slightly lower in white children (4.8 cases per million).

The French-American-British (FAB) (Figure 2) classification subtypes of AML are equally represented across ethnic and racial groups with the exception of acute promyelocytic leukemia (APL), which has a higher incidence among children of Hispanic ancestry.[3]

Of growing concern in the pediatric population is the incidence of secondary leukemia that results from chemotherapy and radiation treatment for other malignancies.

Treatment of AML in children is generally based on an anthracycline, cytarabine, and etoposide regimen given as a minimum of four cycles of chemotherapy. In 2005, we introduced intensive induction chemotherapy followed by post-remission treatment with additional anthracyclines and high-dose cytarabine or myeloablative regimens followed by hematopoietic stem cell transplantation (HSCT) if an HLA-identical related donor is available.

Current treatment for AML has increased the survival rate from 20%-30% in the 80's and 90's to 40%-50% in 2000's.

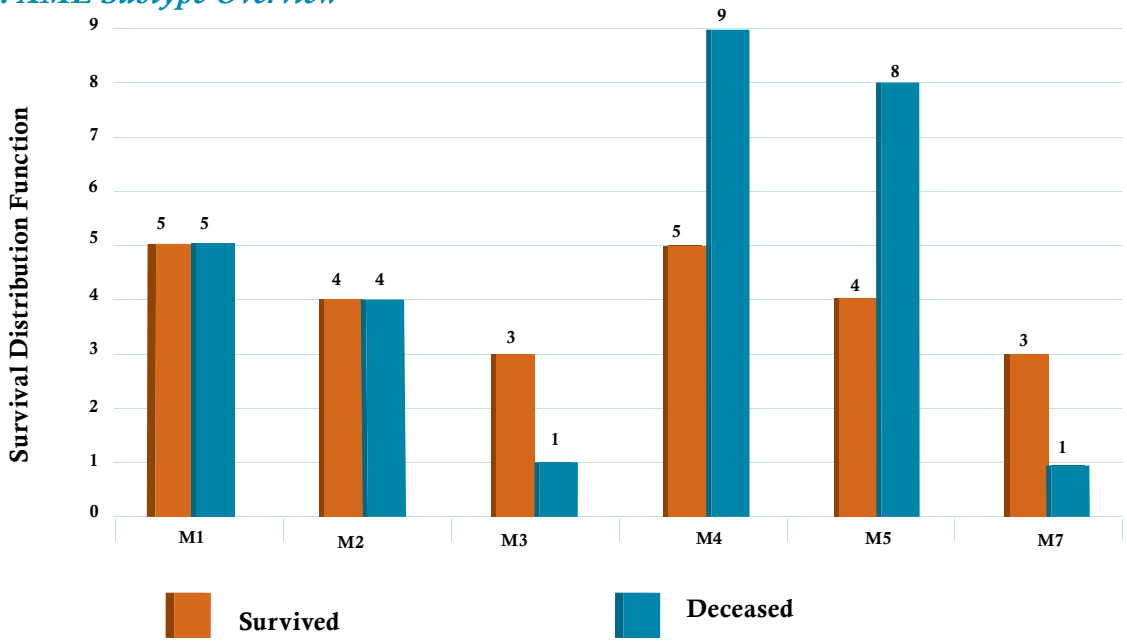
MATERIALS AND METHODS

After obtaining the approval from the Institutional Review Board (IRB), a 20-year retrospective analysis of medical records from 1989 to 2009 for children diagnosed with AML at Children's Hospital of New Orleans was

Figure 2: French-American-British (FAB) Classification of AML

M0—Undifferentiated
M1—Acute Myeloblastic—no maturation
M2—Acute Myeloblastic with maturation
M3—Acute Promyelocytic
M4—Acute Myelomonocytic
M5—Acute Monocytic
M6—Acute Erythroblastoid
M7—Acute Megakaryoblastic

Figure 3: AML Subtype Overview

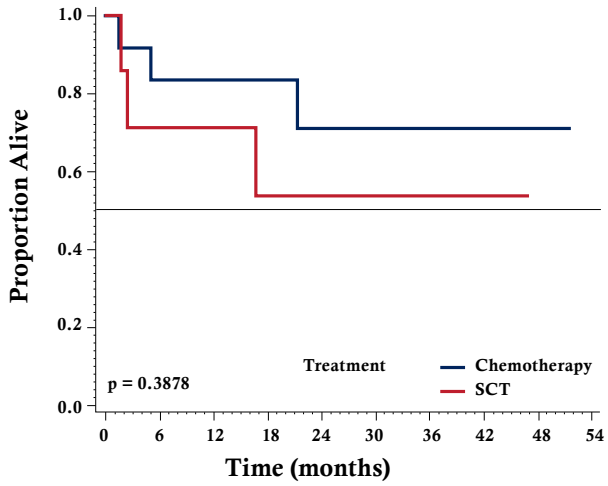


performed. A combined search from the tumor registry and pathology department records was used to identify AML patients. Clinic charts and electronic medical records were reviewed in order to collect data pertaining to clinical features, treatment modalities, and outcomes. Overall survival (OS) was calculated with the end point of death or last contact with patient and was estimated using the Kaplan-Meier method.

RESULTS

There were a total of 79 subjects with AML identified during the study period, but only 69 medical records were available for review. Four patients were diagnosed with secondary AML after being diagnosed and treated for myelodysplastic syndrome or rhabdomyosarcoma in 1 case.

Figure 4: Overall Survival in patients Treated with stem cell Transplant (SCT) vs. Chemotherapy Alone after 2005



Similar percentages between the subjects' gender and race/ethnicity (African American vs. Caucasian) were observed. Six of the eight AML subtypes were included in the data, with M4 and M5 subtypes having the highest incidence of them all. The M6 subtype is rare in children and was not found in our series (Figure 3).

Twenty-one of our AML patients received stem cell transplants. Figure 4 reflects the overall survival of the patients treated from the year 2005, comparing chemotherapy alone versus HSCT. After 48 months of follow up, the OS was approximately 54% in the HSCT arm versus 71% in the chemotherapy arm. The statistical analysis did not show a significant difference in the overall survival between the two groups (p=0.3878).

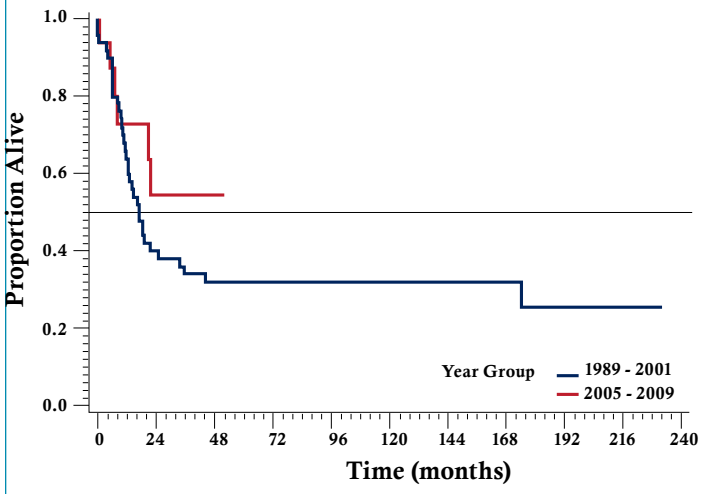
The overall survival for the patients treated after 2005 has increased significantly from previous years, reaching 55%. These results indicate that the survival rate at our institution is similar to the national rate of 40% - 50% (according to the SEER data). (Figure 5)

DISCUSSION

Acute myeloid leukemia is a heterogeneous disease, in which a variety of cytogenetic and molecular alterations can be identified. Cytogenetic abnormalities can be detected in approximately 50–60% of newly diagnosed AML patients. In addition, different gene mutations have been found in cytogenetically normal AML.[4]

The increase in the overall survival rate is a result of new treatment protocols, based on a better understanding of the pathophysiology and biology of the disease and the data gathered by large cooperative groups. Risk strati-

Figure 5: Overall Survival of AML Patients by Era of Treatment



fication and targeted therapy is becoming increasingly important in planning AML therapy. [5-7] In recent years the improvement in supportive care especially in the area of fever, neutropenia, and infection has had a major impact in patients' survival. Better post-relapse salvage therapy has also contributed to the significant increase in OS.

HSCT is the most successful curative treatment for AML. It produces a strong graft-versus-leukemia effect and can cure even relapsed AML. Its potential benefit, however, must be weighed against the risk of transplantation-related morbidity and mortality. HSCT has become a less attractive option as the outcomes of increasingly intensive chemotherapy have improved. [8-10]

Although experienced groups have reported comparable outcomes with related and alternative donors, it is too early to determine if their wider use will result in better outcomes without sacrificing a higher transplantation-related morbidity or mortality.

The role of allogeneic HSCT, particularly whether it should be done during first complete remission or reserved for second remission, remains the most controversial issue in pediatric AML.[3] The Children's Oncology Group(COG) recommends to proceed with HSCT in intermediate risk AML patients in first complete remission if a matched related donor is available or if high risk features are present like primary induction failure, FLT-3 mutation, monosomy 7 or chromosome 5 abnormality.

The OS of our patients treated with HSCT was lower than chemotherapy alone but the results can be influenced by the fact that some of the HSCT were performed as salvage therapy for refractory disease or in very high risk patients like secondary AML. The main cause of death after HSCT was progressive disease. Although the outcome from HSCT appears to be lower than just chemotherapy alone in our patient cohort, this difference was not statistically significant.

Our overall survival data after the introduction of improved protocols and new supportive measures is similar to the national rate. And it is gratifying to see significant improvements in AML treatments, we have to remember that approximately half of all children diagnosed with AML still die of their disease or of complications of treatment.

