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It is my privilege to present the 2018 HIMA•San Pablo Oncologic Hospital Annual Report; a document that portrays the dedication of a passionate team of people. This report reflects data and activities from 2017 for our accredited cancer program; one of two accreditations of Comprehensive Community Cancer Programs from the American College of Surgeons in Puerto Rico. Certified data is prepared, compiled, and submitted to the Puerto Rico Central Cancer Registry and National Data Base by our Certified Cancer Registrars. These cases analyze diagnoses, management, and follow-up of the cancer patients in our community. Our cancer program includes an expanding clinical trial program under the direction of Dr. Wilfredo De Jesús, an excellent addition to the HIMA•San Pablo Group.

We are preparing for re-accreditation by the American College of Surgeons Commission on Cancer in 2019, reaffirming our commitment to quality in cancer care. Our team of professionals guiding our cancer program through the committee provide key services all in one place for the benefit of our community. Our program consists of a dedicated 26-bed oncology unit, an established Bone Marrow Transplant Unit, outpatient infusion services, a Radiotherapy Department, a Nuclear Medicine Department, multi-disciplinary tumor board weekly meetings, oncology nurses, cancer registry, health education, clinical dieticians, an oncology social worker and oncology pharmacists.

Looking back, year 2017 brought great challenges to Puerto Rico, testing our strength and bringing out the best in all of us. Through our medical tourism program and in coordination with federal agencies, our hospital welcomed many cancer patients from the U.S. Virgin Islands and other neighboring islands after Hurricane Irma so they could continue their treatment. We continued to provide them refuge through the path of Hurricane Maria and its aftermath, as our hospital was able to remain 100% operational despite the great disaster that struck our island.

Despite the difficult economic times facing our Island, we are confident that we will continue to recruit excellent new faculty, expand our services, offer more clinical trials and increase our reach into the communities that do not have ready access to cancer treatment. I continue to be honored and privileged to serve as the Director of the Cancer Program and I am very proud of the continued growth of our program and the strategic lead we are taking in providing cancer care in Puerto Rico.

I thank our entire team as we answer a calling from the heart to serve in a place where people care, in a culture of sensing the needs of others, embraced by a philosophy of patient-centered care.

Sincerely,

Mayra M. Collazo-Castro, MD, CTR
Director, HIMA•San Pablo Oncologic Hospital
Message from our Medical Director

As everyone knows, 2017 was an eventful year for Puerto Rico when two major hurricanes, Irma and Maria, struck the Island in the span of two weeks, leaving a trail of destruction in their wake. Throughout this difficult period, we demonstrated the power and resilience of our cancer center by continuing to serve our patients in a very challenging environment. For people with cancer living in Puerto Rico, it was a harrowing time. In addition to dealing with flooded homes, no power, and limited access to food and safe drinking water, many could not travel to chemotherapy infusions or other appointments. Roadways were ruined, medication was in short supply, and downed phone lines limited communication with doctors.

Through the help of family, friends, and state and federal agencies, many of Puerto Rico’s cancer patients relocated temporarily in the mainland United States and continued their treatment there. In our cancer center, our ambulatory chemotherapy center re-opened two days after the hurricane and we started administering chemotherapy to patients as they were able to reach the center for their appointment. Also, during this time, we received many cancer patients from our neighbors, the U.S. Virgin Islands, because their cancer center and hospital were completely destroyed by Hurricane Irma. Many were admitted in our hospital and remained until it was safe for them to return to their home, including radiotherapy patients that came to complete their treatment in our facilities.

By the end of 2017, only half of Puerto Rico’s population had regained electricity and drinking water, so there were a lot of challenges ahead to restore an efficient medical care in our community.

Reflecting back on 2017, I take this opportunity to express my gratitude to all the organizations that assisted our cancer patients throughout those difficult months and the support of our colleagues in the mainland that accepted our patients without regard for their medical insurance. We are thankful for our recovery and for continuing the care of excellence that we expect from ourselves.

Edgardo Rodríguez-Monge, MD
Medical Director, HIMA•San Pablo Oncologic Hospital
Caring for Patient X

As an accredited Comprehensive Community Cancer Program, the HIMA•San Pablo Oncologic Hospital provides a multidisciplinary approach to cancer treatment. From a quality perspective, the multidisciplinary approach provides more opportunities at each stage of the treatment for a more complete evaluation of not only all potential treatment tools for each patient, but also that the transition between one stage of cancer treatment and another is smoother and more informed. It provides the opportunities for a variety of disciplines to cooperate and address a wider array of a patient’s needs. A multidisciplinary approach allows our Program to go beyond available medical treatments and deliver a level of care that takes the patient’s body, mind, and soul into consideration. It’s the stuff beyond the medicine that separates an accredited Comprehensive Community Cancer Program from other cancer programs. In this year’s Annual Report, we explore all of the disciplines housed in our hospital through the experiences of an imaginary patient, Patient X. Patient X is based on real experiences our staff experienced in 2017, but to protect the patients’ confidentiality and to allow for a full picture of our services, we have composed Patient X to show how care for our patients can go beyond cancer treatment. Below we provide the profile for our Report’s Patient X, to provide some context to the articles that follow.

Profile for Patient X

Monday, August 18, 2016 11:51 AM Patient X is a 16-year-old male patient from Tortola, part of the British Virgin Islands, who came to our hospital through HIMA Health’s medical tourism referral program. His primary language is English. Medical treatment in Puerto Rico for Patient X requires attention to travel, language and housing issues. Based on his condition, he was referred to our cancer program for an urgent medical evaluation through a request received by email at himahealth@himapr.com, followed by a transport by air ambulance once the case was accepted.

Highlights of the medical report received on August 18, 2016, indicated that Patient X was a 16-year-old male that was admitted in the Hospital on 8/15/2016 presenting a complaint of fever for two weeks. As part of his medical history, Patient X’s mother only remembered that at 4 years old she was told during a routine medical checkup that Patient X was anemic but advised to give him multivitamins. After that, Patient X had remained in good health up until two weeks before when he developed flu-like symptoms associated with sore throat, coryza and fever, for which he was administered cough medicine. Nevertheless, his symptoms persisted, with intermittent bouts of fever. Patient X’s family took him back to a private doctor and he was prescribed co-amoxicil and a blood test was done. Abnormal lab results brought him back to the emergency room the following day. Patient X had no known prior chronic medical illnesses.
Patient X was admitted to the Caribbean hospital with a clinical picture of elevated blast WBC in the setting of pancytopenia with a failing marrow (retic count 0.6% with a RPI 0.06%). He also had right sided pneumonia, lymphadenopathy, splenomegaly, elevated LDH without hemolysis. He was finally referred for urgent evaluation by our Hematology/Oncology service for leukemia inclusive bone marrow aspirate/biopsy. This referral was made by an internal medicine hospitalist at that hospital.

As soon HIMa Health received the referral, its medical clerks presented the case to pediatricians Dr. Alberto Frias and Dr. Maribel Torres who consulted with Dr. Jhon Guerra, Pediatric Hematologist & Oncology with Neuro-oncology and Bone Marrow Transplant subspecialties. The case was accepted for transfer to HIMa San Pablo Caguas Hospital’s Pediatric Intensive Care Unit. Our Program is lucky to be housed inside a tertiary critic care hospital, which provides support services such as this unit.

That same day, the patient was airlifted, transferred, and admitted to our Program’s service. After the air ambulance communicated delivery of Patient X to his designated room, HIMa Health turns the patient over to our Program’s services but continues to provide support services for transportation, housing for his relatives and coordination of translation or other social services needed.

Patient X’s initial diagnosis was Severe Thrombocytopenia with anemia, Leukemoid reaction, suspected leukemia, oral thrush, right arm phlebitis and splenomegaly. On 7/19/2018, a sample of bone marrow biopsy and aspirate was performed. The pathology report two days later revealed an Acute Leukemia with Phenotype most consistent with Myeloid Lineage Differentiation. Determination of lineage is difficult in this case because flow cytometric and morphologic findings have some suggestion of two different populations. The above leukemia is most consistent with an early T cell precursor acute lymphoblastic leukemia, but a leukemia of ambiguous lineage should also be considered.

Patient X was ultimately diagnosed with Acute Bi-phenotypic Leukemia with T and Myeloid markers. The patient received chemotherapy and an allogeneic bone marrow transplant from his HLA full match brother a little bit over a year later, the same week Hurricane Maria stroke our island. Patient X has had an excellent post transfusion course and is currently been followed monthly at Dr. Guerra’s out-patient clinics.

