



The New Cancer Quest and What It Means for San Antonio

Monday, May 16, Jimmy Holmes, Publisher, and Market President of the San Antonio Business Journal moderated a panel discussion with three leaders from The University of Texas Health Science Center San Antonio, also called UT Health San Antonio, to discuss the new cancer quest, how UT Health San Antonio is driving the future of research and treatment and what that means for San Antonio's economy. The objective of the discussion is to better understand what is driving value in cancer care, to examine how UT Health San Antonio is integrating education, research and patient care into better health outcomes for our community, and to learn more about the role of an academic health center and the economic impact it can have, which also drives lasting impact in our community.

Jimmy Holmes: Dr. Mesa, will you give us some background on the Mays Cancer Center?

Dr. Ruben Mesa: The Mays Cancer Center has a deep history of advancing cancer care. What was started in 1974 and called the Cancer Therapy and Research Center (CTRC), it was one of the first cancer centers established after the war on cancer was declared in 1971. Individuals across San Antonio and around the country came here to focus on new therapy development on breast cancer, new forms of radiation therapy and oncologic surgery. The center has been a National Cancer Institute-designated cancer center since 1991. The community we serve includes San Antonio, as well as the 4.9 million individuals in our 38-county area across South Texas. Our mission is to decrease the burden of cancer across our whole region and beyond through cancer care for patients, and through research and education, training the next generation of cancer

physicians, nurses, scientists and other care team members.

Holmes: What types of research will expand here at Mays Cancer Center to better meet the health demands of the region?

Dr. Mesa: Our goals in research are very broad as is the cancer journey. The Mays Cancer Center focuses on four key areas. The first is understanding the biology of cancer. Why does it occur, why does it develop? Why does it progress? We use that and look at that data through a south Texas lens given the unique needs of our population of the region. There are certain cancers that occur more often in our area, such as liver cancer, which is the most overrepresented cancer in our region. We ask ourselves why is that the case? Can we prevent it or screen for it more effectively? A second key area of focus is advancing the science of cancer in Hispanics/Latinos. Our community is 69% Hispanic/Latino.

The Rio Grande Valley is almost 90% Hispanic. We care deeply about the whole region. So, we ask questions like how do culture, ethnicity, race, challenges in terms of social determinants of health impact the whole cancer journey? How does it impact prevention, screening or predisposition, or the effectiveness of therapies that we have and even survivorship?

Third, we focus on both the development and testing of new therapies. We invest significant efforts to develop new therapies whether they be the first testing of new agents or using the immune system or new medicines to treat cancers. Finally, we persist in asking ourselves how we can advance new therapies. And then, how do we deliver that complex cancer care in a patient-centered way. We study that whole range of topics with a singular purpose of trying to decrease burden of cancer in our community.

Holmes: Can you tell us a little bit about the research funding dollars for programs that impact our region?

Dr. Mesa: The Mays Cancer Center receives over \$50 million in peer reviewed research funding coming from a range of different sources and for which our investigators must compete. It's an extremely competitive process. Our National Cancer Institute (NCI) designation is in fact recognition of a very specific and competitive grant called the Cancer Center Support grant, of which there are 71 such centers in the U.S. We are the only one in this region, and just one of four in Texas.

We are grateful for the support that we receive from the Cancer Prevention Research Institute of Texas (CPRIT). This is a unique resource for Texas. Other states wish that they had such resources available. Many additional grants received are funded by individual disease-related funding sources, other national organizations,

Meet the Panelists



Mark Bonnen, MD

- Chief Medical Officer, Mays Cancer Center
- Chair, Department of Radiation Oncology, UT Health San Antonio



Kate Lathrop, MD

- Breast Medical Oncology, Mays Cancer Center
- Program Director, Medical Oncology and Hematology Fellowship Program
- Assistant Dean of Undergraduate Research, Long School of Medicine
- Associate Professor, UT Health San Antonio



Ruben Mesa, MD, FACP

- Executive Director, Mays Cancer Center
- Mays Family Foundation Distinguished University Presidential Chair
- Professor of Medicine, UT Health San Antonio

such as the American Cancer Society, Leukemia Lymphoma Society, etc. We also receive a tremendous amount of support from individual members of our community who are dedicated to the mission in cancer and play a critical role helping us both recruit talented new scientists and clinicians to our region, as well as help to provide critical pilot funds.