Further advances will require a better understanding of the biology of AML, a risk-directed approach, improved treatment of high-risk disease, and the development of new and more efficient targeted agents.

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Caring for our Patients
Our Support Services

SOCIAL SERVICES

Despite the milestones that have been made in the treatment of pediatric cancer, it remains a devastating diagnosis that affects not only the patient but the entire family. Social workers at Children's Hospital are highly trained to assist families dealing with the diagnosis of cancer. They provide emotional support to the families; guide them through the maze of financial obligations, directing them to the most appropriate sources of monetary assistance for the child's medical care; indicate transportation services that might be used during treatment; and help them find temporary housing while here in New Orleans, when this is suitable. They are present during the initial parent-physician conference, offering emotional or psychological buttressing in a time of extreme anxiety. Through individual and group counseling, the social workers help patients and families identify their concerns, consider effective solutions, and better cope with the child's illness.

PSYCHOLOGY

The Psychology Department provides comprehensive evaluation and management of the emotional and behavioral disorders stemming from the diagnosis of cancer. The psychologists work closely with the hematology/oncology physicians and social workers to ensure the maintenance of the mental health and stability of these patients under stressful conditions.

Psychologists also provide baseline information about the neuropsychological function of the children, whether they have a hematological or oncologic problem, something that is crucial when treatments may have a deleterious impact on their neuropsychological status. Counseling is provided for patients and families that enables them to freely discuss their concerns regarding the diagnosis, treatment, treatment aftermath, school and other social concerns.

PSYCHIATRY

The LSU Child Psychiatry Department has worked closely with the Hematology/Oncology Division, providing care and advisement for difficult emotional and behavioral problems. They, along with the hematology/oncology physicians and Social Services Department, have been instrumental in the organization and oversight of a pioneering multidisciplinary psychosocial conference which regularly meets to advise the hematology/oncology team on how to deal with the trauma and stress of the diagnosis of cancer, and to effectively interact with parents and patients under their care.

CHILD LIFE

A certified child life specialist is available to provide play, developmentally appropriate preparation for procedures/treatments, and teach coping skills to hematology/oncology patients. Using play, the Child Life Department promotes opportunities for children to understand a new diagnosis, adjust to the hospital experience, express themselves, and maintain normal growth and development. This, in turn, will help each child to gain mastery and control, understanding, and positive coping skills in regards to their particular illness.

An attractive playroom, with a view of an athletic field, is located on the unit. It is equipped with a play kitchen area, a mat for relaxing, books to read, toys to manipulate, and a video game system. Activities in the playroom are generally unstructured to encourage children to make their own choices. In addition, activities are available to children during the evening hours, such as bingo night and movie night. These activities are available to help promote normalcy while in the hospital.

The Child Life Department is dedicated to improving the quality of life for children facing the many challenges of cancer treatment while they remain hospitalized. Music therapists and recreation therapists are also available by consult.

OCCUPATIONAL THERAPY

Occupational Therapy's involvement may include assessment and treatment of the patient's upper extremity status (i.e., range of motion, strength, endurance), fine motor skills, visual perception, visual motor skills, and activities of daily living, such as eating, dressing, bathing, toileting and grooming.

Occupational Therapy actively promotes independence, feeling that by doing so, social and emotional needs, as well as the physical, can be effectively met.

PHYSICAL THERAPY

The Physical Therapy Department specializes in the assessment and treatment of gross motor function in the child with cancer. Physical Therapy is consulted on both an inpatient and outpatient basis for children who will undergo stem cell transplant, as well as for those children who might have motor deficits resulting from either primary disease or treatment effect.

REHABILITATION MEDICINE

The Rehabilitation Medicine team at Children's Hospital has worked closely with the hematology/oncology physicians to provide a comprehensive approach to the treatment of patients who may have experienced a loss or impairment of functional abilities as a result of their disorder or treatment of the disorder, whether temporary or permanent. Patients with stroke in sickle cell or with hemiparesis in brain tumor are just a few of those children who have benefited from the efforts of this service. Working with physical, occupational and speech therapy services, nursing, nutritional and other services, Rehabilitation Medicine, under the guidance of Drs. Ann Tilton and Joseph Nadell, has integrated these and other services in coordinated plans intended to improve and strengthen the patient's functional capabilities. The Rehabilitation team has organized and integrated individualized programs for each patient and has become an invaluable mainstay of treatment for the child with cancer and other hematologic disorders.

DIETARY AND NUTRITIONAL SERVICES

Children undergoing chemotherapy or bone marrow transplantation may suffer lack of appetite and failure to thrive. The Dietary and Nutritional Services Department at Children's Hospital provides a complete nutritional assessment, including anthropometric and calorie/protein requirements. They work closely with the physician team, making suggestions for enteral and parenteral supplementation. Each nutritional care plan is individualized to the patient's specific needs, with particular attention to the needs posed by a child with cancer. Parents are thoroughly counseled on diets meeting their child's needs, whether low bacterial, low tyrosine, etc. The nutritionist assists the hematology/oncology team with assessment of daily calorie counts and provision of special instructions, when necessary. Safe food handling is emphasized for the immunocompromised patient and the nutritionist meets with the family as much as necessary to promote compliance through trust and knowledge.

PHARMACY

The pharmacists work closely with the physicians, nurses and other healthcare team members to provide the best possible treatment for our patients. Not only do they

prepare the therapeutic drug and advise on its administration and dosing, but they monitor patients who are on, at times, complex chemotherapeutic protocols, in order to prevent errors. They also assist the team with formulation of computer-generated orders, a practice which minimizes error. Pharmacy is actively involved in both patient and resident-fellow education, giving lectures and providing comprehensive drug information. Pharmacists work with the Quality Assurance/Improvement Department to design drug-use evaluation projects that will be administered by the Pharmacy and Therapeutics Committee.

PASTORAL CARE

When a child is diagnosed with cancer, the child and his/her family can experience intense and often overwhelming feelings of anxiety, helplessness, anger, guilt, fear, depression, shock and denial. Questions may be raised, such as: Why is this happening to me? Is God punishing me by causing my child to become ill? How can a loving God allow an innocent child to become so seriously ill? How am I going to get through this? Who is going to help us now?

Pastoral care services are provided to assist the child and family members as they ask these and other questions and express their feelings. The chaplain "walks with" each family, providing ministry according to the family's spiritual needs and denomination. He listens to the stories told by each family and child and provides support where needed. He prays with the child and family when prayer is requested, and also shares joyous moments, especially when the child's medical treatment is going well. A chaplain is on call at all times, in case of emergencies. Religious materials such as Bibles, daily meditation and Sunday services are available. The chaplain participates in weekly meetings with the staff and also participates in family conferences when asked to do so.

VOLUNTEER SERVICES

Volunteers work on the Hematology/Oncology unit, providing special services to the patients and their families. Volunteers usually request to work on this unit due to personal involvement with either a family member or friend who has gone through treatment at Children's Hospital or another institution. These volunteers bring with them insight, understanding and compassion which comes from their first-hand experience. They assist Child Life staff with activities on the unit. They also spend time in the patient's room, playing games, reading, talking or just listening to the patient. They may also relieve the parents for a short time, providing respite for them. They remain important members of the treatment team.

STARBRIGHT WORLD

Starbright World (SBW) is an online social network/community where teens (ages 13-20) can connect with other teens around the country who also have a diagnosis of cancer. Moderated chat rooms, games, bulletin boards, and videos are just some of the things patients can use to help confront the challenges they face every day. SBW is a safe environment where teens can express fears and frustrations, share experiences and laugh. Teens are able to hang out with peers who understand the realities of living with a serious or chronic illness. The Child Life Department has laptops with webcams available for checkout to patients who are interested in SBW.

CAMP CHALLENGE

Children's Hospital, along with the Cancer Association of Greater New Orleans and the Childhood Cancer Families Network, sponsors Camp Challenge, a unique, week-long camping experience geared to children with cancer and other blood disorders and their siblings. The camp is held annually in Louisiana. Dr. Jamie Morales, who serves as the co-medical director, works with other staff, including physicians, nurses, social workers and volunteers to assure the safety of our patients. It provides recreation and the camaraderie of associating with other children who have undergone similar experiences with cancer and chronic or serious illnesses. The children look forward to the opportunity to swim, ride horseback, engage in competitive sports, and generally have a ball while forgetting the all-too-present concerns of sickness and hospital.

AMERICAN CANCER SOCIETY'S PATRICK F. TAYLOR HOPE LODGE

The Hope Lodge houses our patients and caregivers who need to travel a long distance to New Orleans for cancer treatment. It offers temporary lodging in a warm, caring, supportive environment so they can focus on fighting the disease.

RONALD MCDONALD HOUSE

The Ronald McDonald House provides temporary residence for the families of children receiving treatment in New Orleans area hospitals. Non-resident families are given the opportunity to stay at the house, located in Mid City, New Orleans. It is a place where families can get away from the hospital, yet remain in touch with the support of hospital and medical staff within a moment's notice. It is a home away from home for these families.

CANDLELIGHTERS

Candlelighters is a national nonprofit organization that provides hope, support, education, counseling and encouragement to those children and families touched by cancer. Candlelighters organizes activities and programs for families, provides psychosocial support, offers financial relief to patients' families, and works to raise awareness of childhood cancer and related issues. The organization also produces a quarterly newspaper available at no charge for parents of children with cancer.

A CHILD'S WISH

A Child's Wish is a Louisiana-based nonprofit organization that fulfills the dreams of children who are terminally ill or have life-threatening illnesses. Staffed by volunteers, this organization uses donations to enable children to achieve their wishes. Many of our patient's fondest dreams have come true due to the dedicated work of these special wish granters.