This Annual Report presents what could have been Patient X’s journey in our Program to explore the benefits of the multidisciplinary approach available at an accredited comprehensive cancer center such as ours, through a narrative based on a composite of different patients.
Getting Patients Specialized Services: Case Management by HIMA Health for Transfers from around Puerto Rico and Medical Tourism Patients

Jaluxmi Villegas, Patient Navigator

Our HIMA•San Pablo Hospitals Network provides medical tourism and referral concierge services for patients who need advance cancer medical care in and outside of Puerto Rico through the HIMA Health Department. They investigate not only the patient’s diagnosis but also the patient’s special needs in order to facilitate a complete presentation of the case that will foster not only the prompt acceptance of the case for medical treatment but also the assignment of ancillary resources needed to provide the patient with complete care. In its handling of requests for specialized services from around and outside Puerto Rico, HIMA Health coordinates medical cases with specialists and subspecialists, including pediatric hematologists and oncologists, transplant specialists and pediatric and oncologist neuro surgeons, among others.

Once a patient is referred to our hospital, HIMA Health coordinates an appointment with the specialist, transportation, accommodations for outpatient services and/or a patient’s relatives, as well as the concierge services that will help the patient and the accompanying relatives navigate our facilities, serving as interpreters to facilitate the procedures ordered by the receiving and/or admitting physician.

Next, the patient receives an orientation about the course of treatment ordered and receives assistance with submitting documents to obtain the authorization from the patient’s health plan. Once the authorization is obtained or other arrangements are made, they contact the physicians so that treatment can begin as soon as possible.

After medical treatment has concluded, if necessary, HIMA Health representatives will intervene again to arrange for a patient’s special needs in the discharge plan, including, for example, home care services, medical equipment, follow-up medical appointments. Furthermore, patients are assisted in obtaining the health records needed for their appointments. Ultimately, HIMA Health will remain with the patient throughout the entire process to assist not only in the prompt recovery but also on the efforts to live a life of quality.
HIMA Health and Patient X

Being from Tortola, Patient X came to us through HIMA Health’s medical tourism program. HIMA Health received the request from Patient X’s physician in Tortola, arranged for the acceptance of the case by HIMA•San Pablo’s pediatricians with the assistance of a pediatric hematologist oncologist with specialty in bone marrow transplants, plus admittance to the hospital’s pediatric intensive care unit. HIMA Health made necessary arrangements for the authorization and financial commitment by the Tortola’s National Health Insurance to cover the treatment. They arranged for the transfer with the air ambulance, for transportation for some of Patient X’s relatives and accommodations, coordinated the initial appointments with the physicians and after the treatment was completed, have continued to arrange for follow-up medical appointments for Patient X, including related transportation and accommodation arrangements. HIMA Health concierge services have been an integral part of the care received by Patient X during the last two years and counting…

Radiation Oncology and Radio-Surgery Services

RADIATION ONCOLOGY
- Brachytherapy
- Pediatric Anesthesia
- Robotic Radio-Surgery (Cyberknife®)
- High Dose Rate (HDR) Brachytherapy

ROBOTIC SURGERY (daVinci®)
- Transoral Robotic Surgery (TORS)
- Urologic Oncology
- Gynecologic Oncology

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Navigating Through a Cancer Diagnosis: Medical Evaluation
Arelis M. Hernández Rosado, MPH, CTR

One of HIMA•San Pablo Oncologic Hospital's main goals is ensuring timely patient access to appropriate and complete cancer care. Our institution seeks to enhance patient access to the full continuum of cancer care from screening to detection, diagnosis, treatment, and beyond. The initial medical evaluation is the first and perhaps one of the most important steps in a patient’s journey to living with cancer. This journey is not an easy road to travel without the support and guidance of your health care provider. This is what you should expect from your medical evaluation.

How cancer is diagnosed

When we feel sick or we notice something is happening to our body, the first thing we may do is visit a doctor or go to a Hospital’s emergency department. If your symptoms or screening test results suggest cancer, the doctor must first rule out other possibilities before confirming a cancer diagnosis. The doctor will ask about your personal and family medical history, followed by a physical examination (PE). When performing a PE, the doctor will assess the general state of your health and identify any signs of illness, such as nodules or anything else out of the ordinary.

In addition, laboratory tests, images, a biopsy and/or some other studies or tests will be done. These tests and studies will depend on the age of the patient, the type of cancer that is suspected, the results of previous studies, and the symptoms and general condition of the patient. Each type of cancer has specific tests that are performed to reach a final diagnosis.

Also important to note is that cancer is a disease that also affects children, with leukemia being the most common type in this age group. It is essential for parents to be aware of different signs and symptoms that a child may have that could indicate some type of cancer. Children usually have symptoms that can be confused with other diseases, such as unexplained fever, abnormal labs results, fatigue, tiredness, bruising or bleeding easily, unusual lump or swelling, bone pain, frequent headaches, among others. In these cases, children are typically referred by their pediatrician to a hospital where a thorough medical evaluation can be made to obtain a final diagnosis and to evaluate treatment options.
Tests and Procedures

These are the most common diagnostic tests:

LAB TESTS:

Abnormal levels of some substances in the body can be signs of cancer. Samples of blood, urine or other fluids that measure these substances can help the doctor to establish a diagnosis of cancer. Even so, the doctor cannot rely only lab tests to establish a diagnosis of cancer. Some of these labs are Fecal Occult Blood Test, CBC, and Tumor Marker Tests.

IMAGING PROCEDURES:

Imaging studies allow the doctor to see inside the body to diagnose, treat or monitor various health conditions, including cancer.

Barium Enema A barium enema is an x-ray of the large intestine, which includes the colon and rectum.

Bone Scan A bone scan is a nuclear medicine imaging technique of the bone. It can help diagnose a number of bone conditions, including cancer of the bone or metastasis, location of bone inflammation and fractures, and bone infection.

Breast MRI, Ultrasound and Mammography These imaging studies allow to diagnose or evaluate breast lesions. These images could identify masses or lesions in the breast. They also help to determine the extent of the disease, in case of a breast cancer diagnosis.

Computed Tomography (CT) Scan A CT Scan is a diagnostic exam used to detect tumors, and to determine the stage of the disease and whether cancerous cells have spread. When done after treatment, CT can help the physician determine the effectiveness of the cancer treatment.

Magnetic Resonance Imaging (MRI) An MRI creates images from the inside of your body. It is used to help diagnose or monitor the treatment of a variety of conditions (e.g. cancer) in the chest, abdomen, and pelvis.

Positron Emission Tomography and Computed Tomography (PET-CT) Scans Among other uses, the PET CT is used to detect cancerous activity in the patient's body. It allows the physician to see how the cancer metabolizes, and whether it has spread or metastasized to new areas. Additionally, it can show how the tumor is responding to treatment.

Ultrasound Ultrasound produces photographs of the internal structures of the body. It is used to help diagnose the causes of pain, swelling and infection in the internal organs of the body, and to examine the baby in a pregnant woman. With regard to cancer, ultrasound can be used to help guide biopsies.
INVASIVE PROCEDURES:

**Biopsy** A biopsy is a sample of tissue from any part of the body, obtained by a doctor to be examined pathologically. It is the most accurate way to make a definitive diagnosis of cancer and to determine its type.

**Bone Marrow Aspiration and Biopsy** A bone marrow biopsy and aspiration is a diagnostic examination of the bone marrow that can provide information about the development and function of blood cells.

**Endoscopies** A colonoscopy is a procedure that allows the doctor to see inside your intestines to detect any abnormality such as a polyp, mass, or any lesion or abnormality. An upper endoscopy allows the physician to examine the digestive system to diagnose, and sometimes treat, conditions that affect the esophagus, stomach, and the beginning of the small intestine.

**Digital Rectal Exam (DRE)** A DRE is a relatively simple test to check the prostate, lower rectum, pelvis, and lower belly for detection of cancer and other health problems.

**Cancer related symptoms**

The symptoms and signs of cancer will depend on where it originates, its size, and how much it affects the organs or tissues where it is located. If the cancer is in an advanced stage (metastasis), the symptoms will appear in different parts of the body. Some of these are:

- Unexplained fever
- Weight loss or weight gain without reason
- Skin changes
- Change in bowel habits
- Unusual bleeding or discharge
- Swallowing difficulty
- Fatigue
- Breast changes
- Hoarseness
- Cough
- Night sweats
- Lumps
- Abdominal pain
- Weakness or tiredness
These symptoms are not exclusive to cancer. Many of these could be a result of other diseases, but if these last more than 2 weeks you should visit your doctor.

**When the Doctor Says “Cancer”**

A frightening situation for anyone is to be in front of a doctor, and to hear the word “cancer”. Entering a state of shock and being unable to process anything after the word “cancer” is not uncommon. After this initial shock, it is imperative to find out what comes next. Your primary physician won’t be able to treat you for cancer, so they will refer you to a physician that specializes in cancer, an oncologist. What you should keep in mind, however, is that you should select your oncologist and treatment facility carefully. These will have an impact in every aspect of your care. At least, you should feel comfortable with how they treat and care for you, and their experience with cases like yours. Depending on your case, you might need other physicians to treat you in addition to your oncologist. Indeed, assistance from a radiation oncologist, a surgeon, or another medical specialist may be needed for specific treatment plans.