Holmes: What makes Mays Cancer Center, the leader in Latino cancer research? And why is that important for the future of cancer care?

Dr. Mesa: Advancing the science of cancer in Hispanics/Latinos is pivotal for us because that is the predominant makeup of our community. As one of the only minority-majority focused cancer centers in the U.S., we're in a very unique position to do so. We're the leaders, in part, because it's long been a major area of focus. We have amazing investigators here that bring their talents to support our mission and really make a difference. People like Dr. Amelie Ramirez, an internationally recognized researcher in Latino health promotion and behavioral change and director of UT Health San Antonio's Institute for Health Promotion Research and Salud America! We are fortunate to have many individuals like Dr. Ramirez focusing on this issue.

Mays Cancer Center brings to this community bi-annually, a meeting that we developed called Advancing the Science of Cancer in Latinos, where we discuss all issues related to cancer development prevention, screening, therapy and survivorship in Latinos with cancer. We've learned that Latinos are not just one singular group by any means. There are many differences in terms of experiences, race, ethnicity, and genetics, which matter. Here in south Texas, we have many individuals who are of Mexican heritage, but with significant added experiences and genetic influences from Europe. We know that can be very distinct from, let's say the Latino experience in south Florida, California, Arizona, the southwest or in other parts of the country. We collaborate on research with other centers to compare and contrast for the best results.

Holmes: Thank you, Dr. Mesa. My next couple of questions are for Dr. Lathrop. What is the value of having a National Cancer Institute-designated cancer center that serves San Antonio, south Texas?

Dr. Kate Lathrop: When you ask the question what the value is, I think you can define value in many different ways. From my perspective, mainly as a physician treating women with breast cancer in our community, and also as someone who grew up in San Antonio, as well as an alumna of the UT Health Science Center San Antonio, the Long School of Medicine and its residency program, I see that value in a few ways. One would be, obviously, the value of having high quality, integrated, compassionate care close to home. My parents still live in San Antonio. And as my parents age, as do my friends' parents, we get more and more calls asking if we know



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somebody who knows somebody who can do this or that. They are seeking a connection... seeking help. Having those high-quality physicians and care teams down the street is important as opposed to having to travel outside of your community for that care. Having these resources here is of significant value to our community.

I also think part of the value is working to educate our community. And that represents both educating our potential patients about the topics Dr. Mesa mentioned such as preventative care and screening, but also educating the potential future workforce in San Antonio and south Texas. We collaborate with many local universities and high schools to try to bring in new learners into the health care system.

As Dr. Mesa already mentioned, we care for a high percentage of Hispanics/Latinos. And we know from research that patients do better when they can relate to their doctors, nurses and care team members. It's also just as important to bring that community in to serve as the future health care providers. Reaching out to populations that may have been underserved in medical schools is of high importance to us. Getting those students who may not have seen themselves as a traditional researcher into research and showing them the value of that in their career choice is meaningful. To watch how passionate, they become about their work while at the same time diversifying our workforce, too, is rewarding and valuable. That is a significant value that sometimes may not be readily seen.

Dr. Mesa: I would like to add just a couple of other key aspects that I think might be of interest to the readers of the San Antonio Business Journal. Without question, the uniqueness of some of the care capabilities that an NCI-designated Cancer Center offers is very important, particularly the base of clinical trials, which allow for the most cutting-edge capabilities. This is really a network of the leading cancer centers across the U.S. with distinction for institutions that have spent significant amount of time, energy,

and resources to be able to achieve.

Companies really look at San Antonio, either to remain as their headquarters or expand to bring new business here. They know their family and employees will have access to world-class cancer care, eliminating the need to leave our community.

Another is the ability to grow the economy through the individuals we recruit and the science that we help develop. For example, we have helped to recruit people that are national leaders in drug development that help to grow our economy through grant funding. These positions require highly educated individuals with greater earning potential.

The work of the researcher or scientist can also spin off companies from their developments, which acts as a strong economic engine on many levels supporting, including spurring, the growth of our local economy.

Holmes: Is there another level of cancer center designation that you are trying to achieve? Another level of designation by the National Cancer Institute?

Dr. Mesa: There is a second level that we are striving for and that is to be an NCI Comprehensive Cancer Center. We anticipate competing for that in fall 2024 and we are very excited to be on that journey. The Mays Cancer Center has been growing faculty and research to a significant degree with great success through support from CPRIT, from our community, as well as revenue growth within our university to include a cancer focus.