MAKE-A-WISH

Through its wish-granting work, the Make-A-Wish Foundation of the Texas Gulf Coast and Louisiana has enriched the lives of countless children who have life-threatening illnesses. It provides children throughout Louisiana with an opportunity to participate in activities that they might never otherwise have been able to enjoy such as a trip to Walt Disney World, a shopping spree or a remodeling of their room.

OPERATION SMILE

Children's Hospital participates in this program with the American Cancer Society. First- and second-year medical students are partnered with cancer patients and their siblings. The purpose of the program is to allow children to have their own "buddy" who will provide emotional and psychological support, as well as friendship, and to participate with them in non-medical activities.

CAPS FOR KIDS

Caps for Kids is an international non-profit organization dedicated to providing headwear autographed by athletes, entertainers and other notable personalities to children, adolescents and young adults with cancer who lose their hair as a result of their treatment. Caps for Kids was founded in 1993 by Dr. Stephen Heinrich, a pediatric orthopaedic surgeon at Children's Hospital. The program now exists at more than 70 hospitals in the United States, four in Canada, and one in Frankfurt, Germany.

Improving Our Care Through Cancer Conference

At Children's Hospital, the Cancer Conference remains the major educational element of the cancer program. These conferences are held weekly to improve the quality of care of pediatric cancer patients through educational discussions. Children's Hospital recognizes the importance of these multidisciplinary conferences and has been sponsoring them since 1980.

All aspects of pediatric cancer management are embraced at these conferences. Each presentation includes an outline of the medical history, physical findings, appropriate staging, clinical and surgical course, radiological studies and pathological interpretations of each one of the cases to be discussed. An open discussion and review of pertinent medical literature follow each case presentation offering a comprehensive and multidisciplinary approach but, at the same time, tailored to the patient's individual needs.

During 2009, a total of 46 conferences were held. On average, approximately 22 physicians, residents, students and other cancer-related supporting staff personnel attended the weekly conferences. A total of 146 cases were presented in 2009. These cases consisted of prospective, retrospective and follow-up cases. It should be noted that 98% of the cases presented were prospective and were representative of the major sites of cancer at Children's Hospital.

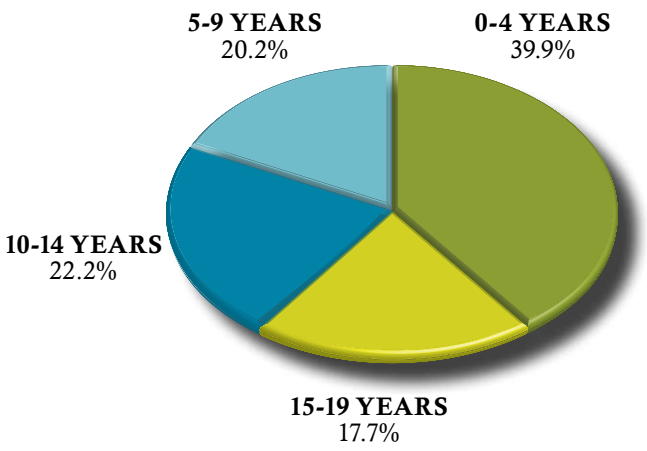
All members of the medical staff are encouraged to attend and present their oncology cases at these conferences. Physicians can schedule case presentations by contacting the Hematology/Oncology Office at (504) 896-9740.

Cancer Statistics

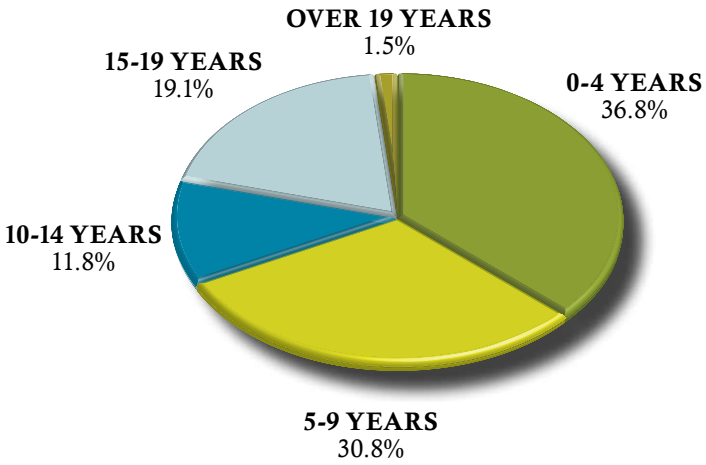
AGE AT DIAGNOSIS

(Analytic cases only)

2007 – 2008



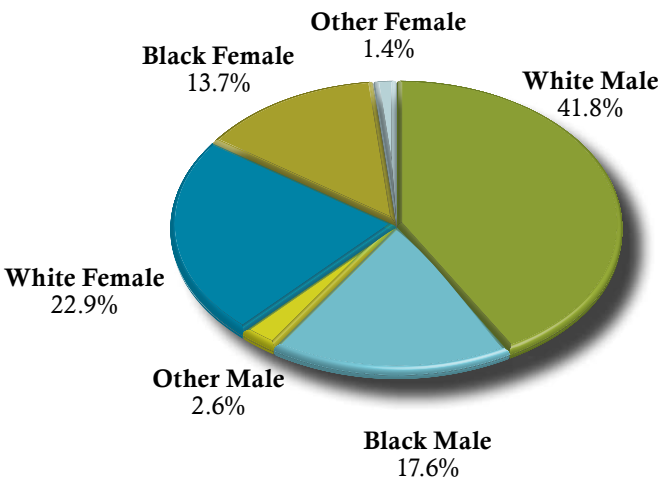
2009



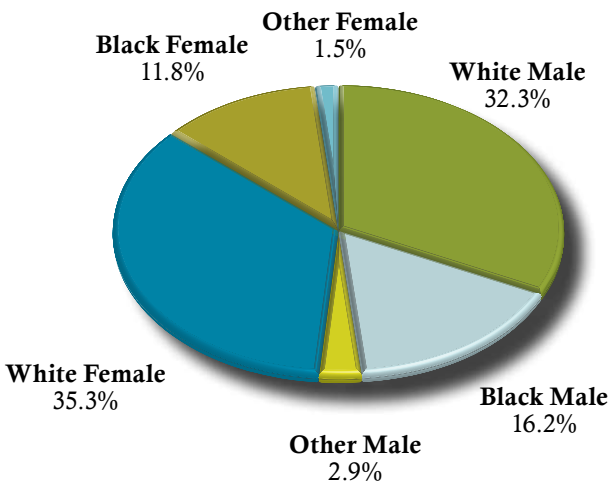
DISTRIBUTION BY RACE AND SEX

(Analytic cases only)

2007-2008



2009



Collecting Data to Ensure Advanced Care
Cancer Registry

An essential component of the Children's Hospital cancer program is the database maintained by the cancer registry. The cancer registry database, also known as the cancer data management system, is supported by Elekta Medical Systems software program, called METRIQ. It is a system designed for the collection, management and analysis of the data on cancer patients. The information that is provided by the cancer registry is utilized in research, education, and patient care evaluation. It has also proven to be of financial importance in administrative planning of allocation of hospital resources.

January 1, 1986 was established as our reference date, and as of December 31, 2009, the cancer registry has accessioned 1689 cases. A comparison of Children's Hospital data from 2007, 2008, and 2009 is presented in the Cancer Statistics section of this report. The following discussion will focus primarily on Children's Hospital analytic case data from 2009. In 2009, a total of 85 cases were accessioned:

- 80% (n=68) being analytic and 20% (n=17) being non-analytic.
- 53% (n=36) were male and 47% (n=32) were female.
- 21% (n=14) of our patients resided in Jefferson parish.
- The median age at diagnosis of our patients was 6.
- 35% (n=24) were white females with the highest incidence of cancer.
- 32% (n=22) were white males with the second highest incidence of cancer.
- 12% (n=8) were ALL patients which was our most common histology in 2008.

In order to evaluate cancer care outcomes, the cancer registry maintains long-term follow-up on eligible patients included in the registry. To successfully achieve survival rates the American College of Surgeons (ACoS) requires an 80% follow-up rate on eligible patients, and a 90% follow-up rate for eligible patients diagnosed within the last 5 years. The cancer registry has been able to successfully maintain the required follow-up rate.