**Highlights of Patient X’s Experience**

Patient X came to our institution with fever of 2 weeks of evolution and malaise. After a physical examination by our pediatric oncologist, abnormal findings in labs and imaging studies led to a bone marrow biopsy, which determined Acute Lymphoblastic Leukemia. After the diagnosis, a treatment plan was developed by the oncologist and the patient will complete his cancer treatment until remission.

References:

1. National Cancer Institute
2. ASCO Cancer.net
3. American Cancer Society
Nuclear Medicine
Aris Camacho, Nuclear Medicine Supervisor

Nuclear medicine constitutes a sub-specialty of the field of medical imaging that employs very small quantities of radioactive material to diagnose or treat a variety of illnesses, including many types of cancer, cardiac illnesses and other anomalies in our bodies. Procedures though nuclear medicine imaging or radionuclide scans are not invasive and, with the exception of intravenous injections, generally constitute painless medical examinations that assist physicians to diagnose health situations.

One of these procedures — the lymphoscintigraphy — helps evaluate the direction of the tumor’s lymph drainage to the lymph nodes in skin and breast cancer cases. The sentinel node is the first defense barrier these types of cancers. Locating this node helps the surgeon to extract it and perform a biopsy in order to determine if it is compromised by the illness or not, which has therapeutic and treatment uses. In breast cancer patients, this study is performed with the radionuclide Tc 99m SC injected intradermally into the areola of the affected breast. Immediately after the injection, early images are taken, and additional images are taken after two hours, to detect if the tumor has migrated through the lymph nodes. These images are acquired through a gamma camera that provides a clear mapping for the physician to determine how to eliminate the affected nodes. Then, in surgery, a portable gamma catheter constituting a small radioactivity detector locates the sentinel node to allow for its selective extirpation. This nuclear medicine study has essentially substituted more complex procedures previously used to evaluate the lymphatic system, as well as the cancer’s dissemination to the lymph nodes. The information obtained by nuclear medicine studies is unique and often unobtainable through other diagnostic imaging procedures.

In 2017, 46 lymphoscintigrapies were performed, while in 2018, 61 procedures have been performed until November. This number is expected to increase in 2019 due to the higher incidence of breast cancer.
Rounding up the Multidisciplinary Team: The Oncologists

Heidi L. Rodríguez-Benítez, Executive Vice President

They say, “No man is an island.” This is particularly true in the treatment of cancer. No one doctor can go at it alone. The oncologists will be the first to tell you that the treatment of cancer requires a multidisciplinary approach because cancer treatment often involves a combination of chemotherapy, surgery, and radiation. For that reason, people with cancer are usually treated by a team of oncologists. Most oncologists are found in their own medical offices. At the HIMA-San Pablo Oncologic Hospital, the team of oncologists is found in its Medical Faculty and these doctors, in turn, form an integral part of the multidisciplinary team brought together by the Hospital for each patient.

There are three main types of oncologists: medical, surgical, and radiation. The medical oncologist treats cancer using chemotherapy or other medications, such as targeted therapy or immunotherapy. The surgical oncologist performs surgery to remove tumors and nearby tissue and certain types of diagnostic biopsies. The radiation oncologist treats cancer through radiation therapy. Other oncologists practice other important specialties or sub-specialties, such as the gynecologic oncologist who treats uterine, ovarian, and cervical cancers; the pediatric oncologist who specializes in some types of cancer which are found most often in children and teenagers (e.g., certain brain tumors, leukemia, osteosarcoma); and the hematologist-oncologist who diagnoses and treats blood cancers (e.g., leukemia, lymphoma, and myeloma). The multidisciplinary approach to treating cancer involves the integration of treatment strategies specifically set forth all types of oncologists.

While early stage solid malignancies are frequently treated successfully with surgical therapy alone, higher-stage disease generally requires integration of surgery along with adjuvant therapies that are administered by the medical oncologists and/or radiation oncologists, both before and after surgery. In cases where surgery is not an option, is not recommended and/or is not the patient’s will, the medical and/or radiation oncologists may have to work together with other subspecialists to develop a patient’s course of treatment. Realistically, none of the oncologists can work in a vacuum, and such integration of services is essential for optimizing success of treatment, minimizing complications, and impacting positively on long-term outcome.

An oncologist manages a patient’s care throughout the course of the disease. This starts with the diagnosis. The diagnosis will determine which specialist will head the team. Initially, the primary care physician heads up the team (depending on the type of cancer and the stage of treatment). Leadership may shift among the different specialists involved. For example, the surgeon oversees care until recovery from surgery is complete. For some types of cancer, a specialist serves as team coordinator for the entire treatment (e.g., for cancer of the female reproductive system a gynecologic oncologist coordinates the team). In whichever order each oncologist is involved with
the patient’s treatment, his or her roles include explaining the cancer diagnosis and stage, talking about all treatment options and his or her preferred choice, delivering quality and compassionate care, and helping a patient manage the symptoms and side effects of cancer and cancer treatment.

Because the coordination of the combined treatment is best performed by a multidisciplinary team composed, oncologists must work with a variety of other health care professionals: for example, a pathologist is needed to read laboratory tests on cells, tissues and organs to diagnose the disease; a diagnostic radiologist conducts x-rays or ultrasound diagnostic imaging tests; the oncology nurse is the conduit that brings all care together, and a social worker is a catalytic for the patient's emotional wellbeing. The team may also involve doctors from other areas of medicine (e.g. a dermatologist who specializes in skin cancer). Because cancer is a complex and serious illness, medical management must also be supplemented by other types of care. The make-up of the team depends on the patient's needs but will include a group of professionals, such as social workers, psychiatrists, nurses, rehabilitation specialists, nutritionists, and clergy, work with the oncologists, other medical providers, and the patient as an oncology health care team.

Whatever the composition of the team, oncologists must work together with the team to provide the best treatment to help the patient maintain their quality of life, and to support the patient and his or her family through the entire process. This type of multidisciplinary effort is more easily carried out in a hospital setting.

**Patient X’s Team of Oncologists**

Based on his age and diagnosis, Patient X was treated by a multidisciplinary team headed by Dr. Jhon Guerra. Dr. Guerra is a Board-Certified Pediatric Hematologist-Oncologist with Sub-Specialties in Pediatric Bone Marrow Transplantation and Pediatric Neuro-oncology. He is a Diplomate certified in Neuro-oncology by the United Council for Neurologic Subspecialties. Dr. Guerra shared the responsibilities of Patient X’s treatment with Dr. Maribel Torres, also a Pediatric Hematologist-Oncologist.
What is a Cancer Conference or a Tumor Board?
Priscilla González González, Cancer Conference Coordinator

A cancer conference, more commonly referred to as a Tumor Board, is a weekly meeting between health care professionals from different discipline who provide their opinions and recommendations to reach the best possible course of treatment and quality of life for the patients. These meetings form part of the integrated care that is available to our cancer patients.

Cases presented during a Tumor Board are discussed in detail. Each cancer patient has a particular reality shaped by his or her condition as well as her social environment that must be considered when presenting treatment options to the patient, including the availability of applicable research studies.

How cases are selected for Discussion?
Physicians select the cases they will present in the Tumor Board depending on the case’s complexity. The complexity can stem from an unusual manifestation of the illness or from a particular interest held by the physician, based on either the clinical or psychosocial aspects of the case to be discussed.

Who Attends?
The hospital’s multidisciplinary staff attends the Tumor Boards, including without limitation the following specialties: surgeons, radiologists (including specialists in breast, neurology and pediatrics), pathologists, oncologists, radio-oncologists, social workers, health educators, psychologists, clinical research coordinators, interns, and others.

What Happens during a Tumor Board?
During the meetings, the presenting physician will provide a detailed medical history and personal circumstances for each case, including for example, findings made by the radiologists, pathologists and surgeons consulted on the case, and the patient’s social environment. After a complete scenario is presented, a group discussion is held with the purpose of reaching a consensus on the best course of treatment recommended for that case.

Benefits of the Conference
A patient seeking a second opinion could obtain one as a result of presenting his or her case in a Tumor Board. This way, a patient could obtain the second opinion quickly, without the inevitable delays caused by the need to make and attend additional appointments with new physicians. A Tumor Board will provide that patient a quick forum for obtaining a full discussion of the case with a group of cancer health care professionals with varying perspectives.
A Tumor Board also allows our staff to treat each patient as a unique individual. The patient is not just another cancer diagnosis. The multidisciplinary approach followed in the Tumor Board requires our staff to consider a patient’s social environment and personal situation so that the course of treatment is the best and most complete for all aspects of the patient’s life. A cancer diagnosis must always be treated responsibly and diligently. But when medical advancements are shared by committed health care professional openly, then they are used to the max and the patient’s quality of life is enhanced.