The development of our new cancer-focused UT Health San Antonio Multispecialty and Research Hospital will be an integral piece of that, with unique capabilities both in terms of care, new program development in cellular and stem cell therapies, as well as the ability to have complex inpatient cancer clinical trials that are not readily available in our community.

Holmes: Thank you, Dr. Lathrop, how can we better understand the value of research coming from the

Mays Cancer Center and how do you decide what to focus on?

Dr. Lathrop: The process for deciding which research projects we want to invest effort, time, and resources in is complex. We break down the evaluation into what we call site teams, which are groups of physicians with different specialties. For example, we will have a site team who specializes in breast cancer, or we'll have a site team that specializes in certain types of blood cancer. Because the research we do can be specific to different types of cancer, we have multiple site teams that can look through different projects with a critical perspective to determine whether this research project is something that serves our community and that we have the ability and interest to pursue. These site teams are really where the dialogue and ideation begin. What I think is special about that, and really highlights what an NCI-designated Cancer Center can do, is that's where decision-making and prioritization usually starts. It is a meaningful conversation between scientists, researchers and health care professionals in the laboratory, as well as providers working directly with patients. They come together, discuss and debate through these topics. We refer to that as translational research... where we are advancing concepts from the lab to the clinic, from the clinic back to the lab. That is where discoveries really are made in cancer. That process and diverse engagement is highly valued by the National Cancer Institute.

Another important aspect is that the Mays Cancer Center participates in multiple, large clinical trial networks. As part of an NCI-designated Cancer Center we are members of this network. Larger trials that would be very difficult to do in individual centers are conducted across the U.S. and across the world. We have investigators here in San Antonio that run some of those national and world-wide trials.

Holmes: Can you share a few examples of some of the successes in those research efforts?



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Dr. Lathrop: I would like to highlight one that we’re doing currently in breast, which is a collaboration between neurosurgeons, medical oncologists like myself, and radiation oncologists like Dr. Bonnen. There is a group of patients with breast cancer who develop disease that travels to the brain, which is called metastatic disease to the brain. Unfortunately, those patients traditionally have done very poorly. In the past, because their prognosis was so poor, providers specifically did not want them on clinical trials. In recent years, particularly through the effort of Dr. Andrew Brenner who specializes in neuro-oncological and breast malignancies, is the primary investigator here, we have changed the paradigm. We have changed the approach to care, focusing on the patient first and foremost. We now believe that is exactly who we should focus on. Based on that shift in care pathways, we are now bringing new care processes including drugs that would otherwise not be available to those patients. It is a real collaboration between multiple services to wholly care for these patients. As Dr. Mesa mentioned, that type of care collaboration would not be available outside of a clinical trial. From my personal experience, we have many patients who are doing really well. It is exciting.

Holmes: How many drugs have been made from this, that have come out of this research?

Dr. Mesa: The Mays Cancer Center now has over twenty-five drugs that we’ve played a direct role in developing, which are now used in practice every day. Over this past year, two different agents in which we were playing a lead development role for chronic leukemias that I treat have become FDA-approved. The impact of this cancer center is tremendous. That legacy, which started by providing “first-in-human” testing remains to this day. Our cancer center also includes the Institute for Drug Development led by Dr. Daruka Mahadevan, a world-renowned expert in new drug development. That is a critical program for our region. We

have trials ongoing every day where the very first person on earth tested with the drug is here at this center. At the end of last year, we were the first to test a new drug developed both by Dr. Rob Hromas, the Dean the Long School of Medicine, and colleagues that developed a brand-new type of drug that works against a specific vulnerability in cancer cells. Those exciting efforts are ongoing today.

Holmes: Dr. Lathrop, what do you believe is the greatest impact for research in our community?

Dr. Lathrop: The greatest impact for research in our community has to be for patients themselves. I know there are many other ways to define value, which Dr. Mesa has mentioned. For me personally, when I finish this interview and go to my clinic and I am sitting across from patients with breast cancer, and they may be potentially at the end of what is available for treatment, I am thankful that a trial may be their lifeline. The greatest value for me is having the ability to offer a trial that I think can help a patient. These patients contribute to finding better treatments as they spend significant time and effort, to which they may not have a whole lot left, to help us with these trials.