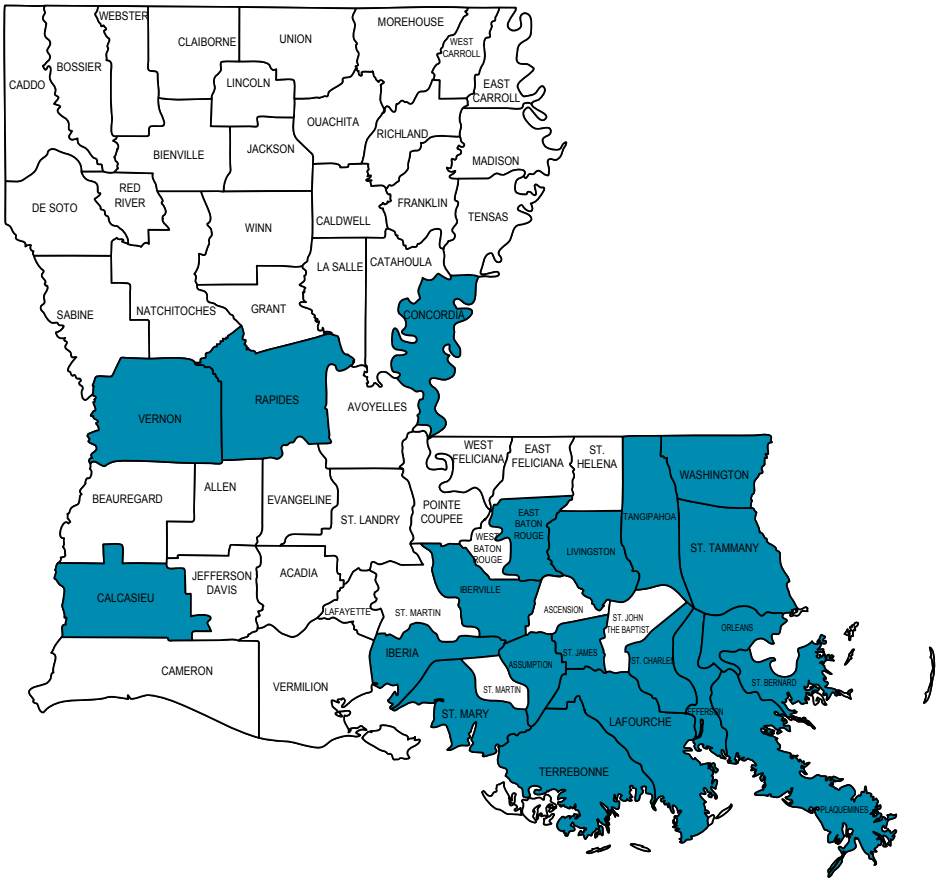
Data is submitted to the National Cancer Data Base (NCDB) and the Louisiana Tumor Registry (LTR). In return, the NCDB provides local, state and national statistics to cancer programs that enables them to benchmark patient care and quality improvement efforts. The LTR also provides local and state statistics as a benchmarking tool for cancer programs.

Knowledgeable personnel, including at least one CTR (Certified Tumor Registrar) staff the cancer registry. The cancer registry is located in the Medical Records Department. All inquiries may be directed to Rachel Bufkin, CTR at 504-894-5255.

Top Five Sites

Site	#	%
Brain & CNS	20	29.4%
Bone Marrow	16	23.5%
Lymph Node	11	16.1%
Adrenal Gland	4	5.8%
Bone	4	5.8%

Reviewing Geographical Area for Improved Outreach
Analytic Cases



DISTRIBUTION OF ANALYTIC CASES BY PARISH

Parish	2007	2008	2009
Acadia	0	1	0
Allen	0	2	0
Ascension	0	1	0
Assumption	0	0	1
Calcasieu	2	4	2
Concordia	0	1	1
East Baton Rouge	4	0	2
Evangeline	1	0	0
Iberia	3	2	1
Iberville	0	0	1
Jackson	0	1	0
Jefferson	18	18	14
Jefferson Davis	1	0	0
Lafayette	4	3	0
Lafourche	1	2	1
Livingston	0	0	1
Orleans	10	11	6
Ouachita	0	1	0

Parish	2007	2008	2009
Plaquemines	1	0	1
Rapides	1	1	1
St. Bernard	1	1	3
St. Charles	2	1	1
St. James	0	1	1
St. John th Baptisit	2	1	0
St. Landry	1	0	0
St. Martin	1	0	0
St. Mary	3	1	1
St. Tammany	10	8	10
Tangipahoa	0	1	5
Terrebone	1	4	8
Vermilion	1	1	0
Vernon	1	1	1
Washington	1	3	2
Out-of-State	5	6	4
Out-of-Country	0	1	0
Total	75	78	68

Analyzing Data to Enhance Care
Histology

	2007		2008		2009	
	#	%	#	%	#	%
Astrocytoma	5	8.0%	8	10.3%	5	7.4%
Atypical Teratoid Rhabdoid Tumor	2	3.0%	2	2.6%	1	1.5%
Basal Cell Carcinoma	0	0.0%	1	1.3%	0	0.0%
Carcinoma, NOS	0	0.0%	1	1.3%	2	2.9%
Choroid Plexus Carcinoma	0	0.0%	1	1.3%	1	1.5%
Craniopharyngioma	0	0.0%	0	0.0%	2	2.9%
Dermoid Cyst	0	0.0%	1	1.3%	1	1.5%
Embryonal Carcinoma	1	1.0%	0	0.0%	0	0.0%
Ependymoma	3	4.0%	0	0.0%	2	2.9%
Ewing's Sarcoma	3	4.0%	1	1.3%	2	2.9%
Ganglioglioma	1	1.0%	2	2.6%	3	4.4%
Ganglioneuroblastoma	1	1.0%	1	1.3%	0	0.0%
Germ Cell Tumor	1	1.0%	1	1.3%	3	4.4%
Glioma	2	3.0%	3	3.8%	6	8.8%
Hemangiosarcoma	1	1.0%	0	0.0%	0	0.0%
Hepatoblastoma	0	0.0%	0	0.0%	1	1.5%
Hepatocellular Carcinoma	2	3.0%	1	1.3%	0	0.0%
ALL(Acute Lymphocytic Leukemia)	17	23.0%	17	21.8%	8	11.7%
AML (Acute myelocytic Leukemia)	4	6.0%	5	6.4%	5	7.4%
JMML (Juvenile Myelomonocytic Leukemia)	1	1.0%	0	0.0%	0	0.0%
Hodgkin Lymphoma	8	11.0%	4	5.0%	6	8.8%
Non-Hodgkin Lymphoma	1	1.0%	4	5.0%	5	7.4%
Langerhans Cell Histiocytois	3	4.0%	3	3.8%	2	2.9%
Medulloblastoma	3	4.0%	3	3.8%	0	0.0%
Melanoma	0	0.0%	0	0.0%	2	2.9%
Meingothelial meningioma	1	1.0%	0	0.0%	0	0.0%
Meningioma	0	0.0%	0	0.0%	1	1.5%
Myelodysplastic Syndrome	1	1.0%	1	1.3%	1	1.5%
Neuroblastoma	8	11.0%	1	1.3%	4	5.9%
Neuroectodermal Tumor, Primitive	1	1.0%	0	0.0%	0	0.0%
Olfactory Neuroblastoma	0	0.0%	1	1.3%	0	0.0%
Oligodendroglioma	1	1.0%	0	0.0%	0	0.0%
Osteosarcoma	0	0.0%	1	1.3%	2	2.9%
Peripheral nerve sheath tumor, Malignant	0	0.0%	1	1.3%	1	1.5%
Refractory Anemia	0	0.0%	2	2.6%	0	0.0%
Renal Cell Carcinoma	0	0.0%	1	1.3%	0	0.0%
Retinoblastoma	1	1.0%	0	0.0%	0	0.0%
Rhabdomyosarcoma	2	3.0%	3	3.8%	1	1.5%
Sarcoma	0	0.0%	1	1.3%	1	1.5%
Teratoma	0	0.0%	1	1.3%	0	0.0%
Wilms Tumor	1	1.0%	6	7.7%	0	0.0%
Total	**75**	**100.0%**	**78**	**100.0%**	**68**	**100.0%**

Community Outreach Program

Among the goals for our Community Outreach Program are the continuing efforts to educate and inform the public and health care community on the signs and symptoms as well as the incidence of cancer in children. We promote cancer prevention through presentations and discussions, encouraging adequate nutrition, sun exposure reduction (skin cancer prevention), human papillomavirus (HPV) vaccine and smoking cessation (tobacco use and cancer).

Informational sessions on cancer prevention are offered to school-aged children during their visit to Children's Hospital. Lectures are held in the local community for schools and businesses to address the significance of cancer prevention and encourage routine medical examination for early cancer detection including breast self-exam for females and genitourinary exam for males. Brochures are available for distribution at schools, health fairs and employee fairs through the Hematology/Oncology Department. These brochures are located throughout the hospital and in satellite clinics. Information about cancer prevention and interesting links can be found on the Children's Hospital web site at www.chnola.org.

Hematology/Oncology Program

The Pediatric Hematology/Oncology section of LSUHSC Department of Pediatrics was formally accredited by the Accreditation Council for Graduate Medical Education (ACGME) in 1989. It remains the only accredited fellowship program between Florida and Texas. We are proud to report that, this year, despite the upheavals of the post-Katrina milieu, we again received approval from the ACGME for the fellowship. The program now directed by Dr. Maria Velez and comprised of faculty members Drs. Gardner, Morales, Morrision and Yu, continues to draw individuals from around the country and throughout the world. Graduates of the program have gone on to distinguish themselves in many fields, assuming – at times – roles of leadership wherever they have gone. The program utilizes the clinical resources and faculty expertise available at the Medical Center of Louisiana.

The program maintains an active partnership with the LSUHSC Stanley S. Scott Cancer Center. Teaching and patient care take place at Children's Hospital. Research activities are conducted through the establishment of partnerships with experienced and capable investigators such as Drs. Augusto Ochoa, Arnold Zea, James Hempe, Yan Lui and Lily Leiva. Electives for the fellowship are offered in blood banking, hemophilia care, radiation oncology and hematopathology. Fellows play an integral role in the planning and organization of conferences and lectures.

Teaching activities include the Cancer Conference, journal club, protocol reviews, psychosocial conferences, core lectures, and professors' rounds. Invited speakers from many excellent institutions involved in cancer care, both local and national, help round out the fellowship's educational opportunities.

Bone Marrow/Hematopoietic Stem Cell Transplant Program

Children's Hospital/LSUHSC Pediatric HSCT program is the only approved Children's Oncology Group (COG) transplant program in the state of Louisiana. It offers patients access to all COG transplant protocols without the need to travel far to get this life saving treatment.

The transplant patient is treated in the state-of –the-art 18-bed unit with a specialized HEPA air –filtration system. This special environment provides the severely immunocompromised transplant patients the best protection from opportunistic infections.