**Frequency of the Meetings**
Because the team meets on a weekly basis, the Tumor Boards offer a real opportunity to shape the course of treatment and available support for each case.

Thanks in great part to these meetings, we are able to make a difference in the lives of our patients and their families, by offering them the confidence and peace of mind that results from knowing that your care plan is complete and well guided. Our Tumor Boards confirm that we are a team that is committed to our patient’s health.

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**Nuclear Medicine and PET/CT**

The Laboratory of Nuclear Medicine and PET/CT has a sophisticated team of Gamma cameras (SPECT/CT) able to hold up to 500 pounds and to perform 2 patients at a time. It also has a modern machine PET/CT holding 350 pounds of weight, producing high quality images.

The Laboratory performs diagnostic and therapeutic studies for pediatric and adult patients. Therapies administered I-131 to treat conditions such as thyroid cancer and hyperthyroidism.

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Clinical research is medical research that involves humans with the goal of learning more about a particular disease and using the results to promote advances in available health care. People take part in clinical research studies (or trials) for many reasons: healthy volunteers may do it to help others and to contribute to moving science forward and people with an illness may do it to receive a new treatment or to receive additional care for their illness from the clinical research staff. Pediatric patients may also participate in clinical research studies with the informed consent from their parents. A clinical research trial is led by a Principal Investigator (PI) who, with the other members of the research team, regularly monitor the participants’ health to determine the study’s safety and effectiveness. They follow a plan for the study or protocol.

Our Office of Clinical Research promotes, supports, and conducts clinical research studies in search of new forms of prevention, screening, diagnosis, treatment, and follow-up for diseases and conditions affecting human health. The Office’s research team supporting the PI includes a physician scientist, a study coordinator (Migdalia), a research nurse / study coordinator, a pharmacist, and research assistants. The Office conducts the studies of the COG, a National Institute of Health (NIH) National Cancer Institute (NCI)-supported clinical trials group that is the world’s largest organization dedicated exclusively to childhood and adolescent cancer research. The COG has more than 9,000 experts in childhood cancer at more than 200 leading children’s hospitals, universities, and cancer centers across the world. Today, more than 90% of 14,000 children and adolescents diagnosed with cancer each year in the United States are cared for at COG member institutions, like HIMA-San Pablo Oncologic Hospital. The COG has nearly 100 active clinical trials open at any given time, including front-line treatment for many types of childhood cancers, studies aimed at determining the underlying biology of these diseases, and trials involving new and emerging treatments, supportive care, and survivorship. The COG research has contributed to having childhood cancer at a 5-year survival rate of 80%, with the following objectives: to cure all children and adolescents with cancer, reduce the short and long-term complications of cancer treatments, and determine the causes and find ways to prevent childhood cancer. Dr. Guerra is the PI and Dr. Maribel Torres is the Sub-Investigator for COG studies at HIMA-San Pablo Oncologic Hospital.

Based on the questions the research is trying to answer, each clinical trial protocol clearly establishes who can or cannot join the trial by eligibility criteria to help ensure that people in the trial are as similar as possible and that the trial is safe, so that the trial will yield accurate and meaningful study results. It is important for the protocol to ensure that doctors can rely on results based on the treatment being studied and on other factors. When participating in a cancer trial, the participants will be assigned randomly to either an investigational group receiving the treatment being tested or a control group receiving the established, most widely accepted treatment for the
corresponding cancer. Comparing these groups to each other, physicians aim to learn which treatment is more effective or has fewer side effects.

Informed consent is the process through which the potential participant learns the purpose, risks, and benefits of a clinical trial before voluntarily deciding whether to join or not. Furthermore, even after signing the informed consent form, the participant can leave the study at any time. The Institutional Review Board (IRB) reviews the clinical trial protocol before it starts accepting patients, to make sure that the risks involved in the trial are reasonable when compared to the possible benefits. They also closely watch the ongoing progress of the trial from beginning to end.

Whenever a patient needs treatment for cancer, clinical trials may be an option, and choosing to join a clinical trial is something only the patient, those close to him or her, and his or her medical team can decide together. The Office of Clinical Research at HIMA•San Pablo Oncologic Hospital can also provide the cancer patient with information on clinical trials available at the institution or elsewhere.

In addition to pediatric cancer, the Office also conducts adult cancer clinical research studies. The Office of Clinical Research is a member of the following clinical research organizations: Society for Clinical Research Sites, COG, NCI Central IRB, Puerto Rico Consortium for Clinical Investigation, Puerto Rico Clinical and Translational Research Consortium, and is a Remote Site for the NIH Clinical Center’s “Introduction to the Principles and Practice of Clinical Research” course. In addition, quality oversight is provided by the Yale Center for Clinical Investigation.

In summary, the Office of Clinical Research at HIMA•San Pablo Oncologic Hospital is committed to serving patients and the institution, by being a facilitator and driver towards the advancement of medicine for the benefit of cancer patients. It can be contacted by telephone (787) 653-3434, ext. 1788, 19011 and e-mail wdejesus@himapr.com.

References:
Recently, Migdalia attended the Pediatric Oncology Tumor Board representing our Office of Clinical Research. At that meeting, the medical diagnosis of lymphoma for a patient I will refer to as **Patient X**, was discussed. After listening to the presentation of the diagnosis and the discussion of the proposed clinical course of treatment, Migdalia realized Patient X could be eligible to participate in a Children’s Oncology Group (COG) clinical research trial on lymphoma. The presenter, Dr. Jhon Guerra, encouraged her to seek more information.
Patient-centered Care... the driving force for quality of service
Maribel Delgado Colón, MSW, Psychosocial Coordinator

Each year, hundreds of persons are diagnosed with cancer in Puerto Rico. The word “cancer” in itself is perceived by the community as a death sentence. This morbid perception, together with the physical and emotional toll of the condition, make decisions about treatment increasingly difficult for a patient and his or her relatives. If the patient and relatives do not receive the necessary guidance and support, navigating from diagnosis to treatment may be burdensome and perplexing.

This is often the case when receiving fragmented services from multiple specialists located in different offices requiring various referrals and several visits to a health plan, among other efforts required to receive complete treatment. Receiving information from different sources and having to go from one place to another may cause anxiety in the patient and delay treatment unnecessarily. In facilities like the HIMA•San Pablo Oncologic Hospital, where patient-centered care is practiced, this is not the case. But just what is patient-centered care?

Patient-centered care focuses on the patient and all aspects of his or her life. In a patient-centered discipline, the patient, his or her family and the healthcare provider will design a personalized care plan based on all of the factors associated to that patient’s health. In the development of the care plan, the team will consider and validate the patient’s preferences, and his or her values, emotions, socio-economic circumstances and culture.

Our hospital provides support staff indispensable to developing a patient-centered care plan, including navigators, social workers, psychologists, health educators and nutritionists, all of whom participate in the management of particular situations. These personnel is available to work with the patient and his or her relatives, as well as with the physicians, during the course of treatment as well as during the decision-making process and in the identification of alternative courses of treatment. Furthermore, to avoid confusion and to promote the effective integration and coordination between healthcare professionals, services are provided in a shared space. In that way, a patient can find the offices for the social worker, the nutritionist, and the psychologist next to the oncologists, radio-oncologists, nuclear medicine and the Lab, all a few steps away from each other.

In sum, patient-centered care promotes:

- Involvement of the patient and his or her relatives in the creation of the care plan
- Consideration of the patient’s and his or her family’s values and preferences
- Emotional support for the management of fears and anxiety
• Empowerment through patient education
• Access to social services and financial assistance

From the first visit to discharge, a patient, his or her family, the physician and the support staff provide the energy so that the motor of continuity of care will run smoothly without stopping until the goals outlined are reached.

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- Uroólogo
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Chemotherapy in Pediatric Bone Marrow Transplants

Irma Cruz Delgado, RN, BSN, Oncologist Nurse

Chemotherapy is a term used to refer to a series of medications used to destroy cancerous cells. These medications help to keep cancer cells from multiplying and disseminating from their primary location to other parts of the body. In particular, chemotherapy attacks cells that multiply rapidly and in a random pattern. Chemotherapy attacks cancer cells due to their disorganized behavior. However, other cells in our bodies split rapidly, such as blood cells in the bone marrow, and the cells in the mouth’s coating, the intestines and hair follicles. For that reason, chemotherapy can attack healthy cells causing the patient to suffer extenuating secondary symptoms.