It is also beneficial that this type of care and clinical trial is close because it often requires more or longer visits and more frequent monitoring. The fact that they can do that and still remain close to home makes it a greater possibility for many patients. The greatest value, for me, is improving the lives of those with cancer.

Holmes: Is this work improving the rates of survivorship? Improving the mortality rate?

Dr. Lathrop: We know that patients who enroll in clinical trials do better. The benefit is not just for patients who may receive new medicines, but any clinical trial that helps patients feel better, have a better quality of life, or live longer. When a patient participates in a clinical trial, their care team expands greatly. The care team is no longer one physician; the patient

now becomes part of a whole research community at the cancer center. Clinical trials bring in other highly skilled nurses and care team members to support and monitor patients. It brings in the research staff who are evaluating constantly, watching the progression, and making suggestions to support better outcomes.

Holmes: Dr. Bonnen, how can we better understand the value and/or the economic impact of providing a better continuum of care for cancer patients?

Dr. Mark Bonnen: If you look at what we spend as Americans on cancer care, it is over \$200 billion annually, of which about \$21 billion is actual patient out-of-pocket expense. You can start imagining exactly what this means to the individuals involved, to the patients and their families. It is important to also factor in unexpected or unnecessary costs of care. We are focused on providing the absolute best care that is most likely to give patients the best chance at long-term survival.

Things that can drive up the cost of cancer care are unnecessary or duplicate procedures. This may happen when a patient does not have a coordinated care team. As an example, one group of physicians may not know that a particular test was done, and they will repeat it. We see this frequently throughout the U.S. Another issue is poor symptom control or supportive care, meaning that when a patient may exhibit side effects from their treatment, the team has not planned adequately or given the patient the supportive medicines and care that would help prevent them from having to visit the ER or even be hospitalized. And then finally, something that we are very concerned with in the U.S. is what we call non-evidence-based care.

What is evidence-based care and why is it important? If you took panels of experts from around the world that were knowledgeable in a particular type of cancer, 97% of the time, they can come up with a very clear recommendation for those

specific cancers. Non-evidence-based care occurs when a patient’s recommended care pathway does not follow these recommendations.

Mays Cancer Center follows evidence-based care. The principal way that we ensure that every patient has evidenced-based care is we organize multidisciplinary care teams of specialists who come together and focus on the details of care for specific disease sites. This cohesive multidisciplinary integrated care team comes together to provide a seamless all-encompassing plan of care for each patient. By integrating this care across multidisciplinary teams, we make sure that no detail is missed and that only evidence-based care is provided. The goal is to provide each patient with the very best chance of cure and the least chance of side effects.

Dr. Mesa: And Jimmy, if I could add one other piece that I think is increasingly important in national discussions is including the recognition of the significant impact on cancer survivors. Cancer survivors are going to be a very significant group of individuals in the U.S., totaling in the tens of millions of people. This is wonderful news, and it certainly reflects the advances that we have made in cancer care. It also shows us that what we do in terms of the ongoing health management and maintenance for cancer survivors, as well as what we do during treatment, has an echo that radiates through the rest of the patient’s life. We have brought together teams focusing on this as a comprehensive academic health university that has an NCI Cancer Center as a crucial piece. We bring together numerous experts and specialists in rehabilitation. Examples include heart and cancer (cardio-oncology) and cancer and the kidney. We weave in primary care physicians as part of the cancer journey because sometimes that care can be postponed or delayed during cancer treatment. We work closely together – all of these parts – to do our best to ensure the health of the cancer survivor, really preserve their health, but also help them to recover better. That has an impact not only in terms of length of life and quality of life for the individual, but also a significant economic impact. If a patient suffers from long-term complications of cancer treatment, that has significant potential to negatively impact the patient by shortening survival, decreasing quality of life, and possibly leading to dramatic expenses that may well exceed that of the cancer care itself.

Holmes: Let us look locally. What services and treatments do you look to enhance to better meet the needs of people living in San Antonio and south Texas?

Dr. Bonnen: As Dr. Mesa was saying, we have many exciting things on the horizon. What I will tell you is there’s an overarching theme, which is what we just discussed. This surrounds the concept of multidisciplinary care integration, enveloping that patient completely with all the services necessary under one roof to support them through their oncologic

journey. One new example is the medical management program that ensures the cancer patient's primary care needs are met. What we have identified is that patients who are undergoing oncologic care and who do not see a primary care doctor during that course of care are much more likely to wind up in the ER or in the hospital. This new service is integrated with our cancer center and has reduced extra trips to the ER for our patients and has been a wonderful addition to the Mays Cancer Center.