Our Hematopoietic stem cell transplantation (HSCT) program applies a multidisciplinary approach to the care of the transplant patient. The HSCT team consist of highly skilled team of board certified Pediatric Hematologists-Oncologists, Bone Marrow Transplant (BMT) trained nurses, dieticians, child life therapist, child psychologists, pharmacists, social workers, clinical research associates, physical therapists, and transplant nurse coordinator.

Our HSCT program offers innovative treatment for children with cancer such as leukemia, lymphoma, neuroblastoma, brain tumors and other recurrent cancers as well as for children with non-malignant conditions including immunodeficiencies disorders, bone marrow failure syndromes and blood disorders such as transfusion-dependent sickle cell disease and thalassemia major .

Under the leadership of Lolie Yu, M.D., director of the HSCT program, we performed the first Human Placenta derived stem cell transplant (HPDSC) in the world in 2008. These HPDSC cells will be used for malignant and non-malignant conditions which can be cured with transplantation. The study is in collaboration with the cellular therapy section of Celgene.

Our HSCT is certified by the Foundation for the Accreditation of Cellular Therapy (FACT) for its high quality of patient care and HPC collection/processing laboratory performance. We are one of only 20 Pediatric facilities in US to be FACT- accredited.

Transplants by Disease

1989-2010

DISEASE TYPE	TOTAL
Acute leukemia	
AML	46
ALL	44
Other	12
Solid tumors	
Lymphoma	18
Neuroblastomas	44
Brain tumor	16
Wilms	3
Histiocytosis	4
Sarcoma	10
Germ cell tumor	2
Non-malignant conditions	
BMF	37
Metabolic disorders	5
Immunodeficiency	18
Hemoglobinopathy	
Sickle cell	9
Thalassemia	2
TOTAL	**270**

About the LaNasa Greco Center for Cancer and Blood Disorders

THE LANASA GRECO CENTER FOR CANCER AND BLOOD DISORDERS at Children's Hospital offers comprehensive and current therapies for the treatment of all types of malignancies and blood disorders including, but not limited to, leukemia, thalassemia, sickle cell anemia and hemophilia, among many others.

In 1989, Children's Hospital was approved as a Pediatric Hospital Cancer Program by the American College of Surgeons. Our program is affiliated with Louisiana State University's Minority Community Clinical Oncology Program (MCCOP), which is accredited by the National Cancer Institute. Children's Hospital is also a member of the Children's Oncology Group (COG), a national study group of premier research institutes in the United States and Canada. Our hospital has the only approved COG bone marrow transplant program in Louisiana. Though patient care is our primary focus, Children's Hospital is an active participant in clinical and basic research of childhood cancers and blood disorders.

In 2008, Children's Hospital recorded 172,302 patient visits, with children coming from all 64 parishes in Louisiana, 43 states, and 15 foreign countries. The hospital provided care to 58,101 unique patients. The LaNasa-Greco Center for Cancer and Blood Disorders itself had 5,723 clinic visits, 3,488 of which were for the treatment of children with cancer, and 953 for the care of sickle cell patients.

Our physicians have access to the most modern therapies for treatment of malignancies and blood disorders in children.

The Center for Cancer and Blood Disorders is also a teaching facility for medical students, nursing students and those completing graduate and postgraduate training. The hospital plays a major role in the training of pediatric hematology/oncology fellows. Our program is part of the LSU Health Sciences Center (LSUHSC) Department of Pediatrics and the Stanley S. Scott Cancer Center of LSUHSC.

OUR STAFF

The LaNasa Greco Center for Cancer and Blood Disorders at Children's Hospital comprises the largest group in the Gulf South of hematology and oncology physicians and nurses dedicated exclusively to pediatrics. They are specially trained to care for the unique needs of children and work side by side with a medical staff of more than 250 pediatric specialists, including pathologists, radiologists, oncology surgeons and neurosurgeons.

Our pediatric experts realize that caring for children with malignancies and blood disorders commands a delicate balance of medical care and emotional support. Support for patients and their families is provided by child psychiatrists, psychologists and social workers. Other members of the multidisciplinary team include bone marrow transplant coordinators, pharmacists, dieticians, laboratory technologists, and physical, occupational, speech and hearing, music and recreation and child life therapists.

ONCOLOGY SERVICES

Leukemia/Lymphomas

A full range of treatment options is available for children with acute or chronic lymphocytic and myelogenous leukemia, including chemotherapy, stem cell transplantation and radiation therapy. Oncology physicians and nurses offer and implement the treatment plan adequate for each child based on the type of leukemia, its stage and certain prognostic factors. Children with Hodgkin's disease and non-Hodgkin's lymphoma (NHL) are thoroughly evaluated and promptly treated according to the specific subtype and stage of the disease. They are supported by a team of psychologists, social workers and other specialized professionals who provide compassionate "total care" for the child and family.

PHYSICIANS AND STAFF

Lolie C. Yu, MD
Division Chief,
Pediatric Hematology/Oncology
Director, Bone Marrow
Transplantation Program
Professor of Pediatrics, LSUHSC

Renée V. Gardner, MD
Director, Sickle Cell Clinics
Professor of Pediatrics, LSUHSC

Jaime Morales, MD
Assistant Professor of Pediatrics, LSUHSC
Co-Medical Director, Camp Challenge

Maria C. Velez, MD
Director, Fellowship Program
Associate Professor of Pediatrics, LSUHSC

Cori Morrison, MD
Assistant Professor of Pediatrics, LSUHSC

FELLOWS
Kishor Bhende, MD
Jennifer Mullima, MD
Ofelia Crombet, MD

NURSES
Lynn Winfield, RN
Nurse Manager
Cherie Hadley, RN
Pediatric Nurse Coordinator
Lisa Patterson, RN
Bone Marrow Transplant Nurse Coordinator
Sherry Troquille, RN, CPON
Pediatric Nurse Coordinator
Claudette Vicks, RN
Pediatric Nurse Coordinator
Nicole Palmisano, RN
Pediatric Nurse Coordinator

SOCIAL WORKERS
Kay Casey, LCSW
Peggy Williams, LCSW
Jennifer Myhre, LCSW

RESEARCHERS
James Hempe, MD
Augusto Ochoa, MD
Arnold Zea, PhD
Paulo Rodriquez, PhD
Yan Cui, PhD

Soft tissue and solid tumors

At Children's Hospital, pediatric experts treat a variety of tumors including neuroblastoma, tumors of the central nervous system (brain and spine), soft tissue sarcoma, bone sarcoma, retinoblastoma and Wilms' tumor. The Center for Cancer and Blood Disorders is represented by the following medical and surgical disciplines: pediatric oncologic surgery, pediatric neurosurgery, pediatric neuro-oncology, genitourinary oncologic surgery, orthopaedic oncologic surgery, pediatric ocular surgery, radiation oncology and pediatric pathology. Members of our medical team are highly skilled individuals dedicated to providing the latest innovative treatments to our young patients.

Bone Marrow/Hematopoietic Stem Cell Transplant Program

Hematopoietic stem cell transplantation (HSCT) has become an alternative treatment of malignant diseases for many patients. The list of diseases for which hematopoietic stem cell transplantation has been considered grows continually. The sources of stem cells are varied: bone marrow, peripheral blood stem cells mobilized by growth factors or chemotherapy, and cord blood.

The Children's Hospital Hematopoietic Stem Cell Transplant Program began in January 1989. From January 1989 to December 2009, 270 transplants were performed. Of those transplants performed, 173 were allogeneic and 97 were autologous. By far, the most common conditions for which HSCT has been carried out are hematologic malignancies, e.g., acute leukemia.

Diseases such as leukemia are treated at Children's Hospital with the same protocols as those that the 240 COG institutions (i.e., St. Jude, MD Anderson, Johns Hopkins) have adopted throughout the nation. COG has recognized Children's Hospital as the only approved bone marrow transplant site in Louisiana for COG protocol studies.

A multidisciplinary team of physicians, nurses, social workers, nutritionists, pharmacists, physical therapists, psychologists and blood bank personnel is available, with experience and commitment to the clinical practice and basic science of hematopoietic stem cell transplantation.

In July 2000, Children's Hospital, led by Dr. Lolie Yu, became accredited by the National Marrow Do-

nor Program (NMDP) as a transplant center. Through the NMDP, Children's Hospital has access to the largest worldwide registry of hematopoietic stem cell donors. This affiliation provides patients with the best chance of finding a suitable donor for transplantation.

In December 2008, our clinical HSCT program, our cellular therapy collection and processing facility obtained accreditation from the Foundation for the Accreditation of Cellular Therapy (FACT). We are only one of 20 pediatric HSCT programs in the United States to receive FACT accreditation.

In keeping with our willingness to innovate in order to provide patients the benefit of advanced knowledge and technology, we were the first transplant center to implement the use of mesenchymal stem cells in transplantation. This procedure was performed to treat graft vs. host disease more effectively. We also were the first program in Louisiana to perform dual cord blood transplantation and have entered into a study with Celgene to perform transplants utilizing human placenta-derived stem cells in combination with cord blood stem cells.

For more information regarding the hematopoietic stem cell transplant program at Children's Hospital, please contact Dr. Lolie Yu at the Hematology/Oncology Department at (504) 896-9740.

Children's Oncology Group (COG)

COG is a National Cancer Institute (NCI)-sponsored cooperative group of individuals and institutions dedicated to treating cancer among children and adolescents. COG's purpose is to: 1. improve the diagnosis and management of children and adolescents with cancer, with the aim of curing every newly diagnosed patient; 2. investigate the etiology, pathology and pathophysiology of childhood cancer; 3. assure that every child with cancer achieves the highest quality of life during and following treatment; 4. expeditiously disseminate knowledge of these objectives in all appropriate media.