When a pediatric patient is going to receive a bone marrow transplant, he needs to receive high doses of cytotoxic chemotherapy a few days before the procedure. The objective of this chemotherapy is to destroy the cells in the bone marrow with an abnormal function to prepare the conditions for transplanting stem cells which will promote the production of healthy blood cells. The chemotherapy administered before the transplant may cause infections and bleeding, which are potentially dangerous to the patient, as well as other serious complications. For this reason, the pediatric patient must be kept in strict isolation to protect him from potentially fatal microorganisms. After the stem cell transplant, the pediatric patient is kept in the hospital under direct medical observation until his immune system is reestablished and the body presents indicators that it has accepted the transplant.

The oncological nurse specialized in pediatric bone marrow transplants is instrumental during this procedure. The oncological nurse assists the hematologist oncologist and is the leader of most of the direct care of the patient. During this period, no visits are allowed and allowed companions are limited. During this isolation period, the oncological nurse does twelve-hour shifts and is the only person authorized to provide direct care to the patient. The nurse is the person responsible for knowing the results of all of the studies, physical exam and laboratories performed on the patient. Finally, the nurse must observe that strict aseptic measures are taken to ensure the transplant’s success.
My job is a privilege, I was born to be a nurse

Translation of Message given by Jaluxmi Villegas on October 26, 2018, in the event “Images that Create Awareness” on Early Detection of Breast Cancer, HIMA•San Pablo Oncologic Hospital

My sincerest respect to all cancer patients and all patients in general; congratulations to the survivors and blessings to all of us who work in this hospital. Above all, I send a message of strength to each and every family of those who fought the fight and are no longer with us.

I am part of the team that works at the Radiotherapy and Robotic Radiosurgery Center of the HIMA•San Pablo Oncologic Hospital. I work in the Center since 2007 as a Patient Navigator and Case Manager. I have been asked to this event to share with you some reflections on my job.

My journey as a nurse has been full of challenges and satisfactions. My profession allows me to connect with human pain and to be part of the healing processes. My job is very gratifying, for which I thank the Lord, because it allows me to use my talents to the service of this profession that I enjoy and love. I can’t see myself working anywhere else but here, at my Hospital. This and so much more motivates me to do my job in the cancer ward.

The easiest part of my job is that it allows me to work as a health professional. Also, it allows me to coordinate all of the services needed by the patient based on his or her needs. I carry out the Navigation process, coordinating and facilitating for the patient access to all service areas including, but not limited to: Health Education, Social Work, Nutrition, Nuclear Medicine, Imaging Center, Psychology, Chaplain, Surgery, Specialized Clinical Services, Oncologic Nursing, and many others. These services allow me to provide the patient the highest standards of medical service and care. In addition to the physical care required by the patient, he or she needs the peace and tranquility that comes from having access to a multidisciplinary support team that can address those additional needs such as education, financial assistance, and mental, emotional and spiritual wellbeing. For that reason, the patient’s care is done in a holistic manner, caring for the patient as a unique human being, that is deserving of being treated with empathy and respect and with a wide range of services that are in tune with his or her needs and his or her family’s needs.

My job gives me the opportunity to be an agent of peace and comfort. It is a privilege to work with the patient and his or her family to make sure they receive the respectful, professional and effective treatment they need to manage such a difficult situation.

The HIMA•San Pablo Oncologic Hospital is not just my place of business, it is my second home. It is the place where I meet that other family every day, the place where I have found blessing and healing for my own in times of sickness. That is why I understand when a patient remembers the good moments that he or she has experienced in our institution, notwithstanding the reason that brought them to us or the outcome, even if it is not the one expected or desired.
This work is also difficult and sad. The toughest challenge is the emotional aspect. I identify with the patient. I understand his or her fear of the unknown and the weakening produced by the illness. And the whole experience that we share and live together bears its own burden and sadness, especially when I find myself unable to do more. Sometimes we notice how fear paralyzes and doesn't allow a patient to make the best decisions concerning his or her treatment. But you have to know that difficult times give way to opportunities. That is why my last message to you is to please allow the doctor to be the mediator between God and science.

“Whatever you do, work at it with your whole heart, for the Lord and not for men, because you know that you will receive an inheritance from the Lord as your reward.” Colossians 3:23

Pediatric Cancer Survivorship
Maricarmen Ramírez-Solá, MPHE
Public Health Educator & Community Outreach Coordinator

Good news! More pediatric cancer patients can be cured. Survival rates of children and youngsters diagnosed with cancer are improving. Let’s take Patient X. He is a teen diagnosed at our institution with Leukemia and was treated with success. He received chemotherapy followed by an allogeneic bone marrow transplant and now is gradually returning to his normal activities in better health.

Certain adult and pediatric cancers may be treated with treatment alternatives such as a bone marrow transplant. This is a medical technique resembling a blood transfusion in which the patient’s bone marrow that is producing cancer cells is replaced with new healthy cells. Before the transplant, the patient needs high doses of medications, also called chemotherapy, which help to eliminate the cancer cells and help prepare the body and the immune system for the bone marrow transplant. These processes take several months and even years, but positively change the prognosis of the pediatric and the adult cancer event.

In most instances we speak of cancer as a chronic condition. This means that the affliction is one that needs medical monitoring for life. This is similar to what happens when a person manages other chronic illnesses, such as diabetes. After the condition is detected and managed, patients keep visiting their doctors to make sure that the diabetes is kept under control. Likewise, we talk about the concept of cancer survivorship follow-up care. As many types of cancers are cured or controlled with appropriate treatments, pediatric as well as adult cancer survivors will have to comply with medical follow-up care. So, we have to point out that survivorship follow-up care will become the next step after active treatment ends.
Back to Patient X. During the first three months after the transplant, he visits his pediatric oncology team for weekly check-ups to make sure that his body does not reject the transplant. Physical exams and laboratory and imaging tests are performed, and the survivor receives maintenance treatments that stimulate production of defenses in his immune system and reduces the risk of fungal and bacterial infections. The pediatric survivor and his family also receive education regarding what to expect about the follow-up care, what healthy lifestyles need to be followed, and what precautions are needed to prevent infections. Then, the patient will be evaluated every month, and so on. This will help clinicians to promptly intervene if there is a negative reaction in the body to the transplant or any change in the patient general health and emotional status. In the long run and after years of completing the bone marrow transplant, the oncology team will still be looking after the patient’s general well-being. They will keep an eye on recurrences and on any treatment side effects that can be counteracted if they arise. They will also monitor the level of healthy cells produced by the bone marrow closely, because the main goal of the follow-up care is to ensure the survivor’s optimum quality of life.

Oncologists in general consider that a cancer patient is cured after five years or more in remission after treatment. Although we certainly recognize that a pediatric cancer diagnosis and treatment is a hard, lengthy, exhausting experience, as health professionals we need to keep spreading the good news, there is hope!

Following-up for Life
Priscilla González González, Cancer Conference Coordinator

After a cancer diagnosis, a patient must receive follow-up treatment for life to ensure continuity of medical care and allow the medical team to evaluate the long-term effects of the treatment received. In our institution, the follow-up is done once a year for all patients diagnosed and/or treated by our staff. Personnel from the Hospital’s Cancer Registry Office contact the patient by phone or email and pose a series of questions regarding the patient’s health status. A patient may also be scheduled for a follow-up study and the information may be gathered during that visit also. If no information is gathered during any single year, the patient’s oncologist is informed, and contact is made also with any other doctor visited by that patient previously in order to update the patient’s health status. The process of gathering and maintaining the information on each patient up to date is vital to cancer research in Puerto Rico and the United States.

So, if you or anyone you know has been a cancer patient, don’t be alarmed by Hospital staff contacting you for years to come to update your contact information and health status. Be mindful that this process is very important and may be contributing to saving other lives affected by this disease.
In the Eye of the Hurricane: Completing Patient X’s Transplant During Hurricane Maria

Jannette Camacho Rosario, Oncologic Services Manager and Heidi L. Rodríguez-Benítez, Executive Vice President

On September 20, 2017, Hurricane Maria hit Puerto Rico as a category 4 storm that disrupted the Island’s infrastructure, including the electric power system, the potable water distribution system and all communication systems. On that day and for almost 45 days thereafter, the HIMA•San Pablo Oncologic Hospital was completely isolated from outside services, except for the support of the other hospitals in its own system and a few of its long-time suppliers and for sporadic federal government assistance. The hospital continued its operations without major interruptions during that time due to its five-generators and own water wells, as well as its multi-layered emergency management protocols. In a twist of fate, this became the scenario for Patient X’s allogeneic bone marrow transplant, the first one of its kind to be performed in Puerto Rico in a pediatric patient with major incompatibility with the donor’s blood. In the eye of Hurricane Maria, our cancer hospital learned that having all disciplines necessary for a cancer patient under the same roof is not just convenient or good medicine, in some cases it is a true blessing.