Our cardio-oncology clinic is recognized by the International Cardio-Oncology Society as a Center of Excellence, reflecting its exceptionally high level of expertise in cardiovascular care of cancer patients and survivors.

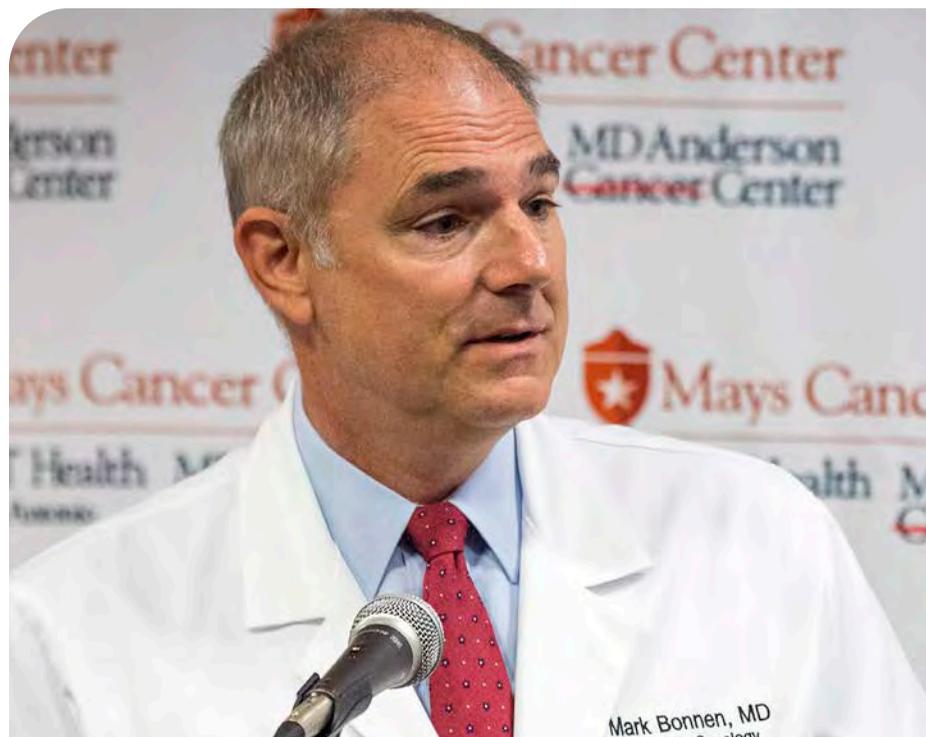
As you can imagine, certain cancer treatments can negatively impact the heart/cardiovascular system. So, this group screens these patients for potential problems following them as they go through their care. Should the patient need this type of intervention, we are here to provide it as part of our coordinated multidisciplinary care approach.

Looking forward, we are not only enhancing the concept of multidisciplinary care but also integrating new technologies into our care. One example is MRI-LINAC. MRI-LINAC enables the physician to see the cancer targets and normal tissues far better than in any other technology we have. This allows us to increase the dose to the tumor while decreasing the dose to the normal tissues, which results in more cures with less long-term side effects.

We also look forward to providing San Antonio with its first cancer-focused hospital adding bone marrow transplant and stem cell transplant to the region. These services also allow for new research.

Holmes: That's fantastic. There isn't currently a hospital dedicated to cancer in San Antonio. We hear that your new multi-specialty and research hospital will have a focus on cancer care. Tell us more about that.

Dr. Bonnen: This is something that we could not be more excited about here at Mays Cancer Center. If you think about it as the seventh largest city in the U.S., we are unique in not having a hospital focused on cancer. UT Health San Antonio is excited to be able to make this investment in our community. What is the vision for this hospital? Imagine all the things that we have talked about today, all the various aspects, and this recurrent theme of integrated care, of people working together focused on each individual patient to provide them the best care possible. We will coalesce all these services and advancements in care into a single facility that is specifically designed to facilitate patient access to care, exceptional outcomes, and the best



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patient experience. It is going to be an amazing place.

Holmes: When will the hospital come on board?

Dr. Bonnen: The 144-bed, \$460+million facility will open in late 2024. We will have 150 new training positions for residents and the hospital will employ approximately 1,000 people, primarily highly skilled physicians, nurses and care team members.