Children's Hospital and LSUHSC/Stanley S. Scott Cancer Center have been members of COG for almost 20 years. This allows the Children's Hospital/LSUHSC Minority Community Clinical Oncology Program (MCCOP) to offer innovative and up-to-date clinical trials as part of the NCI-sponsored COG.

HEMATOLOGY SERVICES

The hematology/oncology service treats a wide variety of hematologic disorders including sickle cell disease and other anemias, neutropenias, platelet and bleeding disorders.

More children with blood disorders come to Children's Hospital for treatment than to any other hospital in the state. They receive the highest level of care from a medical staff experienced in the latest treatments for a full spectrum of disorders.

Hemophilia and other blood disorders

Patients with hemophilia, von Willebrand's disease,

and other bleeding disorders are evaluated and treated with the most current therapies. Appropriate support for patients and parents is offered as needed. Nurse coordinators educate and coordinate the patient's care in clinic as well as at home. We have partnered with manufacturers of Factor to secure for our patients mobile devices that permit electronic data and therapeutic management. This has allowed parents of patients with bleeding disorders to record bleeding episodes and infusion details that enable the physician to better manage the acute and chronic complications of the disorder. We also were participants in the Hemophilia and Thrombosis Research Society Registry. The Registry provided insight into the differing management strategies employed by hemophiliacs, into the natural history of patients with inhibitors, and assessment of alternative therapies for acute bleeding episodes (NovoNordisk).

Outpatient clinic

Treatments that once required that a child be admitted to the hospital are now often given on an outpatient basis. Patients visiting the Hematology/Oncology outpatient clinic at Children's Hospital will find themselves in a newly renovated space that provides an environment in which the comfort and care of the child and family are placed first. Located in the hospital's Ambulatory Care Center, a separate patient suite with private entrance and waiting area has been dedicated for patients with cancer or blood disorders. The location is convenient for families and provides the safest conditions for immunocompromised patients.

Patients visiting our outpatient clinic are closely monitored by their pediatric hematologist/oncologist and nurses trained in chemotherapy administration and receive a variety of treatments, including blood transfusions, platelet transfusions and gammaglobulin infusions.

In addition to nine private rooms, there is a large treatment room (which also includes a private treatment room where stem cell or red cell exchanges can take place or patients can recover from anesthesia). In this room, patients may watch TV, play video games, or relax while watching tropical fish aimlessly wander in tanks set within the walls of the room—all this to induce a much friendlier and non-threatening environment while the child receives transfusion and other therapies.

The clinic sees on average 20 patients per day and is open Monday through Friday, 8 a.m. to 4:30 p.m.

If the need arises during a clinic visit, patients can be promptly admitted to the hospital's acute care unit, designated specifically for hematology/oncology patients.

Sickle cell anemia

Comprehensive management of sickle cell disease, including transfusion therapy, skilled pain management and chelation therapy is made available at Children's Hospital. We currently care for between 250 and 300 patients with sickle cell disease at Children's Hospital in New Orleans. Satellite clinics are located in Baton Rouge and Lake Charles. From the time the patients are first identified as having a hemoglobinopathy, they are offered the most progressive treatment available for stroke prevention, oral chelation, retinopathy screening and monitoring for long-term complications of sickle cell disease. We have been involved in clinical trials sponsored by Novartis, Celgene and other pharmaceutical companies; this has been done to avail our patients of the newest advances in science related to this disorder, resulting in our being able to offer our patients the newest advances in the field of hemoglobinopathies as soon as they are proven safe and efficacious. In addition to sickle cell disease, we also treat individuals who are diagnosed with other hemoglobinopathies, e.g., CC Disease or thalassemia. We have explored therapeutic innovations such as non-myeloablative transplantation which offers our patients with sickle cell disease an opportunity to undergo the transplant without prohibitive risks. Our involvement in the National Marrow Donor Program and the National Cord Blood Registry permits us to offer this treatment modality to greater numbers of patients who might otherwise have had to forego this treatment option for want of an eligible donor. We are currently in an agreement with Viacord (Celgene) that will enable patients to bank cord blood—a service often beyond the financial means of many of our families.

RESEARCH

The members of the Hematology/Oncology section of the Department of Pediatrics (LSU and Children's) have maintained a lively interest in research, in the effort to improve care and expand knowledge regarding the various disease processes that are encountered by them. One main venue for research has been the Children's Oncology Group, in which all members of the division participate. Collaboration with other LSUHSC faculty and with research staff in The Clinical Trials Center has brought about exciting and fruitful results. The investigative efforts have

included translational (bench to bedside) research:
1. Study of the role of the amino acid, arginine, on the cellular response of immune cells to cancer cells (Drs. Augusto Ochoa and Arnold Zea);
2. Development of an assay to determine the level of responsiveness to glucocorticoids (e.g. prednisone) in patients diagnosed with acute lymphoblastic leukemia (this testing would determine if an individual was resistant or responsive to a commonly used class of drugs used for the treatment of a spectrum of leukemia subtypes (Dr. Wayne Vedeckis);
3. Study of dendritic cells as a means of enhancing engraftment of peripheral blood stem cells and of diminishing the probability of graft-vs-host disease in transplantation recipients; and
4. Study of xenotransplantation (transplantation across species).

We have just concluded our participation in a study of the oral chelator, Exjade, which has been utilized to treat individuals with transfusional iron overload (Novartis) and continue to participate in a number of pharmaceutical company-sponsored trials, as well. They include:
1. A study of the pharmacokinetics and safety of an antifungal medication, voriconazole, in those who are immune-compromised and at high risk for the development of fungal infection (Pfizer);
2. A trial to assess the safety and efficacy of a new intravenous immunoglobulin to treat patients with immune-mediated thrombocytopenia (Grifols);
3. A trial of transplantation with umbilical cord blood from multiple donors to treat those individuals with malignant and non-malignant hematologic disorders (Celgene); and
4. The study of donepezil in children who have attention impairment after cancer therapy (Eisai).

In addition to these research efforts, the Division of Hematology/Oncology continues its clinical research efforts as a means of interesting young people, whether high school students, medical students or residents, in pursuing a career in Hematology/Oncology, both basic and clinical. Drs. Gardner, Velez and Yu have been active as mentors for the Summer Cancer and/or Genetics Research Programs offered at LSUHSC and, as such, have studied subjects such as problems had by children in school re-entry, knowledge of and acceptance of HPV vaccine, brain tumors and late effects and prevention of nosocomial infection, etc. Studies aimed at insur-

ing quality control improvement in the hospital setting have been very important to us, with the overreaching goal of improving patient care. As an example, we have interacted with our emergency room and residency staff, emphasizing the exigency of fever in neutropenic patients and the measures which need to be taken. Through improved cooperation, enhanced educational efforts, and the use of standardized, pre-printed orders, we have greatly shortened the time that it now takes to institute care in the emergency room for patients presenting with fever and low white blood cell counts. Similarly, central line infections on the Hematology/Oncology unit now have a prevalence that is lower than the national average. Another study led to the introduction of sample labeling practices in the operating or recovery room during procedures that promise to reduce error rates. All of these studies have resulted in the institution of new interventions and ultimately, we hope, will be responsible for the improvement of patient care.

LANASA GRECO CENTER FOR CANCER AND BLOOD DISORDERS INPATIENT UNIT

The LaNasa Greco Center for Cancer and Blood Disorders opened in November 2003 on the fourth floor of Children's Hospital. The inpatient unit boasts 18 private rooms in a state-of-the-art and comfortable environment for patients and families. Each room, as well as the entire unit, is equipped with high efficiency particle air (HEPA) filtration. The highly advanced air handling system allows bone marrow transplants to be performed in any room and is essential to reducing the risk of infection. Located away from other inpatient areas and accessed through a positive pressure vestibule, the unit allows for the highest level of protection for patients.

The unit, overlooking Audubon Park, also includes a playroom stocked with games, toys, art supplies and computers, and an activity center, where music and recreation therapists can interact with small groups of children for organized play. A parents' lounge is available for those needing peace or respite.

When admission is indicated, an individual treatment plan for each patient is devised by pediatric oncologists, oncology nurses and other members of the multidisciplinary team. Patients and their families develop a special bond with the staff on the fourth floor and the staff is committed to helping them cope both emotionally and physically with the side effects and complications associated with disease and treatment.

Treatment Protocols

PHARMACEUTICAL TRIALS

CELGENE CELLULAR THERAPEUTICS

Investigation of HLA-matched Related, Human Umbilical Cord Blood Transplantation for the Treatment of Symptomatic Sickle Cell Disease or Beta-Thalassemia Major in Children

A Single-Arm Study to Assess the Safety of Transplantation with umbilical cord blood augmented with human placental-derived stem cells from partially matched related donors in subjects with certain malignant hematologic diseases and non-malignant disorders

EUSA PHARMA

Usage of Erwinia Asparaginase (Erwinase Master Treatment Protocol) COG Studies

GRIFOLS PHARMACEUTICALS

A Multi-Center, Prospective, Open-Label, Clinical Trial to Assess the Safety and the Efficacy of a New Intravenous Immune Globulin (IGIV3I Grifols 10 percent) in Patients with Idiopathic (Immune) Thrombocytopenic Purpura*

NOVARTIS PHARMACEUTICALS

A randomized, open-label, multi-center, phase II study to evaluate the safety and efficacy of oral ICL670 (deferasirox) 20mg/day relative to subcutaneous deferoxamine in sickle cell disease patients with iron overload from repeated blood transfusions

A one year open label, non-comparative extension to a randomized, multicenter, phase II study to evaluate the safety, tolerability, pharmacokinetics and the effects on liver iron concentration of repeated doses of 5-30 mg/kg/day of ICL670 relative to deferoxamine in sickle cell disease patients with transfusional hemosiderosis