Diagnosed with biphenotypic leukemia, Patient X needed a bone marrow transplant, a procedure in which the damaged bone marrow is destroyed and replaced with new and healthy hematopoietic progenitor or stem cells harvested from a donor bone marrow. Patient X’s stem cell transplant was originally scheduled for August 2017 but was delayed for three weeks due to pneumonia. A patient with pneumonia cannot undergo a transplant because their immune system is extremely compromised. In August, he travelled to Puerto Rico from his home in the British Virgin Islands to be hospitalized and receive antibiotics. After responding well to the treatment, the transplant was scheduled for the first week of September. On September 1st, Patient X and his family met with the Hospitals multidisciplinary staff, including Environmental Quality, Nutritionist, Social Worker, Pharmacy, Radiology, the Transplant Unit’s Supervisor, the Oncological Services Manager, as well as one of the patient’s oncologist and other leaders from the Unit. In that meeting, everyone’s role was discussed, and services were coordinated, including coordination with the Red Cross and the blood bank, and the internal labeling system that would be used by all departments for all matters related to Patient X.

A couple of days later, when it was clear that Hurricane Irma would hit the Caribbean, the transplant was postponed for two weeks to avoid complications that could result from the potential path of Hurricane Irma through Puerto Rico. At the time, no one could imagine that the Island would

1 The HIMA•San Pablo Oncologic Hospital is part of a five-hospital system that covers the central and eastern sides of Puerto Rico, with the hospitals being located in Bayamón, Fajardo, Cupey, Humacao and Caguas, this last location having two separate buildings housing a tertiary acute care hospital and an ambulatory center, as well as the oncological hospital.
narrowly escape the full impact of Hurricane Irma only to come to terms with a stronger storm two weeks later. So, in those two weeks, Patient X underwent high dosage chemotherapy to prepare him for the transplant by eradicating all of his malignant cells. The chemotherapy was planned for nine days and, eight days into the treatment, the weather advisories for Hurricane Maria worsened. Simultaneously, his brother received medication to facilitate the collection of his cells. The last day of the treatment was given and the transplant was originally scheduled for September 21, 2017.

On Tuesday, September 19th, the Red Cross, which collaborates with the Hospital in the collection and storage of stem cells, requested that the procedure be delayed for one day, for Friday, September 22nd, to allow a day for recovery from the storm. The request was granted in an excess of caution for the developing weather conditions. Patient X was receiving a donation of stem cells harvested from his own brother, so the cells would be collected by Red Cross personnel from the donor on the same day as the cells would be infused into the patient. So, on Tuesday, Patient X was in the transplant unit waiting for his upcoming transplant, and his oncologist, Dr. Jhon Guerra, went home to prepare his own home and family for the hurricane, with the plan to come back immediately after. At that point, the weather advisories placed Puerto Rico right in the path of the hurricane, but there was no turning back. Then, the devastating hurricane changed everything.

Wednesday, September 20th, 2017, Hurricane Maria barreled through Puerto Rico, leaving destruction in its path, and sending Puerto Rico’s infrastructure back a century, leaving many of its residents figuring out how to survive without electricity, water, and communications and with many of its roads under flood or with traffic impeded by major debris or obstructions. Municipal and state government offices were closed. Some hospitals and outpatient services surrounding the Hospital had shut down, flooding the Hospital overnight with double its occupancy and every corner of its waiting areas full of refugees seeking temporary shelter. In the following days, more refugees came with medical needs, such as oxygen or dialysis, displaced from their primary care providers due to lack of electric power and water. The hospital’s generators and water wells withstood the storm’s impact in part due to their solid planning and construction, but also in great part due to the maintenance personnel and engineers who stood watch during the hurricane and to the hundreds of hospital employees — administrative and clinical — who left their own homes and families to care for the Hospital and its patients. In the middle of that chaos, water started to creep into the pediatric oncology rooms and Patient X had to be transferred to the surgical recovery room and then to one of the operating rooms by the nurses and the surgery staff, to protect the patient in a sterile setting. Almost eight hours later, the pediatric oncology ward was back to normal and Patient X and the brother donor were transferred back to their rooms. There, they waited for the transplant tucked deep inside the hospital, isolated from the madness but anxious for their fate. In the aftermath of the storm, anxiety started to build in his relatives. At that point, no communication was possible with Dr. Guerra. There was no internet or cell phone service. A couple of rotary phones were working in the hospital, but Dr. Guerra did not have any way of calling in and the hospital had no way of contacting him.

Back in his home, when Dr. Guerra lost all means of communicating with the hospital, he had no idea about Patient X’s status. He waited the rest of that day to see if communication services were restored or clean-up allowed him to leave his home, but by midnight, when nothing had changed,

\[2\] Dr. Guerra is a Board-Certified Pediatric Hematologist-Oncologist with Sub-Specialties in Pediatric Bone Marrow Transplantation and Pediatric Neuro-oncology.
he could not wait any longer to learn Patient X’s status. Dr. Guerra’s home is a 15 to 20-minute drive from the hospital. But that day he could not drive because fallen trees were blocking his driveway. He decided to walk to the security office located in the entrance of his residential development, hoping to reach a phone. What was normally a 10-minute walk from his house in a very tranquil wooded area, had become a 1-hour walk around and under fallen trees and other debris, which he braved with a backpack with a tied-on warning light concocted by his wife for his safety. When he finally reached the security office, there was no one there and it was closed. Faced with no means to learn of the status of his patient, Dr. Guerra decided to keep walking to the Hospital. He walked for almost three and a half hours to reach the hospital around 6:00 in the morning, when the sun was just starting to come out. He was relieved to find the hospital open and providing all of its services. Patient X was safe inside his pressurized room in the transplant unit.

Later that day, Thursday, Dr. Guerra had not heard from the Red Cross for the collection process. Aware of the upcoming transplant, the administrative officers in the Hospital’s emergency response center had tried to establish communication with the Red Cross to no avail. Two administrative officers volunteered to drive Dr. Guerra to the Government’s Medical Center, where the Red Cross’ offices are located, only to find them closed. Personnel from the Hospital’s Pharmacy unit were also braving the risky conditions in search of the necessary medicines that had not been delivered. They had better luck with one of the Hospital’s long-time loyal suppliers and the plans were set in motion. Dr. Guerra made the decision to forge ahead with the collection with equipment the hospital had recently acquired, and to proceed with the transplant as planned, for Friday September 22, with the hospital performing the collection without the Red Cross. At that point, Dr. Guerra was concerned that he would not have the benefit of the count of the harvested stem cells usually performed by the Red Cross, but that would not deter him from the live-saving procedure. The next day, personnel from the Red Cross reached the Hospital but without their full equipment. However, with the assistance of the Hospital’s Immunopathologist, Dr. Luis Ferrer, they were able to perform a manual count of the harvested stem cells. Dr. Guerra and his team were able to perform the transplant. In an excess of caution, he performed two transplants — one on Friday and one on Saturday. And Patient X was tucked back into the transplant unit to undergo his recovery. He required transfusions of blood and platelets, but he was discharged 32 days after his transplant after the Engrafment was confirmed. Three months later, he was able to go back home, only requiring monthly visits to the Hospital for follow-up treatment. Six months later, Patient X was off antibiotics and 99.9% compatible with his donor brother’s blood type.

Interviewed by several media outlets months later, Dr. Guerra refused to be labeled a hero. Instead, he pointed to all of the individuals in the Hospital that took great pains to care for Patient X and make sure that the transplant went ahead despite Hurricane Maria. “I just did my job,” he insisted; “I felt responsible for this family that chose our Hospital to treat Patient X.” And he is correct — caring for all aspects of the needs of Patient X and his family is the Hospital’s mission. But, the thing is, that to the Hospital’s staff, who witnessed the devastation left in the hurricane’s path, Dr. Guerra’s quiet determination and commitment was nothing short of heroic. In the eye of Hurricane Maria, the Hospital’s staff confirmed what they experience on a daily basis, that it takes all kinds of unknown heroes to care fully for cancer patients. God Bless, Patient X.
Background

Every year, HIMA•San Pablo Oncologic Hospital (HSPOH) applies evidence-based national guidelines to develop prevention and screening programs targeting the community. These efforts aim to reduce the incidence of a specific type of cancer and to increase its early detection. Since colorectal cancer was the second most diagnosed cancer in Puerto Rico from 2006 to 2012, the institution joined the nationwide effort to screen 80% of adults age 50 or older by 2018, signing the “National Colorectal Cancer 80% by 2018 Employer Challenge Agreement” with the Puerto Rico Chapter of the American Cancer Society in 2016.

The first phase of the program (for hospital employees) was completed in 2016, after first completing an educational and screening behavioral need assessment. A survey was administered to a sample of 68 employees of both genders between the ages of 41 and 70. Of those surveyed it was found that:

- 16% (11) did not know if they had family history of colorectal cancer,
- 18% (12) never heard about the Fecal Occult Blood Test (iFOB Test), and
- 3% (2) never heard about the colonoscopy as a colorectal cancer screening procedure (N=68).