Dr. Lathrop: I just want to add one thing to what Dr. Bonnen was saying about ways we work to integrate care. We offer an electronic medical record (EMR) that is available 24/7 anywhere in the world. Our EMR creates one integration point – one complete medical record – that provides immediate connectivity between the patient and their care team. We have a very high percentage of our patients that interact with us through the medical record directly. And we carry this medical record now around in our pockets, because it is on our phones. The care team can reach out to me or message me through that system, so that there is a constant integration of information. I can easily and readily contact other physicians. I do not have to call an office line or call their cell phone. I just send a message through the system for immediate delivery.

Equally as important is that the patient has access to their information whenever they want it. If they are going to another care provider while they are away or they happen to end up in an emergency room on vacation, the patient can pull up all of their medical information. They can share their records, their entire medical record with other doctors using their mobile phone, which helps decrease repetitive tests and provides helpful and timely information for better care. Patients really like it.

Dr. Mesa: I echo the excitement. The

ability to bring all of this together in this new hospital for this community is tremendous. Every last detail is focusing on the cancer patient, their experience and achieving the best outcomes. The hospital piece of cancer care is rapidly evolving every day. There are treatments evolving to be shorter stays or provided in an outpatient setting. There are other new complex therapies that are evolving. There is the platform for being able to deliver cutting-edge innovations in terms of how we provide surgical care, how we image the patient during surgery, to really help advance that through artificial intelligence technology and other pieces, as well as clearly novel therapies through clinical trials. And we hope that in the future, we will make some cancers that historically have not been curable, ones we can now cure. This is really being designed, not only to be state of the art for 2024, but as a platform for how we move into that next era of cancer therapy.

Dr. Bonnen: One last thought that I would like to put forth, like Dr. Lathrop's experience growing up, I too grew up in a smaller community that didn't have a lot of these resources. And I would say that one of the overarching goals of this UT Health team, and also certainly a personal mission of mine, is that no patient ever has to leave this region for the best care possible. That is how we are bringing our mission to life... to be a nationally designated cancer center with robust cancer research, creating a specialized hospital, and continuously searching for ways to eradicate cancer. That is what this is all about.

Holmes: I want to thank our panelists again for your vision, expertise and insights. As we heard today, UT Health San Antonio and its Mays Cancer Center has a clear mission to decrease the burden of cancer in San Antonio, south Texas, and beyond.

To summarize a few of the highlights of today's discussion, at the Mays Cancer Center, home to UT Health San Antonio MD Anderson, patients have a team of experts beside them to make things easier during a difficult time in their lives. The Mays Cancer Center is the only National Cancer Institute designated cancer center in central and south Texas offering expertise in cancer care and major research including drug discovery. The Mays Cancer Center streamlines treatment pathways working as a holistic team to reduce duplication of services, testing, and appointments, and improves coordination of care with high patient satisfaction. UT Health researchers are changing the way doctors and care teams across the country detect, treat and prevent cancer with their primary focus addressing the care needs of people in San Antonio and south Texas. Research specialties include cancer drug development, meaning you may be among the first in the nation to receive the latest therapies. From the hundreds of millions of dollars invested in research and continuous commitment to the highest quality patient care, UT Health's impact in our own community has created more than 7,000 jobs and adds billions to our local economy. Bottom line, everyone living and working in central and south Texas is extremely fortunate to have UT Health in our backyard fighting for our lives. And finally, I would like to say thank you to our readers and viewers. Please make sure you visit MaysCancerCenter.org to learn more about this important partner in the fight against cancer.

To watch the local discussion, download it here: bit.ly/3mssK4Y

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What will we do to discover
new treatments to stop disease?

EVERYTHING IT TAKESSM

Yogesh Gupta, PhD, assistant professor of biochemistry and structural biology, is leading breakthrough research that's unlocking new treatment options for COVID-19 and cancer.

Every day brings new hope for Dr. Gupta and his team at the Greehey Children's Cancer Research Institute. In fact, he's renowned for trailblazing cancer research that is helping to create innovative new therapies. With the onset of the pandemic, he pivoted his expertise to make groundbreaking discoveries, which paved the way to developing new antiviral drugs for COVID-19. At UT Health San Antonio, Dr. Gupta and his team are doing everything it takes to help make lives better.

See how research is advancing the power of care at EverythingItTakes.org/Gupta.