OSIRIS THERAPEUTICS

Treatment Protocol to Evaluate Safety and Treatment Outcomes of Prochymal Infusion for the Treatment of Steroid-Refractory Acute GVHD in Pediatric Patients

PFIZER PHARMACEUTICALS

An open-label, intravenous to oral switch, multiple dose study to evaluate the pharmacokinetics, safety and tolerability of voriconazole in immunocompromised adolescents aged 12 to <17 years who are at high risk for systemic fungal infection*

An open-lable, intravenous to oral switch, multiple dose study to evaluate the pharmacokinetics, safety and tolerability of voriconazole in immunocompromised children aged 2 TO <12 years who are at high risk for systemic fungal infection

ALL DISEASES

ACCRN07 Protocol for the Enrollment on the Official COG Registry, The Childhood Cancer Research Network (CCRN)

BRAIN/CNS

ACNS02B1 Pre-Clinical Pharmacology in Surgical Brain Tumor Specimens

ACNS02B3 A Children's Oncology Group Protocol for Collecting and Banking Pediatric Brain Tumor Research Specimens

ACNS0331 A Study Evaluating Limited Target Volume Boost Irradiation and Reduced Dose Craniospinal Radiotherapy (18.00 Gy) and Chemotherapy in Children with Newly Diagnosed Standard Risk Medulloblastoma: A Phase III Randomized Trial

A9952 Chemotherapy for Progressive Low Grade Astrocytoma in Children Less Than Ten Years Old

A9961 A Phase III Prospective Randomized Study of Craniospinal Radiotherapy Followed by One of Two Adjuvant Chemotherapy Regimens (CCNU, CDDP, VCR or CPM, CDDP, VCR) in Children with Newly-Diagnosed Average-Risk Medulloblastoma

P9934 Systemic Chemotherapy, Second Look Surgery and Conformal Radiation Therapy Limited to the Posterior Fossa and Primary Site for Children => 8 Months and <= 36 Months with Non-Metastatic (MO) Medulloblastoma: A Children's Oncology Group Phase III Study

CANCER CONTROL

AALL0331 Standard Risk B-Precursor Acute Lymphoblastic Leukemia, Phase III Group-Wide Study (QOL component)

AALL03N1 Understanding the Role of Adherence in the Ethnic Differences in Survival after Childhood ALL

ACCL05C1* A Group-Wide, Prospective Study of Ototoxicity Assessment in Children Receiving Cisplatin Chemotherapy

ACNS0331 A Study Evaluating Limited Target Volume Boost Irradiation and Reduced Dose Craniospinal Radiotherapy (18.00 Gy) and Chemotherapy in Children with Newly Diagnosed Standard Risk Medulloblastoma: A Phase III Randomized Trial (QOL component)

ALTE03N1 Key Adverse Events After Childhood Cancer

ACCL0331 A Randomized Double Blind Placebo Con-

trolled Clinical Trial to Assess the Efficacy of Traumeel (IND #66649) for the Prevention and Treatment of Mucositis in Children Undergoing Hematopoietic Stem Cell Transplantation

ALL, AML

AALL0232 High Risk B-precursor Acute Lymphoblastic Leukemia- A Phase III Group-Wide Study

AALL0331 Standard Risk B-Precursor Acute Lymphoblastic Leukemia, Phase III Group-Wide Study

AALL03B1 Classification of Acute Lymphoblastic Leukemia

AALL03N1 Understanding the Role of Adherence in the Ethnic Differences in Survival after Childhood ALL

AALL0434 Intensified Methotrexate, Nelarabine (Compound 506U78; IND#52611) and Augmented BFM Therapy for Children and Young Adults with Newly Diagnosed T-cell Acute Lymphoblastic Leukemia (ALL)

AAML0531 A Phase III Randomized Trial of Gemtuzumab Ozogamicin (Mylotarg®) Combined with Conventional Chemotherapy for De Novo Acute Myeloid Leukemia (AML) in Children, Adolescents, and Young Adults

ADVL04P2* A Feasibility Pilot and Phase 2 Study of Chemoimmunotherapy with Epratuzumab for Children with Relapsed CD22-Positive Acute Lymphoblastic Leukemia

ASCT0431 A Randomized Trial of Sirolimus-Based Graft Versus Host Disease Prophylaxis after Hematopoietic Stem Cell Transplantation in Selected Patients with CR1 and CR2 ALL

9404 Intensive Treatment for T-Cell Acute Lymphoblastic Leukemia and Advanced Stage Lymphoblastic Non-Hodgkin's Lymphoma (T-Cell #4 Protocol)

9407 Induction Intensification in Infant Acute Lymphoblastic Leukemia

AAML03P1 Treatment of Newly Diagnosed Childhood Acute Myeloid Leukemia (AML) Using Intensive MRC-Based Therapy and Gemtuzumab Ozogamicin (GMTZ)

9904 AlinC17 Treatment of Patients with Newly Diagnosed Low Risk Acute Lymphoblastic Leukemia

9905 ALinC 17: Protocol for Patients with Newly Diagnosed Standard Risk Acute Lymphoblastic Leukemia (ALL): A Phase III Study

LIVER

AEPI04C1 Low Birth Weight & Other Risk Factors for Hepatoblastoma

P9645 Phase II Protocol for the Treatment of Children with Hepatoblastoma

LYMPHOMA

AHOD0031 A Phase III Groupwide Study of Dose-Intensive Response-Based Chemotherapy and Radiation Therapy for Children and Adolescents with Newly Diagnosed Intermediate Risk Hodgkin Disease

AHOD0431 Phase III Study for the Treatment of Children and Adolescents with Newly Diagnosed Low-Risk Hodgkin Disease

9425 Advanced Stage Hodgkins Disease - A Pediatric Oncology Group Phase III Study

9426 Response Dependent Treatment of Stages IA, IIA and IIIA Hodgkin's Disease with DBVE and Low Dose Involved Field Irradiation with or without Zinecard

A5971 Randomized Phase III Study for the Treatment of Newly Diagnosed Disseminated Lymphoblastic Lymphoma or Localized Lymphoblastic Lymphoma

NEUROBLASTOMA

ANBL0032 Phase II Randomized Study of Chimeric Antibody 14.18 (Ch14.18) in High Risk Neuroblastoma Following Myeloablative Therapy and Autologous Stem Cell Rescue

ANBL00B1 Neuroblastoma Biology Studies

ANBL00P2 Perinatal Neuroblastoma: Expectant Observation

ANBL0421 A Phase II Study of Irinotecan + Temozolomide in Children with Recurrent Neuroblastoma

ANBL0532 Phase III Randomized Trial of Single vs. Tandem Myeloablative Consolidation Therapy for High-Risk Neuroblastoma

A3973 A Randomized Study of Purged versus Unpurged Peripheral Blood Stem Cell Transplant Following Dose Intensive Induction Therapy for High-Risk Neuroblastoma

P9641 Primary Surgical Therapy for Biologically Defined Low-Risk Neuroblastoma

RENAL

9442 National Wilms Tumor Late Effects Study

AREN03B2 Children's Oncology Group Renal Tumors Classification, Biology and Banking Study

AREN0532 Treatment for Very Low and Standard Risk Favorable Histology Wilms Tumor

9440 National Wilms Tumor Study – 5: Therapeutic Trial and Biology Study

SARCOMA

AEWS02B1 A Groupwide Biology and Banking Study for Ewing Sarcoma

AEWS0331 European Ewing Tumor Working Initiative of National Groups Ewing Tumour Studies 1999 (EURO-E.W.I.N.G. 99)

AOST0331 A Randomized Trial of the European and American Osteosarcoma Study Group to Optimize Treatment for Resectable Osteosarcoma Based on Histological Response to Pre-Operative Chemotherapy

ARST0431 Intensive Multi-Agent Therapy, Including Dose-Compressed Cycles of Ifosfamide/Etoposide (IE) and Vincristine/Doxorubicin/Cyclophosphamide (VDC) for Patients with High-Risk Rhabdomyosarcoma

ARST0532 Randomized Study of Vincristine, Dactinomycin and Cyclophosphamide (VAC) versus VAC Alternating with Vincristine and Irinotecan (VI) for Patients with Intermediate-Risk Rhabdomyosarcoma (RMS)

D9902 A COG Soft Tissue Sarcoma Biology and Banking Protocol

P9851 Osteosarcoma Biology Protocol: Companion to Group-Wide Therapeutic Studies

9354 A Randomized Phase III Evaluation of Intensified Vincristine, Doxorubicin, Cyclophosphamide, Ifosfamide, and Etoposide in the Treatment of Newly-Diagnosed Ewing's Sarcoma or Primitive Neuroectodermal Tumor of Bone or Soft Tissue. A POG/CCG Phase III Intergroup Study

D9602 Actinomycin D and Vincristine with or without Cyclophosphamide and Radiation Therapy, for Newly Diagnosed Patients with Low-Risk Embryonal/Botryoid Rhabdomyosarcoma: IRS-V/STS Protocol

D9803 Randomized Study of Vincristine, Actinomycin-D, and Cyclophosphamide (VAC) versus VAC Alternating with Vincristine, Topotecan and Cyclophosphamide for Patients with Intermediate-Risk Rhabdomyosarcoma

COG TRANSPLANT

(studies are listed above)

AAML0531 A Phase III Randomized Trial of Gemtuzumab Ozogamicin (Mylotarg®) Combined with Conventional Chemotherapy for De Novo Acute Myeloid Leukemia (AML) in Children, Adolescents, and Young Adults

AEWS0331 European Ewing Tumor Working Initiative of National Groups Ewing Tumor Studies 1999 (EURO-E.W.I.N.G. 99)