In addition, of those respondents 50 years of age or above (n=48):

- Only 52% (25) had an iFOB Test the previous year, and
- Only 60% (29) had a colonoscopy in the last 10 years.

Based on the data reflecting occasional lack of knowledge and under-screening, in 2016 an awareness campaign was developed through social media targeting hospital employees. The target audience included the medical faculty, allied health professionals, and administrative, clerical, maintenance and security staff. The campaign was built based on national screening guidelines from the American Cancer Society (ACS) and the Center for Diseases Control and Prevention (CDC), which state that colorectal cancer screening to both men and women ≥ 50 of age should be made within the following testing schedule: Fecal Occult Blood test each year,
Colonoscopy every 10 years, or Double Contrast Barium Enema or Virtual Colonoscopy every 5 years.

Four (4) sequential digital messages with specific facts about colorectal cancer were developed and sent by e-mail to all Outlook users each week during the month of September 2016. Consecutively, iFOB Test Kits were offered with free of charge in-house laboratory processing for employees ≥ 50 of age, thus eliminating screening barriers such as work time and medical expenses. A conservative outcome was observed after implementing the program. Only 42 employees requested or accepted the test kit and only 52% of them (22) completed the test. Four participants (18%; n=22) had positive results and received medical attention. Methodological limitations of the program were analyzed, presented and discussed with the Cancer Committee. Corrective actions were identified and worked for the development of a second phase of this program proposed to and approved by the Cancer Committee for 2017.

2017 Colorectal Cancer Screening and Prevention Program

Objectives and Audience
The second phase of the colorectal cancer prevention and screening program was held during the first semester of 2017. It was aimed at reinforcing colorectal cancer awareness and increasing the number of employees ≥50 years of age who request or accept an iFOB Test and who complete the exam, by at least 17%.

Strategies
Looking to achieve a greater impact, the program introduced a methodological multicomponent approach. As of March 2017, the Colorectal Cancer Awareness Month, six educational strategies were planned and implemented in sequential order (See Table 1).
Table 1 Strategies & Activities – 2017 Colorectal Cancer Prevention and Screening Program HIMA•San Pablo Oncologic Hospital

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dress in Blue Day</td>
<td>A photo session for HSPOH personnel was performed as initial activity for the Colorectal Cancer Awareness Month. Photos were taken and posted in Facebook and shared via e-mail messages to employees. (3/3/17).</td>
</tr>
<tr>
<td>PowerPoint Educational</td>
<td>An email invitation was sent to employees to access a PowerPoint digital presentation about colorectal cancer early screening available in the institution’s web page (3/10/17).</td>
</tr>
<tr>
<td>Presentation</td>
<td></td>
</tr>
<tr>
<td>Educational Bulletin Board</td>
<td>An attractive and colorful bulletin board with information related to colorectal cancer early screening was posted in the waiting area of the Radiotherapy Treatment Unit, targeting both employees and the general public. (3/13/17).</td>
</tr>
<tr>
<td>Video</td>
<td>An invitation to access a 00:01:04 length video on procedures on how to get a stool sample for colorectal cancer early screening was sent via e-mail to employees. The video was posted on the hospital web page. (3/30/17).</td>
</tr>
<tr>
<td>Colorectal Cancer Fact Sheet</td>
<td>A total of 400 fact sheets about the Occult Blood Test as a tool for colorectal cancer screening were distributed during lunch hours at the hospital’s employee’s cafeteria. (3/30/17).</td>
</tr>
<tr>
<td>Screening</td>
<td>iFOB Test Kits were offered and distributed free of charge in a health clinic to employee ≥50 years of age, or younger if they reported family history for colorectal cancer (4/3 &amp; 4/4/17).</td>
</tr>
</tbody>
</table>

Outcomes

**Video:** Five days after the video was posted (4/4/17), 54 views were registered in YouTube.

**Fact Sheet Distribution:** Immediately after distribution of the educational material, 7 employees approached the Community Outreach Coordinator looking for counseling regarding colorectal cancer symptomatology, 5 employees were observed after lunch reading and discussing colorectal cancer information from the fact sheet, and 6 employees called the Community Outreach Coordinator office requesting information related to colorectal cancer early screening procedures.

**Screening:** A total of 64 employees requested or accepted the iFOB Test during a health clinic and 70% of them (45) completed the exam. These amounts represented an increase of 52% in participants requesting or accepting the test kit and a 104% increase in the number of employees who completed the test (See Table 2). Two participants had positive results and were referred for medical follow-up.
### Table 2 Comparison of Outcomes Colorectal Cancer Prevention and Screening Programs 2016 & 2017 HIMA•San Pablo Oncologic Hospital

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>% Change</th>
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</thead>
<tbody>
<tr>
<td>Request iFOB Test</td>
<td>42</td>
<td>64</td>
<td>+ 52%</td>
</tr>
<tr>
<td>Tested</td>
<td>22 (52%)</td>
<td>45 (70%)</td>
<td>+ 104%</td>
</tr>
</tbody>
</table>

### Comments

Using a multicomponent sequential methodology for the second phase of the colorectal cancer prevention and screening program helped widen community outreach. Media, interpersonal and organizational events were combined to educate, to highlight colorectal cancer risk and to encourage the target population on following a risk reduction practice (completing the iFOB Test). All activities within the action plan were organized to overlap and to be complementary for a specific period of time, so the attention could be focused and “maintained” over a specific health protective behavior. Health communication and social marketing elements were applied to impact participation and screening positively. HIMA•San Pablo Oncologic Hospital will continue promoting cancer early screening in the Puerto Rican community.
TUMOR BOARDS
Priscilla González González, Cancer Conference Coordinator

HIMA•San Pablo Oncologic Hospital offers weekly Tumor Boards. During 2017, 42 Tumor Boards were given following National Treatment Guidelines and AJCC Staging. A total of 270 cases were presented, 98.8% of them prospectively, to a multidisciplinary panel of doctors and allied health professionals.

SITES DISCUSSED (270 CASES)

<table>
<thead>
<tr>
<th>System</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digestive System</td>
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<td>Stomach</td>
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<td>Small Intestine</td>
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<tr>
<td>Colon</td>
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<tr>
<td>Rectum</td>
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<tr>
<td>Pancreas</td>
<td>1</td>
</tr>
<tr>
<td>Lung and Bronchus</td>
<td>4</td>
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<tr>
<td>Bones</td>
<td>18</td>
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<tr>
<td>Soft Tissue</td>
<td>4</td>
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<tr>
<td>Skin</td>
<td>4</td>
</tr>
<tr>
<td>Breast</td>
<td>103</td>
</tr>
<tr>
<td>Brain &amp; CNS</td>
<td>58</td>
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<td>Prostate</td>
<td>3</td>
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<td>Female Genital System</td>
<td>3</td>
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<tr>
<td>Cervix Uteri</td>
<td>1</td>
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<tr>
<td>Corpus &amp; Uterus</td>
<td>1</td>
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<tr>
<td>Ovary</td>
<td>1</td>
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<tr>
<td>Urinary System</td>
<td>12</td>
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<tr>
<td>Kidney and Renal Pelvis</td>
<td>4</td>
</tr>
<tr>
<td>Bladder</td>
<td>7</td>
</tr>
<tr>
<td>Ureter</td>
<td>1</td>
</tr>
<tr>
<td>Thyroid</td>
<td>5</td>
</tr>
<tr>
<td>Lymphoma</td>
<td>17</td>
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<tr>
<td>Blood/Bone Marrow</td>
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</table>

SPECIALIZED TUMOR BOARDS

The Specialized Tumor Boards are given weekly from 11:30 am to 1:30 pm.
- Breast Surgery – Bi monthly (the first Thursday and the second Monday of each month)
- Surgery & Medical Oncology – the second Monday of each month
- Neurosurgery and Head & Neck Surgery – the third Thursday of each month
- Pediatric Oncology – the last Thursday of each month

Every meeting is composed by a multidisciplinary panel that includes hematologist-oncologist, surgeons, radio-oncologist, radiologist, pathologist, nutritionist, speech therapist, nursing, social worker and psychosocial support.

CONTINUING MEDICAL EDUCATION

Starting November 2011, all of our Tumor Boards have been approved for 2 hours credits each of Continuing Medical Education by the Accreditation Council for Continuing Medical Education (ACCME) and PR Board of Medical Examiners, through the joint sponsorship of Universidad Central del Caribe School of Medicine (UCC) and HIMA•San Pablo Caguas. During 2017, a total of 90 hours credits were offered to all members of our Medical Faculty, free of charge. A total of 39 doctors benefited from this program, and our multidisciplinary attendance reached 97% in 2017.
The Cancer Registry at HIMA•San Pablo Oncologic Hospital is a detailed database of tumors diagnosed or treated at the Institution and it is a vital component of the Cancer Program. Continuous monitoring of the survivors and recurrence statistics of the conditions raises the standards of treatments and care for the cancer patients, and it gathers data to launch new research and clinical trials. During 2016, 857 analytic cases and 105 non-analytic cases were added to our registry database. This data is transmitted to the National Cancer Database (NCDB) from the Commission on Cancer and to the Central Cancer Registry of Puerto Rico. We give active follow-up to more than 3,900 patients annually, maintaining a 95.2% follow-up rate.