ANBL0032 Phase II Randomized Study of Chimeric Antibody 14.18 (Ch14.18) in High Risk Neuroblastoma Following Myeloablative Therapy and Autologous Stem Cell Rescue

ANBL0532 Phase III Randomized Trial of Single vs. Tandem Myeloablative Consolidation Therapy for High-Risk Neuroblastoma

ASCT0431 A Randomized Trial of Sirolimus-Based Graft Versus Host Disease Prophylaxis after Hematopoietic Stem Cell Transplantation in Selected Patients with CR1 and CR2 ALL

ASCT0521 Soluble Tumor Necrosis Factor Receptor: Enbrel (Etanercept) for the Treatment of Acute Non-Infectious Pulmonary Dysfunction (Idiopathic Pneumonia Syndrome) Following Allogeneic Stem Cell Transplantation

MISCELLANEOUS BIOLOGY/RARE TUMORS

ABTR01B1 A Children's Oncology Group Protocol for Collecting and Banking Pediatric Research Specimens Including Rare Pediatric Tumors

NON-COG TRANSPLANT: OPEN TO ACCRUAL

National Marrow Donor Program (NMDP)/Center for International Blood and Marrow Transplant Research (CIBMTR) Research Database for Allogeneic Unrelated Hematopoietic Stem Cell Transplantation

A Phase I Study of Hematopoietic Stem Cell Transplantation (HSCT) in Non-malignant Disease Using a Non-myeloablative Preparatory Regimen with Campath-1H, Fludarabine and Melphalan

A Multicenter Investigation of Sibling Donor Cord Blood Transplantation for Treatment of Symptomatic Sickle Cell Disease or Beta-Thalassemia Major

High-Dose Cyclophosphamide, Carmustine and Etoposide with Autologous Bone Marrow Transplantation for Relapsed Hodgkin's Disease

Use of High-Dose Cytosine Arabinoside (ARA-C), Cyclophosphamide, Total Body Irradiation and Marrow Transplantation as Treatment for Patients with Acute Lymphoblastic Leukemia

A Pilot Study of Unrelated Umbilical Cord Blood Transplantation in Adults and Children with Bone Marrow Failure Syndromes or Inherited Metabolic or Hematologic Diseases

Selection of CD 34+ Cells for Stem Cell Transplantation of Hematologic Malignancies

Cyclophosphamide Conditioning Regimen for Marrow Transplantation from HLA Identical family Members for Severe Aplastic Anemia

NMDP/CIBMTR Research Sample Repository

Acclerating Immune Recovery Post-SCT via co-transfer of Dendritic Cell Precursors

** Protocol is currently under review by the Louisiana State University Health Sciences Center Institutional Review Board*

"Studies closed to accrual" indicates that enrollment through the Children's Oncology Group can no longer take place, but patients can continue to receive therapy according to the protocol's guidelines, since these studies often represent the most current treatment approach available at the present time.

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Glossary

Accession: To list in order of acquisition. An accession number is assigned to each new patient who is eligible for inclusion in the Cancer Registry database.

Allogenic: Having cell types that are antigenically distinct. In transplantation biology, denoting individuals (or tissues) that are the same species but antigenically distinct.

American Joint Committee on Cancer (AJCC): A committee designated to coordinate efforts of sponsoring organizations to develop staging systems for various cancers within the TNM system in the United States.

American College of Surgeons (ACoS): A fellowship of surgeons, organized in 1913 "to elevate the standard of surgery, to establish the standard of competency and character for practitioners of surgery," and, in general, to assure that surgeons are properly qualified.

Analytic Cases: Cases that are first diagnosed and/or receive all or part of their first course of treatment at Children's Hospital. In accordance with the American College of Surgeons guidelines for approved cancer programs, these cases must be accessioned, included in the patient index file, abstracted and followed for the lifetime of the patient by the Cancer Registry.

Autologous: Autogenous, related to self; originating within an organism itself.

Class of Case: A classification of treatment status determined by a reporting hospital. This classification is determined at the patient's first admission. Whether a case is included in the hospital's treatment and/or survival statistics depends upon the patient's classification.

Initial Therapy: Initial definitive treatment, or series of treatments, that normally modifies, controls, removes or destroys proliferating tumor tissue. This is usually initiated within the first four months (two months for leukemia) of diagnosis. Types of initial therapy include the list below:

Surgery: The partial or total removal of the tumor, excluding biopsy.

Radiation: Cancer-related direct beam and non-beam therapy. Non-beam includes radium, cesium and radioactive isotopes.

Chemotherapy: Includes antimetabolites, alkylating agents, vinca alkaloids and antibiotics, among other agents.

Hormone: Includes administration of hormones/steroids, and in some cases, endocrine surgery.

Combination Therapy: Includes possible combinations of surgery, radiation, chemotherapy and hormone therapy.

Immunotherapy: Passive immunization of an individual by administration of pre-formed antibodies actively produced in an individual.

No Treatment: A treatment option that includes cases in which no information was available or no treatment was received.

Non-Analytic Cases: Cases that were not seen at Children's Hospital within the first four months following diagnosis (two months for leukemia) or who were first diagnosed at autopsy. This class of case is usually not included in a report of hospital's treatment and survival statistics. In accordance with the American College of Surgeons guidelines for approved cancer programs, these cases must be accessioned and a patient index record prepared. Although abstracting and lifetime follow-up are encouraged, these are matters of local decision by the hospital cancer committee.

Stage: The extent to which a primary tumor has spread from its original site. The extent of disease is determined at the time of diagnosis and/or initial therapy.

Surveillance, Epidemiology and End Results Program (SEER): A registry conducted by the National Cancer Institute for the collection and analysis of data on the incidence and treatment of cancer and survival of cancer patients in the United States. A staging system was developed in 1977 by SEER and is approved for use in cancer registries by the American College of Surgeons Commission of Cancer.

Survival: All survival statistics were calculated using the actuarial or life-table method for observed survival rate. This method takes into account both patients with observations for varying lengths and patients lost to follow-up.

TNM: A staging system developed by the American Joint Committee on Cancer, in which T stands for the size of the tumor, N for lymph node involvement and M for metastasis.

Children's Hospital Main Number	(504) 899-9511
Oncology Department	(504) 896-9740
Oncology Department Fax	(504) 896-9758
Oncology Unit – inpatient	(504) 896-9442
Oncology – outpatient clinic	(504) 896-9848
Neurosurgery Department	(504) 896-9568
Social Services Department	(504) 896-9367
Surgery Department	(504) 896-9478
Orthopaedics Department	(504) 896-9569
Medical Records/Tumor Registry	(504) 896-9585
Administration	(504) 896-9450
Diagnostic Radiology	(504) 896-9565
Pathology Department	(504) 896-9873
Bone Marrow Transplant Program Lolie C. Yu, MD	(504) 896-9740
Cancer Committee Chairman	(504) 896-9741
Cancer Program Liaison Evans Valerie, MD	(504) 896-3977

CANCER INFORMATION/RESOURCES

American Cancer Society	(800) ACS-2345
American Cancer Society, New Orleans Chapter	(504) 469-0021
National Cancer Institute	1-800-4CANCER

CANCER INFORMATION WEB SITES

American Cancer Society,	www.cancer.org
National Cancer Institute	www.cancer.gov
Children's Hospital, New Orleans	www.chnola.org
National Childhood Cancer Foundation	www.curesearch.org
Cancer Care	www.cancercare.org
Cancer Surviors Project	www.cancersurvivorsproject.org
National Children's Cancer Society	www.children-cancer.com

FINANCIAL

Medicaid – Enroller	(504) 896-9152
Office of Family Security	(504) 599-1700
Social Security	(800) 772-1213
Children's Hospital Assistance Program (CHAP)	(504) 894-5166
American Cancer Society	(504) 469-0021
Leukemia/Lymphoma Society	(504) 887-0945
Optimist Leukemia Foundation	(800) 685-9611
J.L Foundation	(225) 698-1010
National Children's Cancer Society	(314) 241-1600
Cancer Recovery Fund	(717) 564-4100
First Hand Foundation	(816) 201-1569
Cancer Association of Greater New Orleans	(504) 733-5539
Total Community Action	(504) 304-6676
Kids Kicking Cancer	(504) 455-7754

HOUSING

Ronald McDonald House	(504) 468-6668
American Cancer Society Patrick F. Taylor Hope Lodge	(504) 219-2202
Hotels – medical rates list available in Social Services Department	

WISHES

A Child's Wish	(504) 367-9474
Make-A-Wish	(504) 846-9474
A Special Wish	(614) 575-9474

SUPPORT

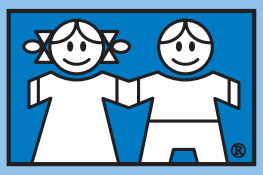
Candlelighters	(800) 366-2223
Sperm Bank Reproductive Services	(504) 454-7973
Camp Challenge	(504) 347-2267
Sunshine Kids	(713) 524-1264
Caps for Kids	(504) 891-4277

MENTAL HEALTH

Rehabilitation Program/RTC	(504) 483-0415
Via Link (24 hour counseling)	(800) 749-2673
Angel's Place (Respite Care)	(504) 455-2620
COPELINE - Suicide Prevention	(800) 273-8255
Children's Hospital Behavioral Health Unit, Calhoun Campus	(504) 896-7200
Family Service of GNO	(504) 822-0800

DEATH

Compassionate Friends	(504) 454-5078
Seasons – The Center for Caring	(504) 834-1453
St. Joseph Hospice	(504) 734-0320
Serenity Hospice	(504) 366-3996



CHILDREN'S HOSPITAL

200 Henry Clay Avenue
New Orleans, LA 70118
(504) 899-9511
www.chnola.org