### Top Ten Sites 2017 by Gender at HIMA•San Pablo Oncologic Hospital

#### Top Ten Sites by Gender Year 2017: Female

<table>
<thead>
<tr>
<th>Site</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREAST</td>
<td>148</td>
</tr>
<tr>
<td>THYROID</td>
<td>58</td>
</tr>
<tr>
<td>UTERUS</td>
<td>42</td>
</tr>
<tr>
<td>COLON</td>
<td>38</td>
</tr>
<tr>
<td>BRONCHUS &amp; LUNG</td>
<td>28</td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>20</td>
</tr>
<tr>
<td>BREAST</td>
<td>9</td>
</tr>
<tr>
<td>BRONCHUS &amp; LUNG</td>
<td>7</td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>1</td>
</tr>
</tbody>
</table>

#### Top Ten Sites by Gender Year 2017: Male

<table>
<thead>
<tr>
<th>Site</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROSTATE</td>
<td>165</td>
</tr>
<tr>
<td>COLON</td>
<td>45</td>
</tr>
<tr>
<td>BRONCHUS &amp; LUNG</td>
<td>36</td>
</tr>
<tr>
<td>Lymph Nodes</td>
<td>24</td>
</tr>
<tr>
<td>BLADDER</td>
<td>17</td>
</tr>
<tr>
<td>BLADDER</td>
<td>14</td>
</tr>
<tr>
<td>KIDNEY &amp; RENAL PELVIS</td>
<td>12</td>
</tr>
<tr>
<td>PROSTATE</td>
<td>9</td>
</tr>
<tr>
<td>KIDNEY &amp; RENAL PELVIS</td>
<td>6</td>
</tr>
</tbody>
</table>
Of the total of 952 cases added to our database in 2017, 484 cases (50.8%) were females, and 468 cases (49.2%) were males. The top 10 sites added to our database for female patients, in decreasing order of frequency, were: breast (148), thyroid gland (58), uterus (42), colon (38), bronchus and lung (28), lymph nodes (20), ovary (9), kidney and renal pelvis (7), hematopoietic (4) and melanoma (1). The remaining 129 cases for females represent all other primary sites. The top 10 sites added to the database for male patients, in order of decreasing order of frequency, were prostate (165), colon (45), lung/bronchus (36), lymph nodes (24), bladder (17), kidney and renal pelvis (14), oral cavity (12), pancreas (9), hematopoietic (6) and melanoma (3). The remaining 137 cases for males represent all other primary sites. Together, the top 5 sites for all cases reported for HIMA-San Pablo Oncologic Hospital in decreasing order of frequency were as follows: prostate (165, 17.3%), breast (151, 15.9%), thyroid gland (71, 7.5% percent), lung (67, 7.0%) and colon (62, 6.5%). All other primary sites outside the top 5 represent 45.8% of cases reported in 2017.

**County at Diagnosis 2017**

The geographical distribution for cases diagnosed or treated in 2017 was variable. The county with the most cases registered in the institution was Caguas, with 318 cases (32.56%). Other neighboring counties had a significant percentage of patients, such as San Lorenzo (7.67%), Gurabo (6.41%), Juncos (5.15%), Humacao (4.73%), Aguas Buenas (4.31%) and Yabucoa (3.57%). Other counties contributed to a range from 3.36% to 2.37%.
<table>
<thead>
<tr>
<th>Primary Site</th>
<th>Total (%)</th>
<th>Sex</th>
<th>M</th>
<th>F</th>
<th>Analy</th>
<th>NA</th>
<th>Alive</th>
<th>Exp</th>
<th>Stg 0</th>
<th>Stg I</th>
<th>Stg II</th>
<th>Stg III</th>
<th>Stg IV</th>
<th>88</th>
<th>Unk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer Site</strong></td>
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<tr>
<td><strong>ORAL CAVITY &amp; PHARYNX</strong></td>
<td>15 (1.6%)</td>
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<tr>
<td>Tongue</td>
<td>9 (0.9%)</td>
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<tr>
<td>Oral &amp; Other Mouth</td>
<td>6 (0.1%)</td>
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<tr>
<td>Nasopharynx</td>
<td>1 (0.02%)</td>
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<td>Sinus</td>
<td>1 (0.02%)</td>
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<tr>
<td>Hypopharynx</td>
<td>1 (0.01%)</td>
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<tr>
<td><strong>DIGESTIVE SYSTEM</strong></td>
<td>146 (14.7%)</td>
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<td>Esophagus</td>
<td>8 (0.1%)</td>
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<tr>
<td>Stomach</td>
<td>2 (0.02%)</td>
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<tr>
<td>Colon Excluding Rectum</td>
<td>62 (6.5%)</td>
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<tr>
<td>Rectum</td>
<td>8 (0.1%)</td>
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<td>Anal</td>
<td>1 (0.001%)</td>
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<tr>
<td>Descending Colon</td>
<td>10 (0.1%)</td>
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<tr>
<td>Transverse Colon</td>
<td>3 (0.01%)</td>
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<tr>
<td>Descending Colon</td>
<td>1 (0.001%)</td>
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<tr>
<td>Large intestinal NOS</td>
<td>8 (0.09%)</td>
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<tr>
<td>Rectum &amp; Rectosigmoid</td>
<td>1 (0.001%)</td>
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<tr>
<td>Primary Melanoma</td>
<td>1 (0.01%)</td>
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<tr>
<td>Melanoma – Skin</td>
<td>4 (0.04%)</td>
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<tr>
<td>Other Non-Epithelial Skin</td>
<td>1 (0.02%)</td>
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<td>2017 CANCER SITE REPORT</td>
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<tr>
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<tr>
<td>FEMALE GICAL SITE</td>
<td>76 (8.0%)</td>
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<tr>
<td>Cervix</td>
<td>23 (2.4%)</td>
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<tr>
<td>Corpus &amp; Uterus, NOS</td>
<td>42 (4.2%)</td>
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<tr>
<td>Endometrial Carcinoma</td>
<td>8 (0.1%)</td>
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<tr>
<td>Uterus</td>
<td>1 (0.001%)</td>
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<tr>
<td><strong>OTHER ORGANS</strong></td>
<td>17 (0.1%)</td>
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<tr>
<td><strong>BRAIN &amp; OTHER NERVOUS SYSTEM</strong></td>
<td>17 (0.1%)</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>153 (14.5%)</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>153 (14.5%)</td>
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</table>

Data based on Hema San Pablo Oncologic Hospital: 1st contact year 2017.
*analytic (A) – diagnosed and received first course of treatment at HMA San Pablo Oncologic Hospital.
**Non Analytic (NA): All cases for which the original diagnosis and/or first of treatment was performed elsewhere (E.g. treatment was for persistent disease: recurrence, palliative).
***Status: obtained from patients alive or expired from follow-up information.
HIMA•San Pablo Oncologic Hospital
2017 Cancer Committee

Required Members

Chair
Edgardo J. Rodríguez Monge, MD
Medical Director, HIMA•San Pablo Oncologic Hospital

Administration
Mayra M. Collazo Castro, MD, CTR
Director, HIMA•San Pablo Oncologic Hospital

Cancer Liaison Physician
Ramón K. Sotomayor, MD, FACS
Chief, Surgical Oncology

Cancer Registry Quality Coordinator
Besaida Ruiz Conde, MBA, BPH, CTR
Cancer Tumor Registrar

Community Outreach Coordinator
Maricarmen Ramírez-Solá, MPHE
Public Health Educator

Psychosocial Services Coordinator
Maribel Delgado Colón, MSW
Social Worker

Quality Improvement Coordinator
Irma Cruz Delgado, RN, BSN, OCN
Oncology Nurse Supervisor

Clinical Research Chief
Wilfredo De Jesús Monge, MD, MSc

Cancer Conference Coordinator
Priscilla González González

Patient Navigator
Jaluxmi Villegas Melendez, RN, BSM

Jannette Camacho Rosario, RN, BSN, MSN
Oncology Services Manager

Jose Valderrábanos, MD
Diagnostic Radiology

José R. Santana Rabell, MD, CTR
Radiation Oncology

Luis E. Ferrer Torres, MD, FACP
Director, Anatomic & Clinical Pathology

Jhon A. Guerra Moreno, MD, FAAP
Director, Pediatric Hematology & Oncology
Bone Marrow Transplant

Additional Members

María Cristy
American Cancer Society Staff
Representative

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